

# DIPTRONICS



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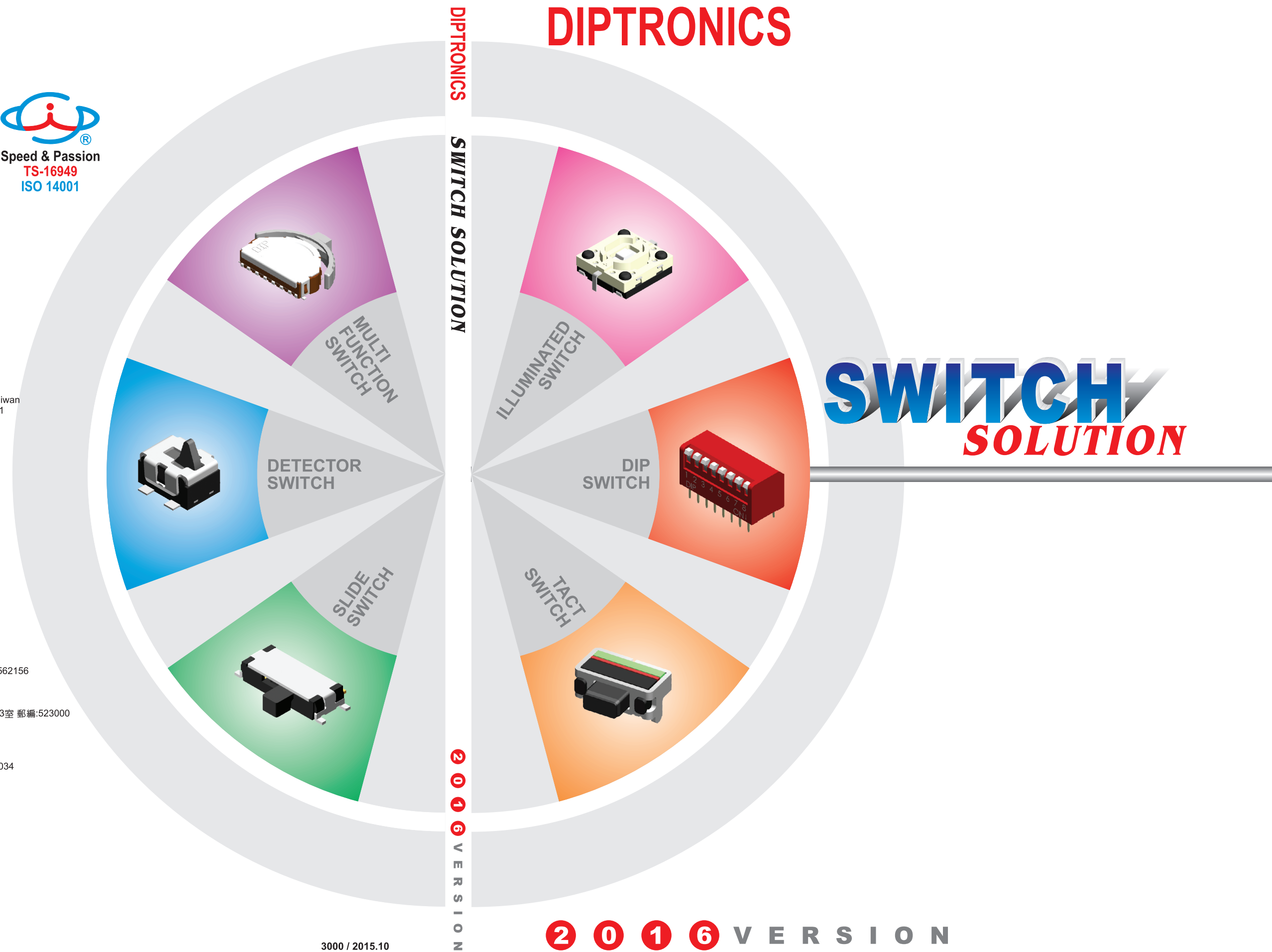
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# SWITCH SOLUTION

3000 / 2015.10

2016 VERSION

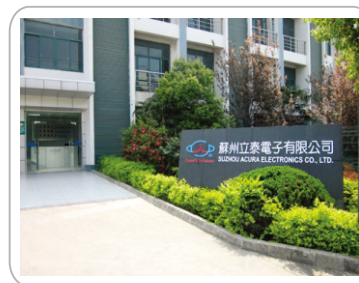
# DIPTRONICS MANUFACTURING INC.

A Worldwide Leading Switch Manufacturer

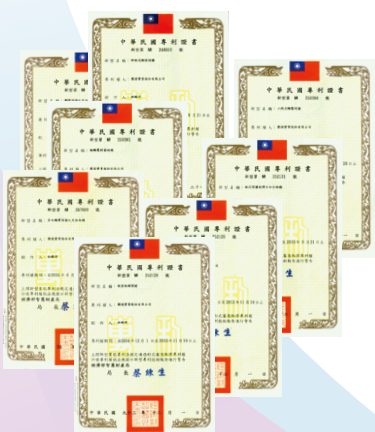


塑造學習、挑戰和分享的環境，不斷成長，  
成為全球最佳電子零組件廠之一

To build a learning, challenging, and sharing environment to be  
One of the best component manufacturers in the world.



專利證書(中國)  
Patent Certificate(China)



專利證書(台灣)  
Patent Certificate(Taiwan)

圖達實業股份有限公司於1985年在台灣新北市創立，並於1993年起陸續在中國珠海、江蘇、江西、湖南、越南成立生產基地，專業研發製造各類程式開關、觸動開關、旋轉開關、滑動開關及複合功能開關等多項產品，並取得TS-16949及ISO 14001認證，產品行銷海內外達100餘國。

31年來，經由不斷地垂直整合，圖達逐步發展出強而有力的核心競爭優勢。從產品研發、原物料購入到完成品供應給客戶，所有生產製程（包含產品研發、電鍍、LED燈、模具及設備加工、金屬沖壓、塑膠射出、自動化設備製作組裝等）都在廠內完成。

圖達的產品可廣泛使用在例如消費性電子產業（手機、數位相機、平板電腦、筆記型電腦...）、雲端裝置、汽車業、家電業、醫療器材及信息業等，全球近乎50%的NB產業，都使用圖達生產的開關。

秉持著「卓越與學習、創新與挑戰、團隊與熱忱」的經營理念，圖達將持續專注本業，研發新技術，並積極投入帶LED燈的開關、智慧型手機開關的開發，及提供更迅速、更多樣的開關產品來滿足客戶需求。

**Diptronics** Manufacturing Inc., founded in 1985, is a TS16949 and ISO14001 certified manufacturer specializing in dip, tact, rotary, slide, detector, multi-functional, and illuminated switch manufacturing. Four major production sites were established in China since 1993—Zhuhai; Jiangsu; Jiangxi; Hunan and Vietnam. With complete in-house production lines, from raw materials to finished products including in-house press, injection, assembly, and plating, Diptronics offers customers timely delivery with superior quality. Our switches are exported to more than 100 countries worldwide.

**Diptronics** switches can be widely used in various industries, such as consumer electronics (smart phone, digital camera, tablet PC, notebook), automotive products, white goods, medical products, telecommunication, and etc. Today, Diptronics switches account for about 50% of notebook market globally. In line with market expectation, Diptronics is one of a few companies in the industry that has in-house assembly line for both LED lamps and LED switches.

**Diptronics** continues to develop smaller, thinner, and creative switches for our customers to fulfill the fast changing market demand. We build innovated partnership with customers around the world.

# SPEED & PASSION

## MANAGING CONCEPT

**D**ISTINCTION **I**NNOVATION **P**ASSION .....



### 我們的競爭優勢:

#### ◎ 產品線

- 「指撥開關」產量全球第一。
- 「輕觸開關」產量全球第三。
- 「滑動開關、偵測開關、複合式開關」產量為全球前五大。

#### ◎ 國際認證

取得TS-16949、ISO14001，所有產品皆符合無鉛、無鹵規範要求。

#### ◎ 核心競爭力

- ※ 擁有垂直整合之核心技術力（產品研發、電鍍、模具及設備加工、金屬沖壓、塑膠射出、自動化設備製作組裝等），可因應客戶客製化需求，少量多樣化，快速交貨。
- ※ 專業經營團隊，長期穩定持續成長，迎接各種挑戰。

#### ◎ 全球唯一

自製生產LED燈及開關，並將兩者結合成爲生產LED開關的專業製造廠。

### Diptronics Strengths

#### ◎ Product Capacity:

- Dip switches—Top 1 sales volume worldwide
- Tact switches—Top 3 sales volume worldwide
- Slide/Detector/Multi-functional switches—top 5 sales volume worldwide

#### ◎ Quality Assurance:

TS16949 & ISO14001 certified and all of our products are RoHS & Halogen free compliant.

#### ◎ Integration of core competence:

- ※ Expertise in complete in-house production with vertical integration. We uphold the spirit of “speed” and “passion” by serving fast delivery with product variety.
- ※ Professional R&D team for constant growth and different challenges.

#### ◎ LED Integration:

Diptronics is one of a few companies that has LED and switch integration with in-house assembly line.

#### ● 3C / IT Industry

- Cloud Devices
- Automobile Industry
- White Goods
- Medical Devices
- Automatic Home Appliances

### 產品應用 Application



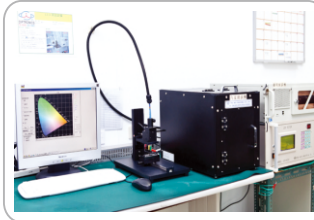
Dropping Tester



Plating Facility



LED Assembly Center



LED-38T Optic-Electrical Tester  
LED Angle Tester



LED Array Spectrometer



SEM(Scanning Electron Microscopy)  
EDS (Energy dispersive spectroscopy)



Press M/C



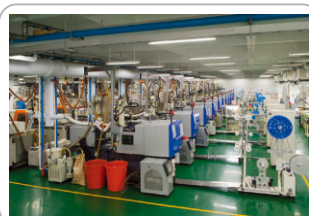
Optical Projection Grinding Machines



Automated Production Equipment



LED FT-IR



Plastic Injection Machines



CNC Milling Machines

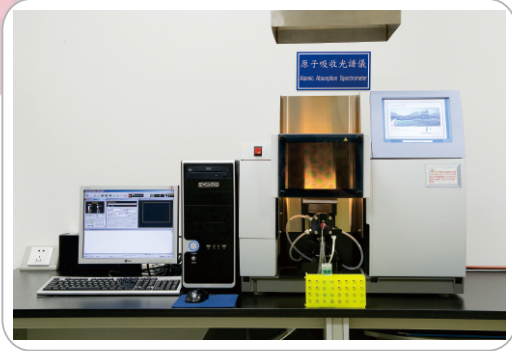


Wire-cut Electrical Discharge Machines



Precision Electric Discharge Machines

# RoHS & HALOGEN FREE SUPPORT



AAS Testing Equipment



Hand-held Elemental Analyzer

## 所有圖達產品皆符合RoHS規範

- ◎ 為確保產品符合RoHS及特殊客戶要求，公司引進AAS驗證設備，掌控進料及製程之品質。
- ◎ 隨時收集國際法規之要求，即時修訂公司內部之文件進行管控。
- ◎ 「綠色採購」在圖達採購流程中，零件承認時必定請廠商提供 RoHS 檢測報告，經品保單位審核通過後始可使用；同時要求供應商每年提供RoHS更新驗證報告及定期稽核供應商RoHS管制。
- ◎ 為因應新一波的綠色電子浪潮「無鹵素（Halogen-free）」2009年1月份起，陸續導入無鹵素材料。

## Diptronics RoHS Implement

- ◎ Is equipped with AAS validating devices for RoHS implementation.
- ◎ Regularly updates internal documentation with worldwide RoHS regulation.
- ◎ Produces green products with only RoHS qualified suppliers and consistently conducts factory audit for RoHS control.
- ◎ Uses Halogen Free raw material since January, 2009 to promote a green Earth.



## LEAD-FREE SOLDERING

ITEM	LEAD-FREE SOLDERING CONDITION
Hand Soldering	350°C±10°C /5sec max.
Wave Soldering	Pre-Heat 100°C/60sec 260°C±5°C /5sec
Reflow Soldering	



## RoHS COMPLIANT

- ※ The limit value that we declare.
  - Pb<100ppm
  - Cd<75ppm
  - Hg<2ppm
  - Cr6<2ppm
  - PBB<Not Detected
  - PBDE<Not Detected
- ※ Start from January 2005



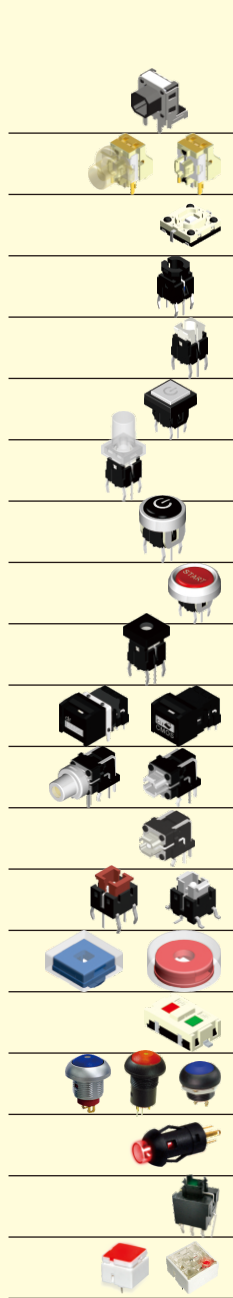
## HALOGEN FREE

- Br<900ppm
- Cl<900ppm
- Br+Cl<1500ppm

- ※ Start from 2009

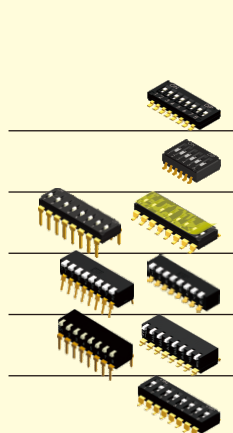
# INDEX

## ILLUMINATED SWITCH



Series	Contact Type	Features	Dimensions(mm)	Page
MLC <b>NEW</b>	Silver	Right Angle	6.8x7.7	12
ML3	Gold / Silver	Right Angle	4.5x6.2	13
ML4	Silver	SMT	4.9x4.9	15
ML5	Silver	Through Hole	6x6	16
ML6-H0	Silver	Through Hole	6x6	17
ML6-H1	Silver	Through Hole	6x6 / Cap:10x10	18
ML6-H2	Silver	Through Hole	6x6 / Cap:Ø5.5	19
ML6-H4	Silver	Through Hole	6x6 / Cap:Ø10	20
ML6-H5	Silver	Through Hole	6x6 / Cap:Ø14	21
ML6-H6	Silver	Through Hole	6x6 / Cap:7.5x7.5	22
ML8	Silver	Right Angle	8.7x9.6	23
TL(L)A(G)-7	Silver	Right Angle	7x7.4	25
TLR-7	Silver	Right Angle	6.5x7.4	27
TL(L)(M)-6	Silver	Through Hole & SMT	6.1x6.1	28
KTL		Cap Accessories for TLL-6	Square:□10.2 / Round:Ø10.2	30
TML-3	Silver	SMT	6.8x4.1	31
ZPA		Wiring	Ø12	32
ZPBL		Wiring	Ø5.4	37
ZPSD		Through Hole	8.5x7.5	38
ZKS		Through Hole	15x15	39

## DIP SWITCH



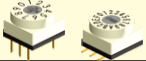





Series	Contact Type	Features	No. Of Poles	Page
DHN(F)	Gold	Half Pitch (H:1.6 mm)	2,4,6,8,10	41
DHA	Gold	Half Pitch (H:2.2 mm)	2,4,6,8,10,12	43
E(M)(I)(S)(J)	Gold	End Stackable	1-10 , 12	44
NP(I)(M)	Gold	Piano	2,4,6,8,10	47
EP(I)(M)	Gold	End Stackable Piano	2,4,6,8,10	49
D(M)(J)(L)	Gold	SMT	1-10 , 12	51

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## DIP SWITCH

	Series	Contact Type	Features	No. Of Poles	Page
	NDI	Gold	Through Hole	1-10 , 12	53
	NDS	Gold	Slide	1-10 , 12	54
	NDP	Gold	Piano	2-10, 12	55
	NDA	Gold	Right Angle	2-10, 12	56
	SIP	Gold	Single in Line	2,4,6,8,10	57
	TII, TIM	Gold	Tri-State Low Profile	4,5,8,9,10	59
	TDS	Gold	Tri-State	8,9,10	61

## ROTARY CODED SWITCH

	Series	Contact Type	Features	No. Of Step	Page
	RB	Gold	Rotary 10x10 Washable	10, 16	62
	KRB		Cap Accessories for RB	Short/Long Spindle & Segment Wheel	64
	SV3A-4	Gold	Rotary 10x10	4	65
	R(H)(V)(M)(S)	Gold	Rotary 10x10	10, 16	66
	RJ	Gold	Rotary 7x7	10, 16	69
	R7	Gold	Rotary 7x7	10, 16	71

## TACT SWITCH

	Series	Contact Type	Features	Dimensions(mm)	Page
	TL( )-A1	Silver	Sealed	10x10	74
	TL( )-A2	Silver	Sealed	10x10	76
	TL( )-B1	Silver	Sealed	10x10	78
	TL( )-B344	Silver	Sealed	10x10	80
	DTSA-2	Silver	Right Angle	13.1x14.7	82
	DTSM-2	Silver	SMT	12.0x12.0	84
	DTS(G)(P)-2	Silver	Through Hole & Ground Terminal	12.0x12.0	86
	DTS(G)-6	Gold / Silver	Through Hole & Ground Terminal	6.2x6.2	89
	DTS(M)(J)-6	Gold / Silver	SMT & J SMT	6.2x6.2	91
	DTSA-6	Gold / Silver	Right Angle	7.3x13.16 / 7.4x7.1	94





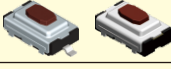





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## TACT SWITCH

	Series	Contact Type	Features	Dimensions(mm)	Page
	T7A	Silver	Double Layers Right Angle	7.4x7.1	97
	DTST-6	Silver	Radial Taping	6.2x6.2	98
	KTSC-(6)(2)		Cap for 6x6/12x12 Tact Switch	Round / Square	99
	DTS( )W-2	Silver	Washable	12.0x12.0	100
	DTSHW-6	Gold / Silver	Washable	6.2x6.3	102
	DTS(G)MW-6	Gold / Silver	Washable	6.2x6.3	104
	DTSJW-6	Gold / Silver	Washable	6.2x6.3	106
	DTSJW( )-6	Gold / Silver	Washable	6.2x6.3	108
	DTSYHL-6	Silver	Thinner Type Pitch 4.0mm	6.2x6.2	109
	DTS(G)ZML-6	Silver	Thinner Type Pitch 4.5mm	6.2x6.0	110
	DTS(G)(L)(F)-6	Silver	Thinner Type Pitch 4.0mm	6.2x6.4	112
	TA3	Gold / Silver	Right Angle (SMT)	6.3x6.18 / 7.11	114
	TA-6	Silver	Right Angle (SMT)	6.1x6.6	116
	T1A <b>NEW</b>	Silver	H:0.50mm	2.8x1.9	118
	T3AL	Silver	H:0.45mm / 0.65mm Washable	2.6x3.0	119
	T3BL	Silver	H:0.35mm	3.7x3.7	120
	T3C <b>NEW</b>	Silver	H:0.60mm	3.0x2.0	121
	T4BJ	Silver	H:0.55mm	4.8x4.8	122
	TJ-4	Silver	H:0.55 mm	4.4x4.4	123
	T( )E-5	Gold / Silver	H:0.8 mm / H:1.5mm	5.2x5.2	124
	T6H	Gold / Silver	Through Hole, Right Angle, SMT	7.4x7.4 / 8.0x8.0	126
	1188	Silver	Side Push	3.5x7.0	128
	TA(C)(2)-3	Silver	Side Push	3.95x7.3 / 4.65x7.0	130
	TAF	Silver	Side Push	3.3x4.5	133
	MTA2	Silver	Side Push Sealed	1.9x4.5	134
	TCD <b>NEW</b>	Silver	PCB Sealed Type Side Push	2.3x4.5	135
	TCE	Silver	Sealed Side Push	1.65x3.8	136

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## TACT SWITCH

	Series	Contact Type	Features	Dimensions(mm)	Page
	TCF	Silver	Side Push Mid-mount	2.9x4.5	137
	TCH <b>NEW</b>	Silver	Right Angle	4.5x2.2	138
	LTL-6	Silver	Long Travel	6.2x6.2	139
	DTS-3	Silver	Through Hole & SMT	3.5x6.0	140
	TAE	Gold / Silver	Thinner (H:2.5mm)	3.8x6.0	142
	T(M)(J)G-325	Silver	Thinner (H:2.5mm)	3.7x6.0	143
	IPT	Gold / Silver	Side / Vertical Push	2.8x3.8	144
	MPT	Silver	Side / Vertical Push	2.9x3.9	145
	PT	Silver	Side / Vertical Push	3.5x4.7	146
	TBF	Silver	Side / Vertical Push	2.9x3.5	148
	TBE	Silver	Vertical Push	2.7x3.0	150

## SLIDE SWITCH

	Series	Contact Type	Poles-Positions	Stroke	Page
	LSS	Silver	1-2, 2-2	2.0mm	151
	SD12	Gold	1-3	1.5mm	154
	SS3	Gold	1-2	2.0mm	155
	SS4	Gold	1-3	2.0mm	157
	MSS(3)(4)	Gold	1-2, 1-3	1.5mm	159
	MSS(6)(14)	Gold	2-2, 1-4	1.5mm	160
	SC12P	Silver	1-2	2.5mm	161
	SSS	Gold / Silver	1-2	2.7mm	162
	NSS	Gold / Silver	1-3	2.0 / 4.0mm	163
	S2S	Gold / Silver	1-2, 1-3	1.5mm	165




# INDEX

## DETECTOR SWITCH

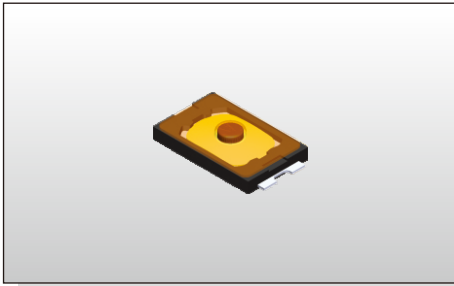
	Series	Contact Type	Features	Operation Direction	Page
	ELH	Silver	3.3x3.5mm	Horizontal	166
	DTE	Silver	4.15x5mm	Horizontal	167
	FTE	Gold / Silver	4.0x5.55mm	Horizontal	168
	HTE <b>NEW</b>	Silver	5mm	Horizontal	170
	TE-MR	Silver	4.7x6mm	Horizontal	171
	TE	Silver	3.9x6.5mm (H: 8.4 / 10.7mm)	Vertical	173
	ATE	Silver	4.5x4.7mm (H:3.8 / 5.3mm)	Vertical	175
	BTE	Silver	2.8x3.5mm	Vertical	176
	CTE	Silver	2.98x3.5mm	Vertical	177
	TU	Silver	3.6x4.2mm	Vertical	178

## MULTI FUNCTION SWITCH

	Series	Contact Type	Features	Dimensions(mm)	Page
	M2D	Silver	Double Action / H:0.6mm	4.1x4.3	179
	M2P	Silver	Double Action & Lever	7.0x7.0	180
	PL3	Silver	Push & Lever	11.8x11.8	181
	PL	Silver	Push & Lever	11.3x9.3	183
	MT(4)(5)	Silver	4-Direction (& Center Push)	7.7x7.4	187
	SRM	Silver	8-Direction	11x11.5	189
	TT5	Silver	5-Direction	9.3x9.3	190

# DEVELOPING ITEMS

## T1B Series / J Terminal SMT Type (H=0.55mm)



### FEATURES

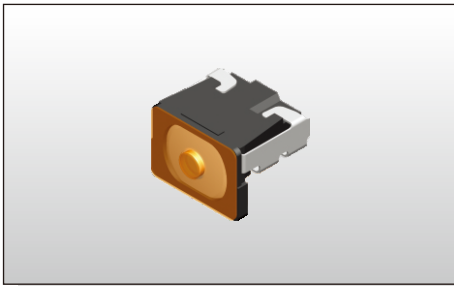
- ※ Compact-size 2.6\*1.6mm
- ※ Low profile with 0.55mm
- ※ Long operation cycles

### APPLICATION

- ※ Smart phone
- ※ Digital camera, Medical
- ※ Portable electronic device
- ※ 3C products (3C =Computer · Communication and Consumer Electronics)



## T1C Series / Side Push Type Mid-mount Switch



### FEATURES

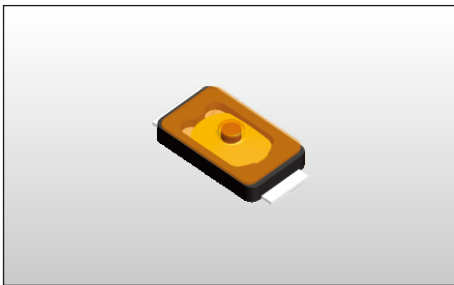
- ※ Miniature 4.5\*2.2mm
- ※ Side push mid-mount type
- ※ 300,000 operation life cycles
- ※ Better soldering peeling strength

### APPLICATION

- ※ Smart phone
- ※ Digital camera, Medical
- ※ Portable electronic device
- ※ 3C products (3C =Computer · Communication and Consumer Electronics)



## T1D Series / J Terminal SMT Type (H=0.55mm)



### FEATURES

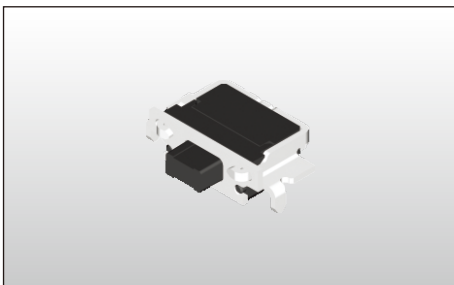
- ※ Compact-size 2.0\*1.2mm
- ※ Low profile with 0.55mm
- ※ Long operation cycles

### APPLICATION

- ※ Smart phone
- ※ Digital camera, Medical
- ※ Portable electronic device
- ※ 3C products (3C =Computer · Communication and Consumer Electronics)



## TCJ Series / Side Push Type (H=0.85mm)



### FEATURES

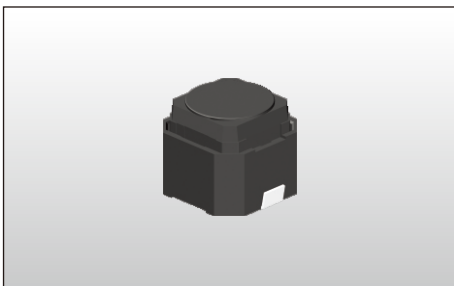
- ※ Better soldering peeling strength
- ※ 200,000 operation life cycles
- ※ Waterproof

### APPLICATION

- ※ Smart phone
- ※ Portable personal audio
- ※ 3C products (3C =Computer · Communication and Consumer Electronics)



## T6L Series / Long Travel SMT Type Tactile Switch (H=5.0mm)



### FEATURES

- ※ Miniature 5.6\*6.0mm
- ※ Long Travel type
- ※ 100,000 operation life cycles

### APPLICATION

- ※ Automotive
- ※ Instrumentation
- ※ Audio

# APPLICATION

## Smart Wearable



### Power/Camera Button/Volume Button

Tact Switch



Double Action Type Tact Switch:



### Function Button

Tact Switch



### Mute Button

Slide Switch:



## Cloud Devices



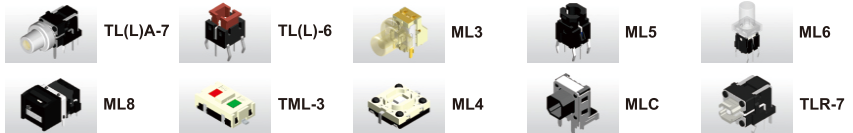
### Function Setup Key

Dip Switch:



### Power Key

Illuminated Switch:



Tact Switch:



Rotary Switch:



# APPLICATION

## Automobile Industry



### Blue Tooth Headset

Tact Switch:



Illuminated Switch:



### GPS

Slide Switch:



Push Lever Switch:



Tact Switch:



### Audio Equipment

Tact Switch:



Illuminated Switch:

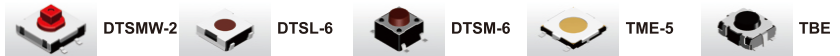


4-directional Switch



### Steering Wheel

Tact Switch:



## IT Industry



### Remote Controller

Tact Switch:



Dip Switch:



Slide Switch:



Push Lever Switch:



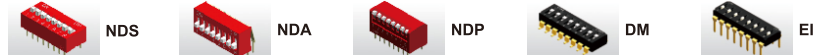
### Walkie-talkie

Tact Switch:



### Mother Board/Modem/Nettop

Dip Switch:



Illuminated Switch:



### LCD Panel

Tact Switch:



# APPLICATION

## 3C Industry



### Digital Camera

Double Action Type Tact Switch:



Slide Switch



4-directional Switch:



Detector Switch:



Tact Switch:



### Tablet

Tact Switch:



Slide Switch

### Notebook

Detector Switch:



Half Pitch Dip Switch:

Illuminated Switch:



Slide Switch:

Tact Switch:



## White Goods



### Induction Cooker

Tact Switch:



### Coffee Machine

Illuminated Switch:



Tact Switch:



### Upright Oven

Tact Switch:



### Washing Machine

Washable Tact Switch:



Illuminated Switch:



### Vacuum

Tact Switch:



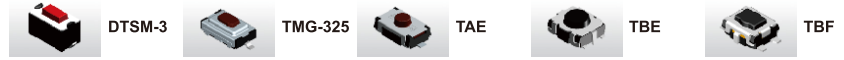
# APPLICATION

## Medical Devices



### Fever Thermometer

Tact Switch:



Illuminated Switch:



### Blood Pressure Gauge

Tact Switch:



### Digital Thermometer

Tact Switch:



Dip Switch:



### Electric Toothbrush

Tact Switch:



Detector Switch:



## Automatic Home Appliances



### Security System

Detector Switch:

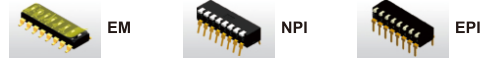


Rotary Switch:



### Automatic Curtain

Dip Switch:



Tact Switch:



Slide Switch:



### Automatic Garage Door

Dip Switch:



Tact Switch:



# APPLICATION

## Smoker Detector / GAS Alarm

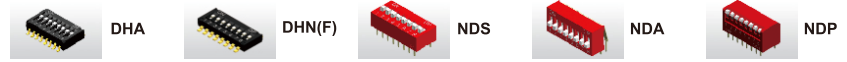


### Smoker Detector

#### Tact Switch:



#### Dip Switch:



#### Rotary Switch:



### GAS Alarm

#### Slide Switch:



#### Detector Switch:



## Industrial Control Field



#### Tact Switch:



#### Slide Switch:



#### Rotary Switch:



#### Dip Switch:

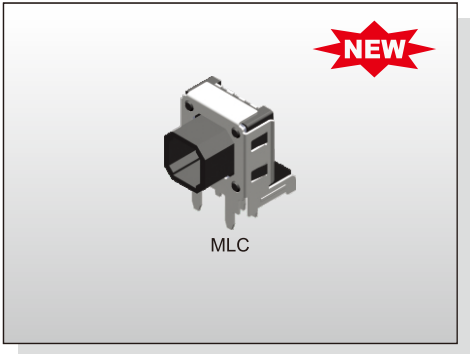


#### Illuminated Switch:



ILLUMINATED SWITCH  
**MLC SERIES**

*Tact Switch  
Illuminated*



**NEW**

MLC

**FEATURES**

- ※Horizontal operation
- ※Various LED colors
- ※Long operation life

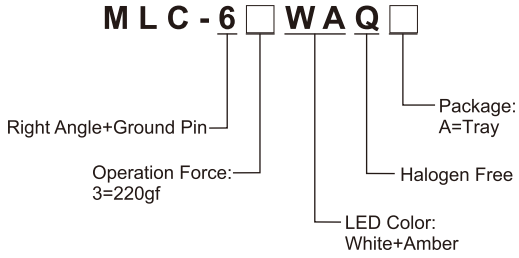
**APPLICATION**

- ※Automotive
- ※Server
- ※Laptop, IPC

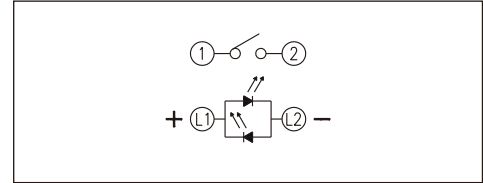
**SPECIFICATION**

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	220±50gf
Travel	0.25mm
Operating Life	100, 000 cycles
Operating Temp.	-25°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

**HOW TO ORDER**



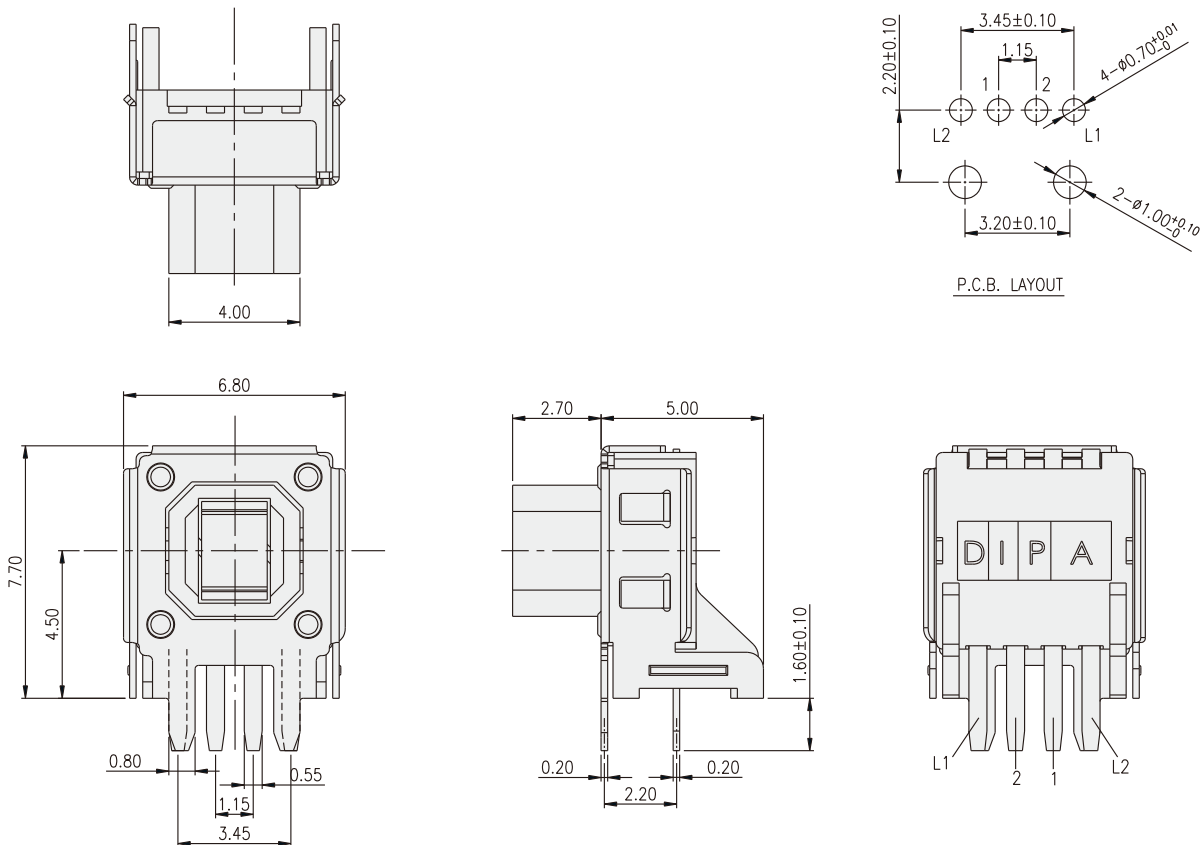
**CIRCUIT**



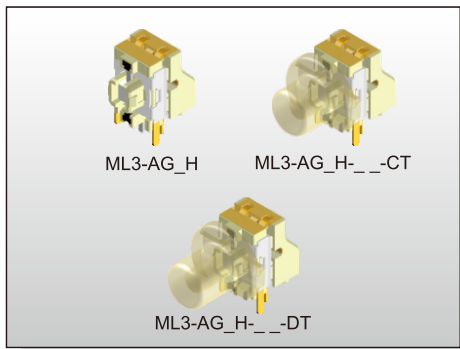
**PACKAGE**

<Tray>  
200 pcs.

**MLC**







### FEATURES

- ※ Compact size, extra thin
- ※ Dual LEDs
- ※ Focused light

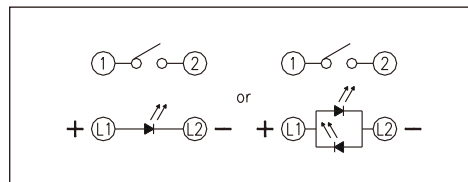
### APPLICATION

- ※ Server
- ※ Testing Instrument
- ※ Telecommunication

### SPECIFICATION

Contact Rating	50mA, 12V DC
Contact Resistance	500mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160±50gf, 250±100gf
Travel	0.2mm
Operating Life	100, 000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

### CIRCUIT

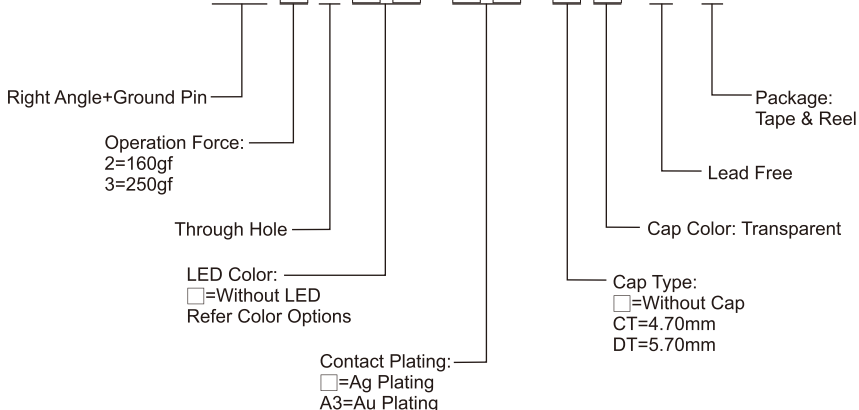


### PACKAGE

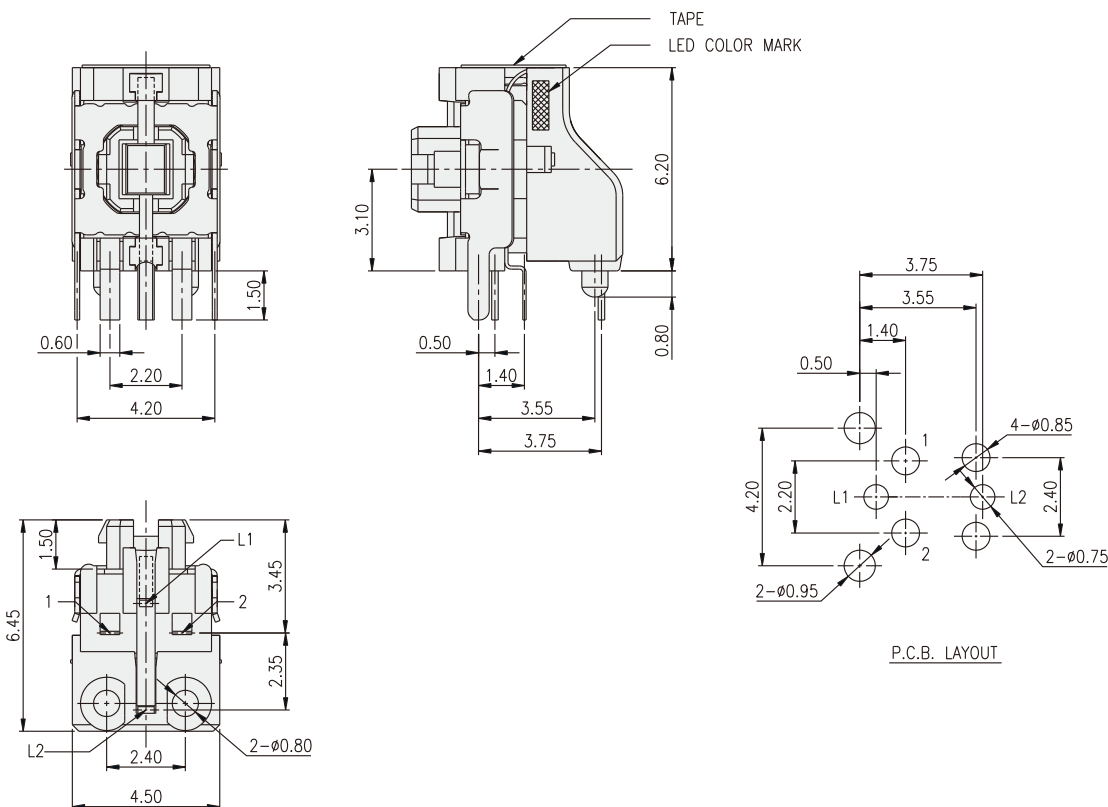
Without Cap: 600 pcs/reel  
With Cap: 300 pcs/reel

### HOW TO ORDER

**ML3-AG H - - - - - V - R**



### ML3

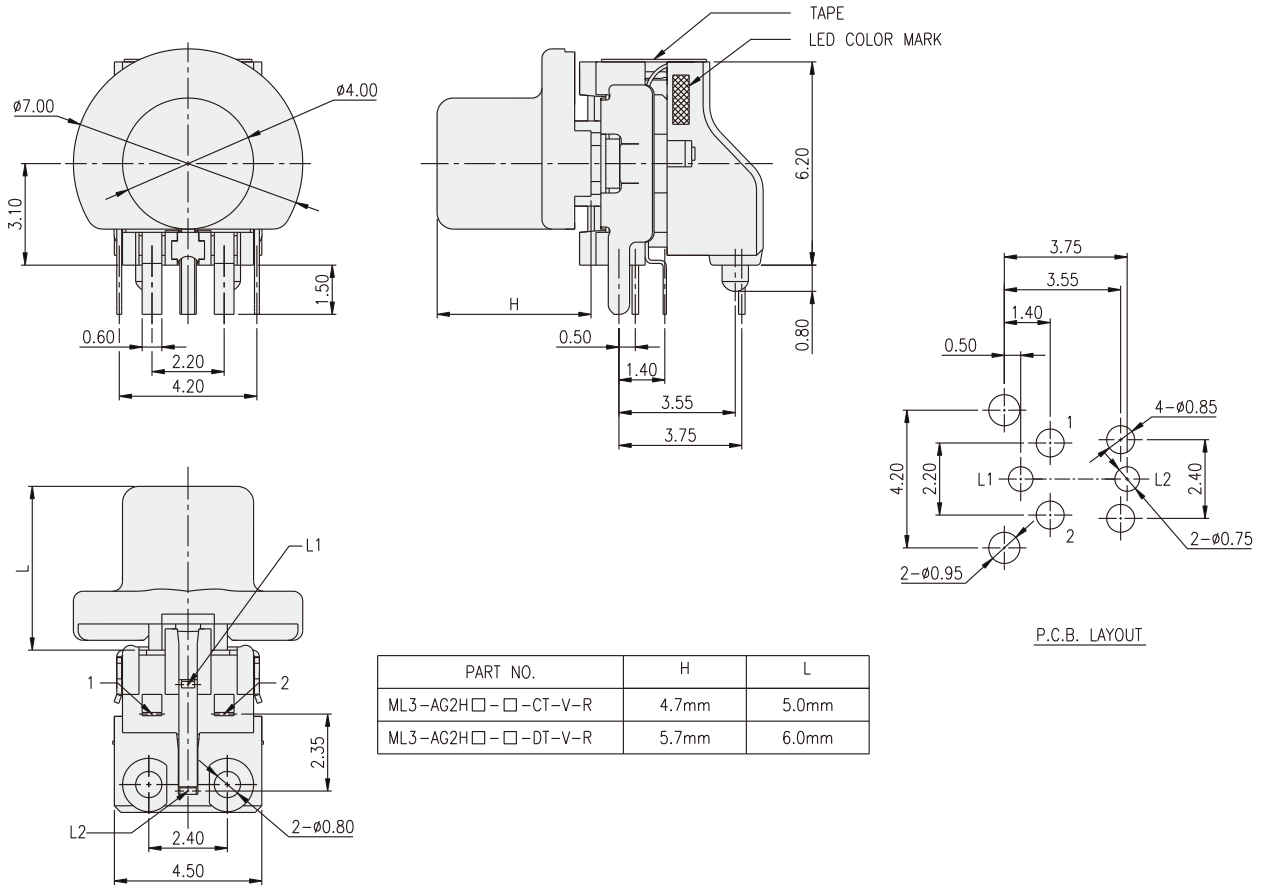


ILLUMINATED SWITCH  
**ML3 SERIES**

**Tact Switch**  
**Illuminated**



**ML3-AG2H**



PART NO.	H	L
ML3-AG2H□-□-CT-V-R	4.7mm	5.0mm
ML3-AG2H□-□-DT-V-R	5.7mm	6.0mm

**LED Color Options:**

Part No.	Color	Dominant Wavelength $\lambda_p$ Typ.(nm)	Luminous Intensity $I_v$ (mcd)	Forward Voltage $V_F$ (V)		View Angle $2\cdot\theta_{1/2}$ (Degree)
			Typ.	Typ.	Max.	
B	Blue	470	50	3.0	3.6	140° 
PB	Blue	470	70	3.0	3.6	
PG	Pure Gree	520	160	3.2	3.6	
G	Yellow Green	570	30	2.0	2.3	
Y	Yellow	590	60	2.0	2.3	
A	Soft Orange	605	50	2.0	2.3	
R	Red	630	60	2.0	2.3	
W	Cold White	X:0.26 / Y:0.23	350	3.0	3.6	

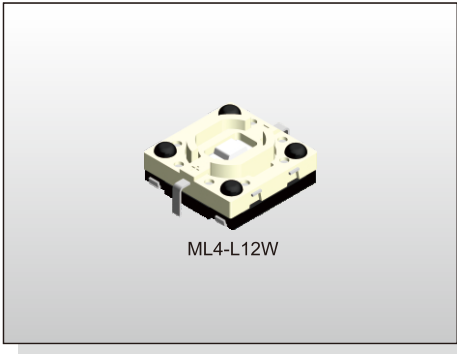
ILLUMINATED SWITCH

# ILLUMINATED SWITCH ML4 SERIES

**Tact Switch  
Illuminated**



ILLUMINATED SWITCH



### FEATURES

- ※ Compact size 4.9x4.9 with LED
- ※ Ultra-thin: a height of 2.0mm

### APPLICATION

- ※ NB, Monitor
- ※ Portable device
- ※ Tablet

### SPECIFICATION

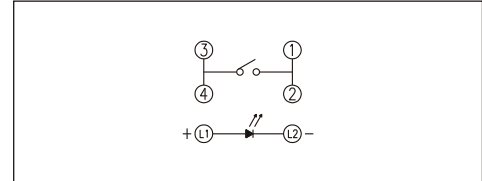
Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160±50gf
Travel	0.25mm
Operating Life	1,000, 000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

### HOW TO ORDER

**ML4-L**    **QR**

- S.M.T.
- Height: 1=2.00mm
- Operating Force: 2=160gf
- Package: Tape & Reel
- Halogen Free
- LED Color: Refer Color Options

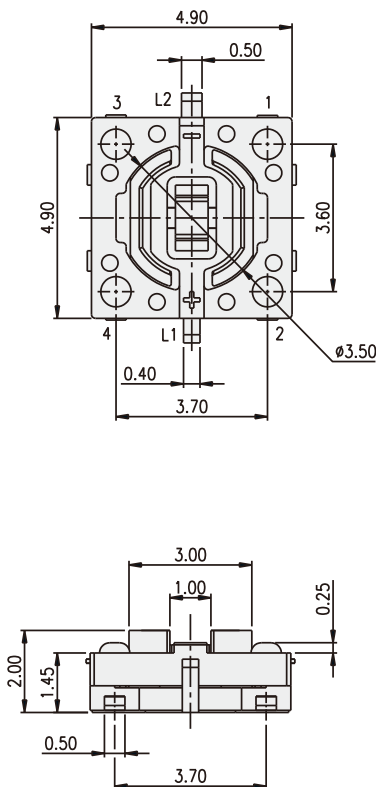
### CIRCUIT



### PACKAGE

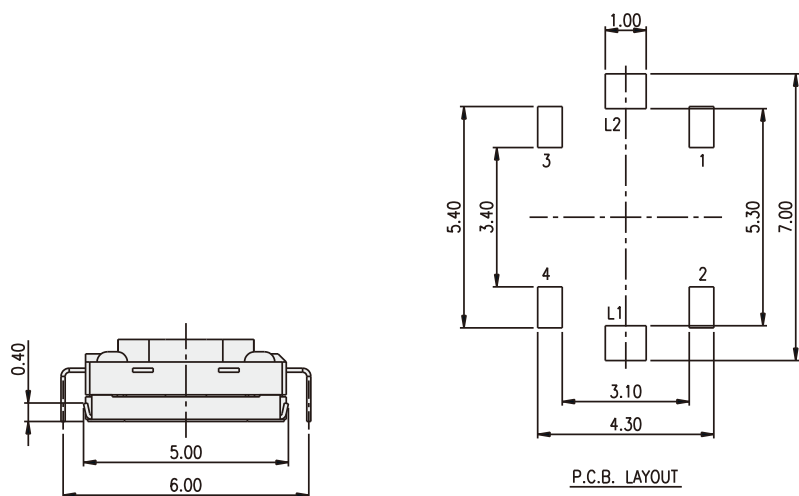
<Tape & Reel>  
2500 pcs.

## ML4



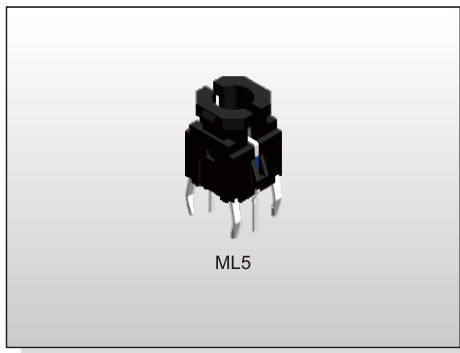
### LED Color Options:

Part No.	Color	Dominant Wavelength $\lambda_p$ Typ.(nm)	Luminous Intensity $I_v$ (mcd)	Forward Voltage $V_f$ (V)		View Angle $2\cdot\theta_{1/2}$ (Degree)
			Typ.	Typ.	Max.	
B	Blue	470	100	3.0	3.6	120°
G	Green	570	30	2.05	2.4	
R	Red	605	50	1.9	2.4	
W	Cold White	X:0.26 / Y:0.23	150	3.0	3.6	



# ILLUMINATED SWITCH ML5 SERIES

Tact Switch  
Illuminated



## FEATURES

- ※Silicone structure for low noise
- ※Long travel
- ※Options of differen LED color

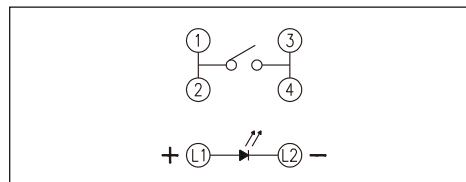
## APPLICATION

- ※Audio device
- ※Office equipment
- ※Communication apparatus

## SPECIFICATION

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	200±70gf
Travel	1.2mm
Operating Life	50, 000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

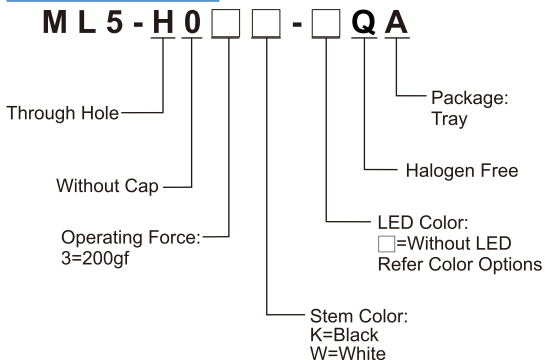
## CIRCUIT



## PACKAGE

<Tray>  
140 pcs.

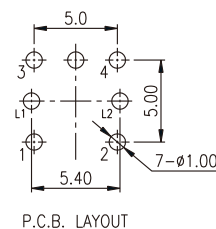
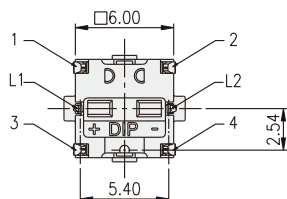
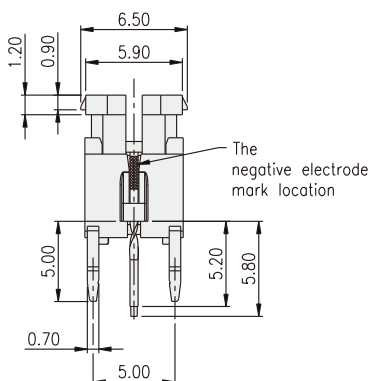
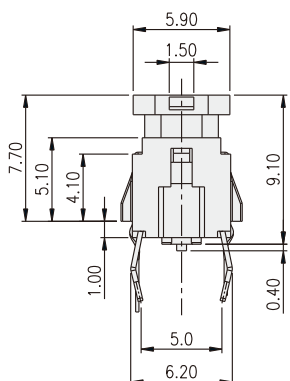
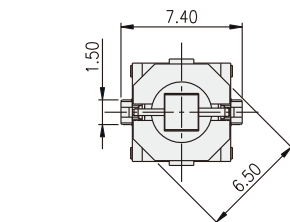
## HOW TO ORDER



## ML5

## LED Color Options:

Part No.	Color	Dominant Wavelength $\lambda_p$ Typ.(nm)	Luminous Intensity $I_v$ (mcd)		Forward Voltage $V_F$ (V)		View Angle $2-\theta_{1/2}$ (Degree)
			Typ.	Max.	Typ.	Max.	
B	Blue	470	80		3.0	3.6	140°
PG	Pure Gree	520	160		3.2	3.6	
G	Yellow Green	570	30		2.0	2.3	
Y	Yellow	590	60		2.0	2.3	
A	Soft Orange	605	50		2.0	2.3	
R	Deep Red	640	25		2.0	2.3	
W	Cold White	X:0.26 / Y:0.23	350		3.0	3.6	

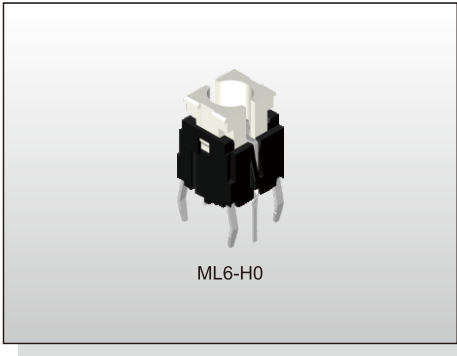


# ILLUMINATED SWITCH ML6-H0 SERIES

Tact Switch  
Illuminated



ILLUMINATED SWITCH



ML6-H0

## FEATURES

- ※ Customized cap options
- ※ Bi-color LED available
- ※ Long operating life

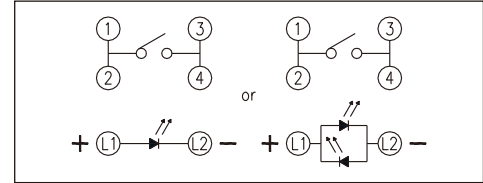
## APPLICATION

- ※ Sever, modem, data storage
- ※ Audio module
- ※ Office equipment

## SPECIFICATION

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160±50gf, 180±50gf
Travel	0.25mm
Operating Life	300, 000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

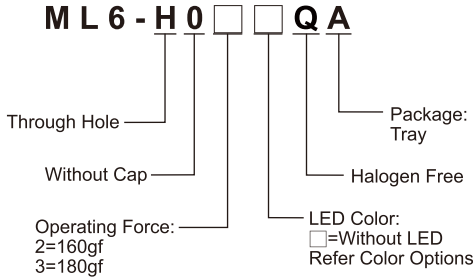
## CIRCUIT



## PACKAGE

<Tray>  
140 pcs.

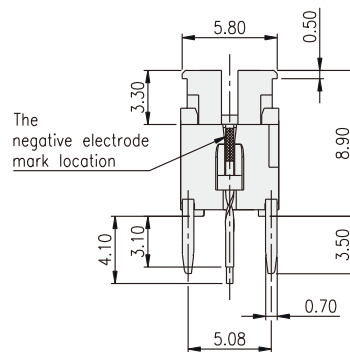
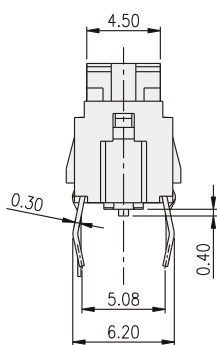
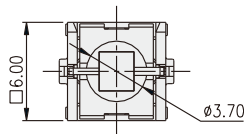
## HOW TO ORDER



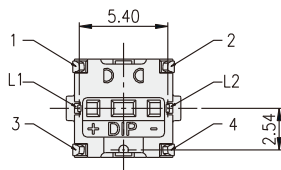
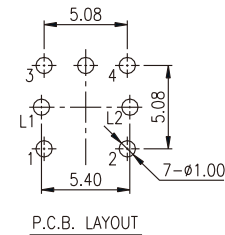
## ML6-H0

## LED Color Options:

Part No.	Color	Dominant Wavelength $\lambda_p$ Typ.(nm)	Luminous Intensity $I_v$ (mcd)	Forward Voltage $V_F$ (V)		View Angle $2-\theta_{1/2}$ (Degree)
			Typ.	Typ.	Max.	
B	Blue	470	70	3.0	3.6	140°
PG	Pure Green	520	160	3.2	3.6	
G	Yellow Green	570	30	2.0	2.3	
Y	Yellow	590	60	2.0	2.3	
A	Soft Orange	605	50	2.0	2.3	
R	Red	630	60	2.0	2.3	
W	Cold White	X:0.26 / Y:0.23	350	3.0	3.6	

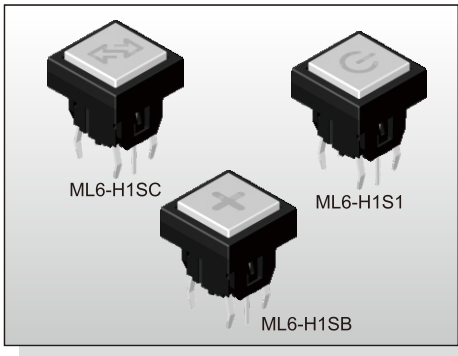


The negative electrode mark location



# ILLUMINATED SWITCH ML6-H1 SERIES

## Tact Switch Illuminated



### FEATURES

- ✘ Customized cap options
- ✘ Bi-color LED available
- ✘ Long operating life

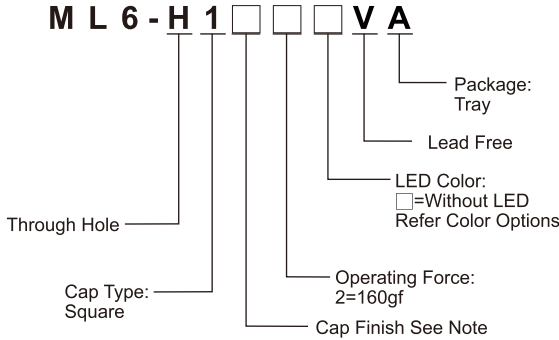
### APPLICATION

- ✘ Sever, modem, data storage
- ✘ Audio module
- ✘ Office equipment

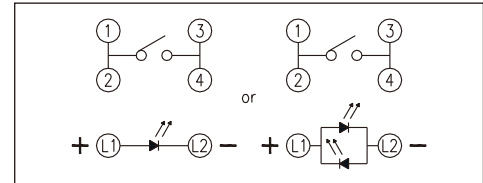
### SPECIFICATION

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160±50gf
Travel	0.25mm
Operating Life	300,000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

### HOW TO ORDER



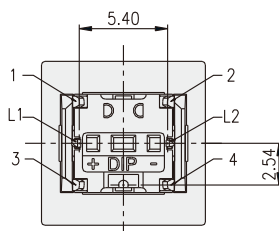
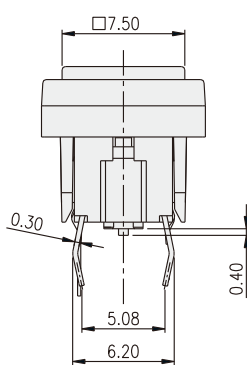
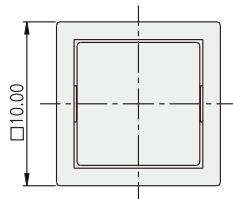
### CIRCUIT



### PACKAGE

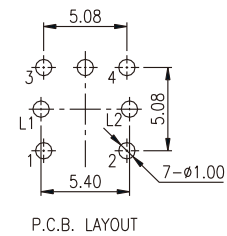
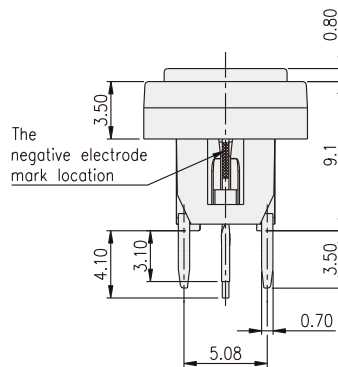
<Tray>  
100 pcs.

### ML6-H1



### LED Color Options:

Part No.	Color	Dominant Wavelength $\lambda_p$ Typ.(nm)	Luminous Intensity $I_v$ (mcd)	Forward Voltage $V_f$ (V)		View Angle $2\theta_{1/2}$ (Degree)
			Typ.	Typ.	Max.	
B	Blue	470	70	3.0	3.6	140°
PG	Pure Green	520	160	3.2	3.6	
G	Yellow Green	570	30	2.0	2.3	
Y	Yellow	590	60	2.0	2.3	
A	Soft Orange	605	50	2.0	2.3	
R	Red	630	60	2.0	2.3	
W	Cold White	X:0.26 / Y:0.23	350	3.0	3.6	



Note :

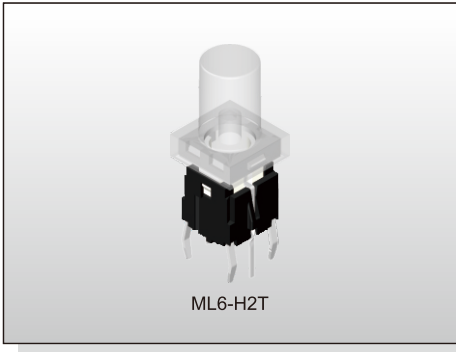
	CAP	
	Mark	Color
S1		Silver
S2	Reset	Silver
SA	-	Silver
SB	+	Silver

# ILLUMINATED SWITCH ML6-H2 SERIES

Tact Switch  
Illuminated



ILLUMINATED SWITCH



## FEATURES

- ✘ Customized cap options
- ✘ Bi-color LED available
- ✘ Long operating life

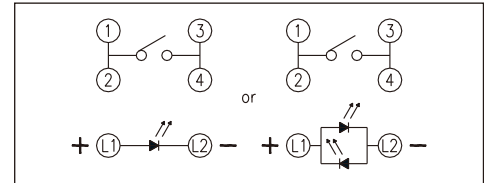
## APPLICATION

- ✘ Sever, modem, data storage
- ✘ Audio module
- ✘ Office equipment

## SPECIFICATION

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160±50gf
Travel	0.25mm
Operating Life	300,000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

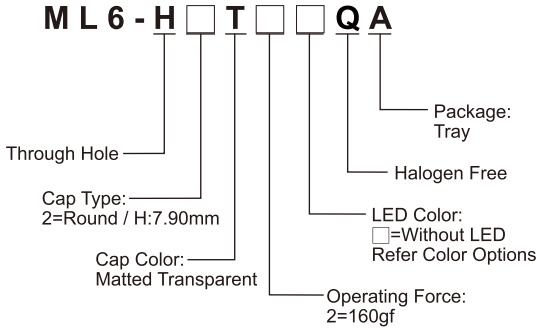
## CIRCUIT



## PACKAGE

<Tray>  
100 pcs.

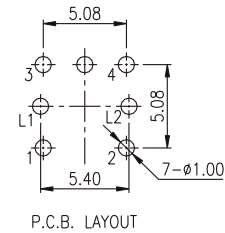
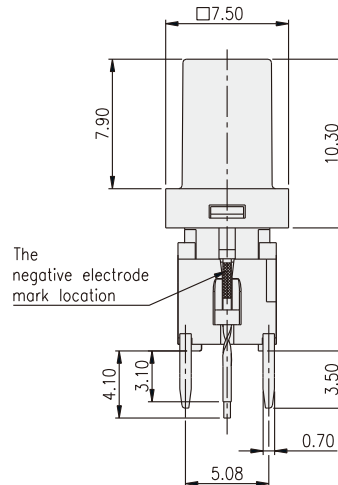
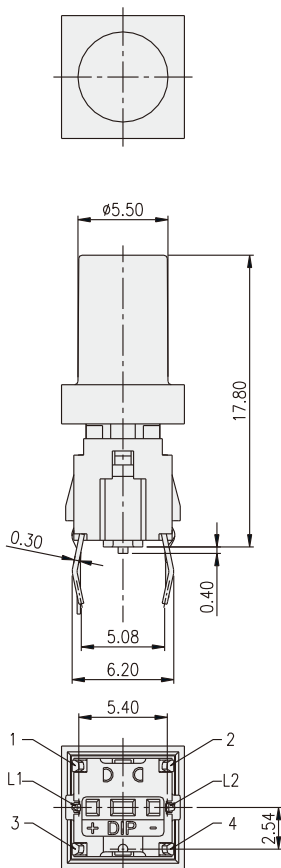
## HOW TO ORDER



## ML6-H2

## LED Color Options:

Part No.	Color	Dominant Wavelength $\lambda_p$ Typ.(nm)	Luminous Intensity $I_v$ (mcd)	Forward Voltage $V_f$ (V)		View Angle $2-\theta_{1/2}$ (Degree)
			Typ.	Typ.	Max.	
B	Blue	470	70	3.0	3.6	140°
PG	Pure Green	520	160	3.2	3.6	
G	Yellow Green	570	30	2.0	2.3	
Y	Yellow	590	60	2.0	2.3	
A	Soft Orange	605	50	2.0	2.3	
R	Red	630	60	2.0	2.3	
W	Cold White	X:0.26 / Y:0.23	350	3.0	3.6	



# ILLUMINATED SWITCH ML6-H4 SERIES

Tact Switch  
Illuminated



## FEATURES

- ※ Customized cap options
- ※ Bi-color LED available
- ※ Long operating life

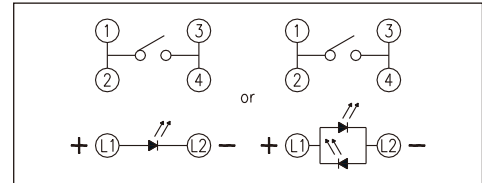
## APPLICATION

- ※ Sever, modem, data storage
- ※ Audio module
- ※ Office equipment

## SPECIFICATION

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160±50gf
Travel	0.25mm
Operating Life	300, 000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

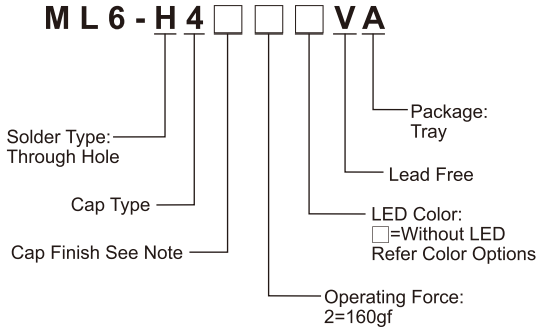
## CIRCUIT



## PACKAGE

<Tray>  
100 pcs.

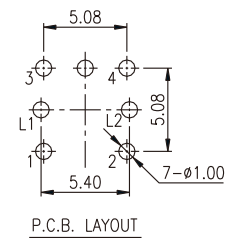
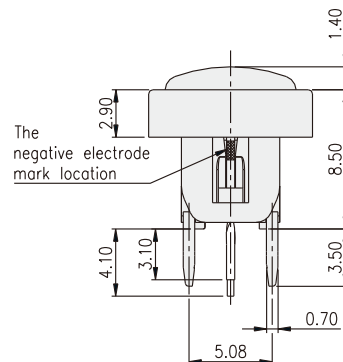
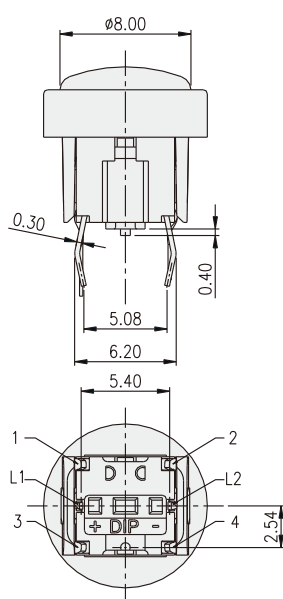
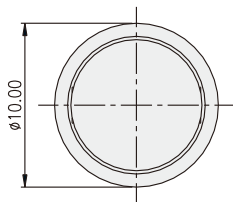
## HOW TO ORDER



## ML6-H4

## LED Color Options:

Part No.	Color	Dominant Wavelength $\lambda_p$ Typ.(nm)	Luminous Intensity $I_v$ (mcd)	Forward Voltage $V_f$ (V)		View Angle $2-\theta_{1/2}$ (Degree)
			Typ.	Typ.	Max.	
B	Blue	470	70	3.0	3.6	140°
PG	Pure Gree	520	160	3.2	3.6	
G	Yellow Green	570	30	2.0	2.3	
Y	Yellow	590	60	2.0	2.3	
A	Soft Orange	605	50	2.0	2.3	
R	Red	630	60	2.0	2.3	
W	Cold White	X:0.26 / Y:0.23	350	3.0	3.6	



NOTE :

	CAP	
	MARK	COLOR
S1		SILVER
K1		BLACK
S3	RESET	SILVER
K3		BLACK
SA	-	SILVER
KA		BLACK



# ILLUMINATED SWITCH ML6-H5 SERIES

Tact Switch  
Illuminated



ILLUMINATED SWITCH



## FEATURES

- ※ Customized cap options
- ※ Bi-color LED available
- ※ Long operating life

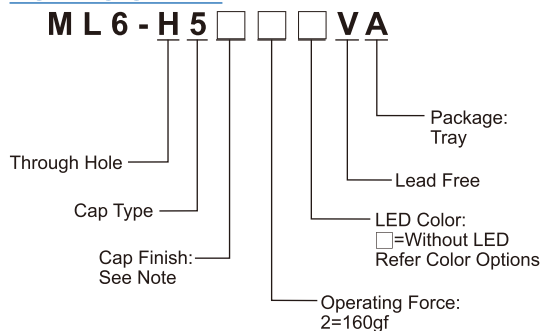
## APPLICATION

- ※ Sever, modem, data storage
- ※ Audio module
- ※ Office equipment

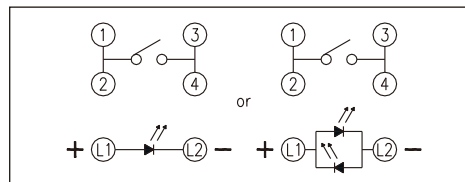
## SPECIFICATION

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160±50gf
Travel	0.25mm
Operating Life	300, 000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

## HOW TO ORDER



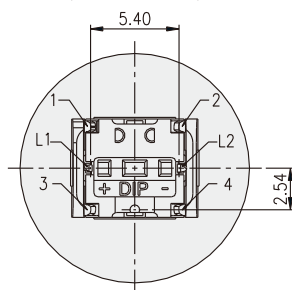
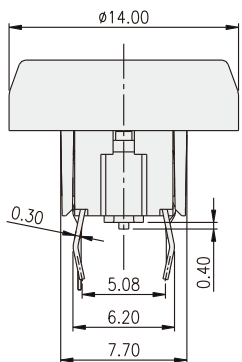
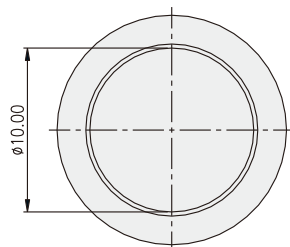
## CIRCUIT



## PACKAGE

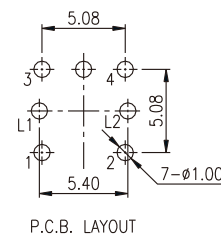
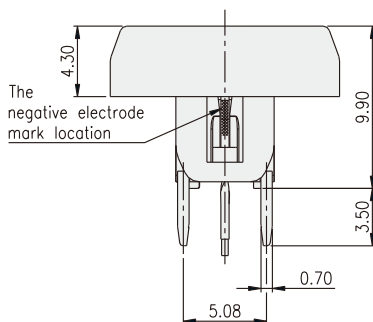
<Tray>  
100 pcs.

## ML6-H5



## LED Color Options:

Part No.	Color	Dominant Wavelength $\lambda_p$ Typ.(nm)	Luminous Intensity $I_v$ (mcd)	Forward Voltage $V_f$ (V)		View Angle $2\theta_{1/2}$ (Degree)
			Typ.	Typ.	Max.	
B	Blue	470	70	3.0	3.6	140°
PG	Pure Green	520	160	3.2	3.6	
G	Yellow Green	570	30	2.0	2.3	
Y	Yellow	590	60	2.0	2.3	
A	Soft Orange	605	50	2.0	2.3	
R	Red	630	60	2.0	2.3	
W	Cold White	X:0.26 / Y:0.23	350	3.0	3.6	

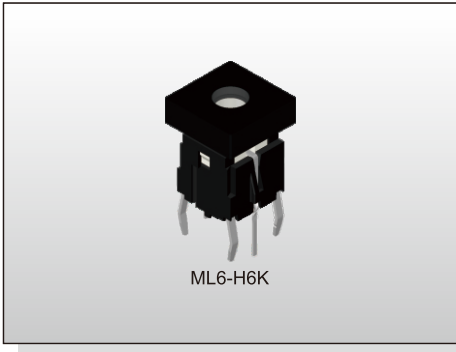


NOTE :

	CAP	
	MARK	COLOR
R4	START	RED

# ILLUMINATED SWITCH ML6-H6 SERIES

Tact Switch  
Illuminated



## FEATURES

- ※ Customized cap options
- ※ Bi-color LED available
- ※ Long operating life

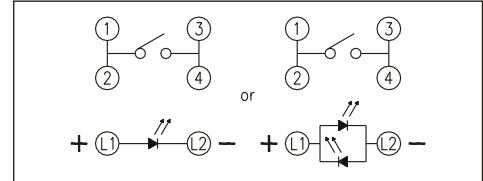
## APPLICATION

- ※ Sever, modem, data storage
- ※ Audio module
- ※ Office equipment

## SPECIFICATION

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	180±50gf
Travel	0.25mm
Operating Life	300, 000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

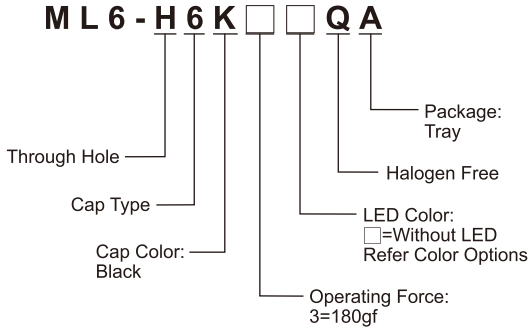
## CIRCUIT



## PACKAGE

<Tray>  
100 pcs.

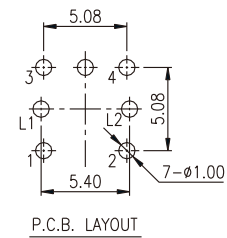
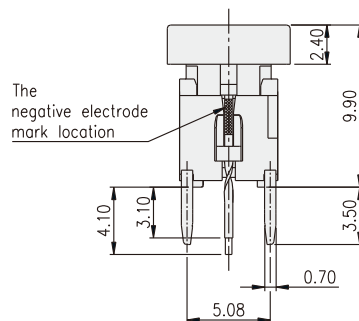
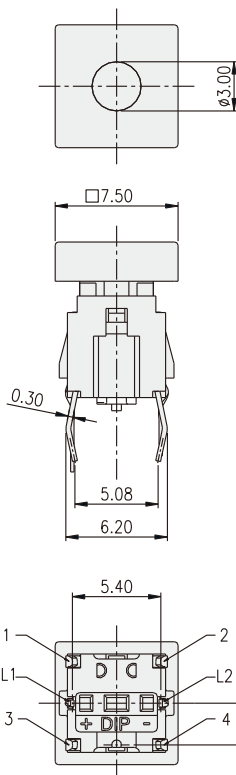
## HOW TO ORDER



## ML6-H6

## LED Color Options:

Part No.	Color	Dominant Wavelength $\lambda_p$ Typ.(nm)	Luminous Intensity $I_v$ (mcd)	Forward Voltage $V_F$ (V)		View Angle $2\theta_{1/2}$ (Degree)
			Typ.	Typ.	Max.	
B	Blue	470	70	3.0	3.6	140°
PG	Pure Gree	520	160	3.2	3.6	
G	Yellow Green	570	30	2.0	2.3	
Y	Yellow	590	60	2.0	2.3	
A	Soft Orange	605	50	2.0	2.3	
R	Red	630	60	2.0	2.3	
W	Cold White	X:0.26 / Y:0.23	350	3.0	3.6	

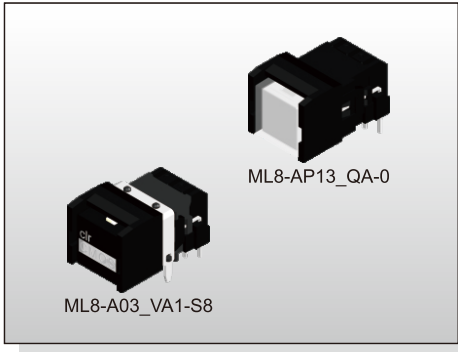


# ILLUMINATED SWITCH ML8 SERIES

## Tact Switch Illuminated



ILLUMINATED SWITCH



### FEATURES

- ※ Push to lock option
- ※ Long stroke
- ※ Options of different cap color & mark

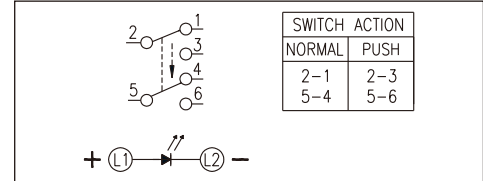
### APPLICATION

- ※ Audio device
- ※ Office equipment
- ※ Communication apparatus

### SPECIFICATION

Contact Rating	0.1A, 30V DC
Contact Resistance	50mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	500V AC/1 minute
Operating Force	250±100gf
Travel	1.5mm
Operating Life	10,000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

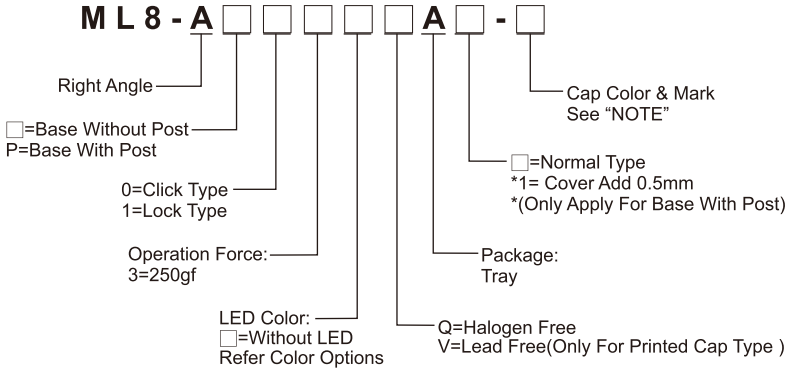
### CIRCUIT



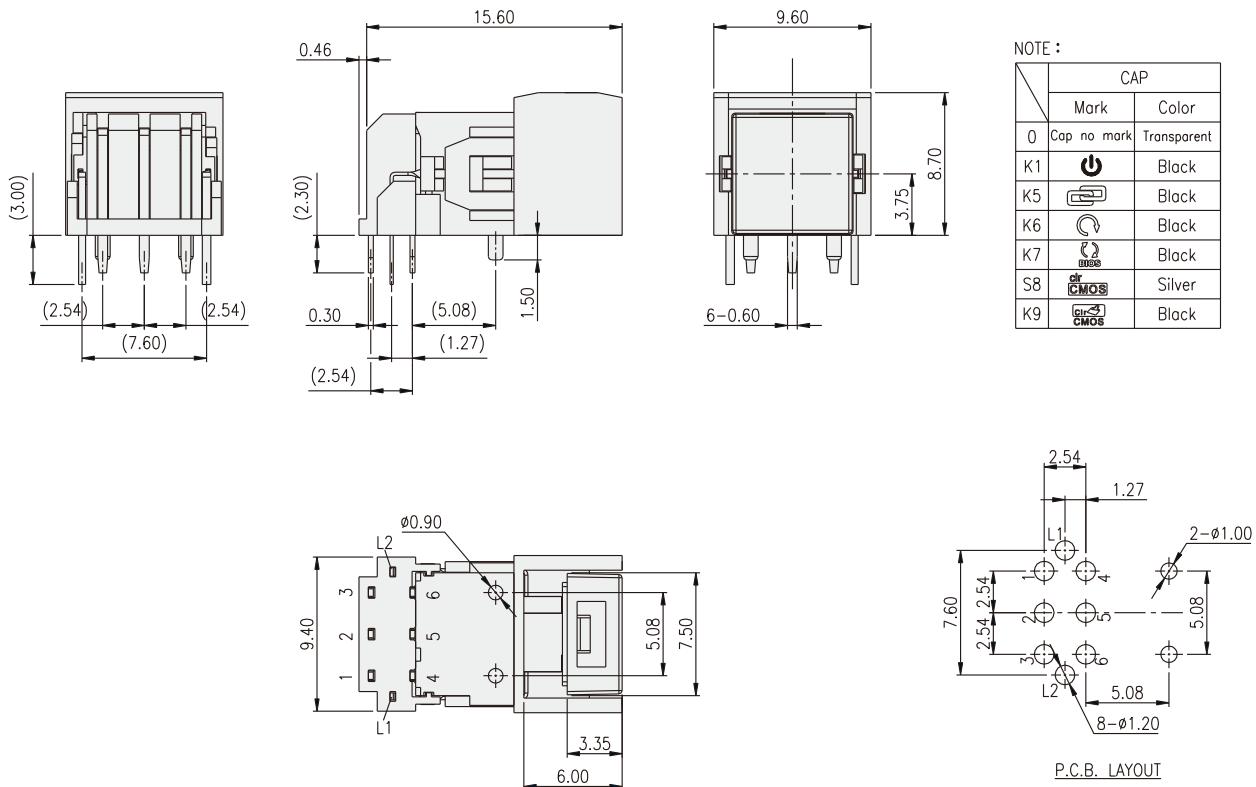
### PACKAGE

<Tray>  
120 pcs.

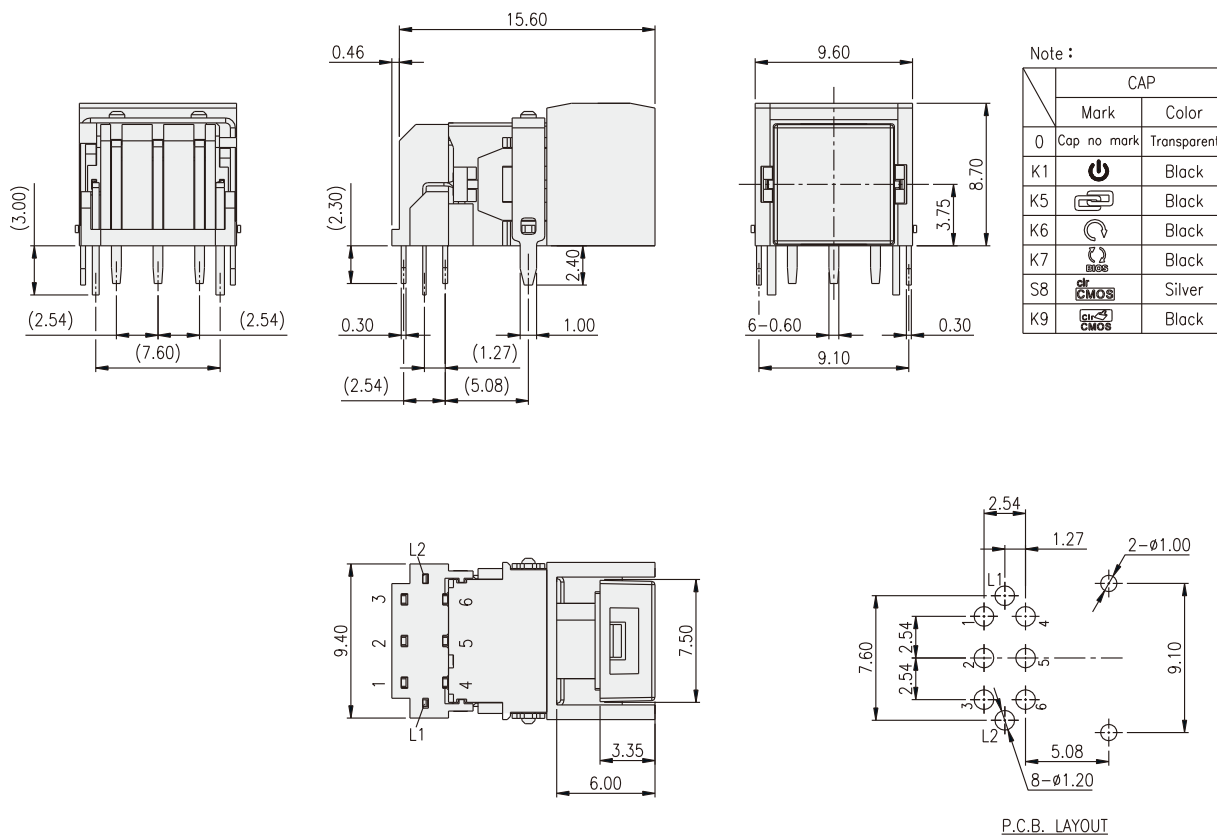
### HOW TO ORDER



### ML8-AP13



**ML8-A03**



ILLUMINATED SWITCH

**LED Color Options:**

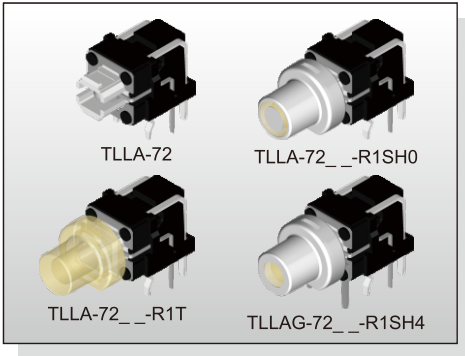
Part No.	Color	Dominant Wavelength $\lambda_p$ Typ.(nm)	Luminous Intensity $I_v$ (mcd)	Forward Voltage $V_f$ (V)		View Angle $2-\theta_{1/2}$ (Degree)
				Typ.	Max.	
B	Blue	470	70	3.0	3.6	140°
PG	Pure Gree	520	160	3.2	3.6	
G	Yellow Green	570	30	2.0	2.3	
Y	Yellow	590	60	2.0	2.3	
A	Soft Orange	605	50	2.0	2.3	
R	Deep Red	640	25	2.0	2.3	
W	Cold White	X:0.26 / Y:0.23	350	3.0	3.6	

# ILLUMINATED SWITCH TL(L)A(G)-7 SERIES

## Tact Switch Illuminated



ILLUMINATED SWITCH



### FEATURES

- ※Horizontal operation
- ※Various LED colors
- ※Options of different cap color & mark

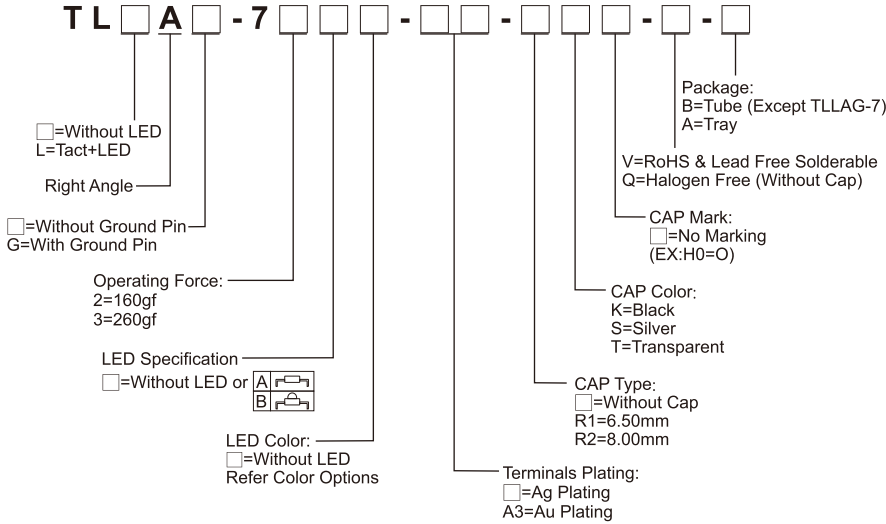
### APPLICATION

- ※Automotive
- ※Server
- ※Laptop, IPC

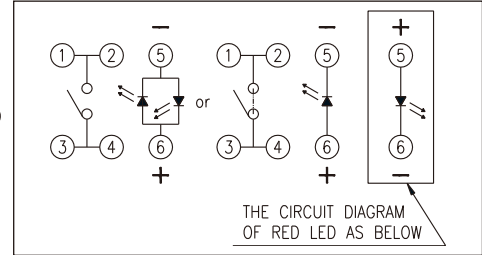
### SPECIFICATION

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160±50gf / 260±50gf
Travel	0.2mm
Operating Life	500, 000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

### HOW TO ORDER



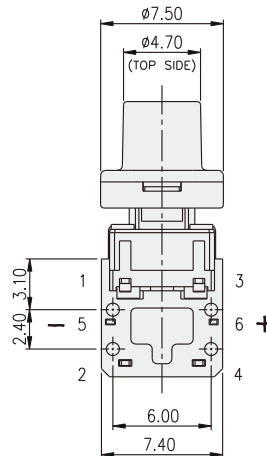
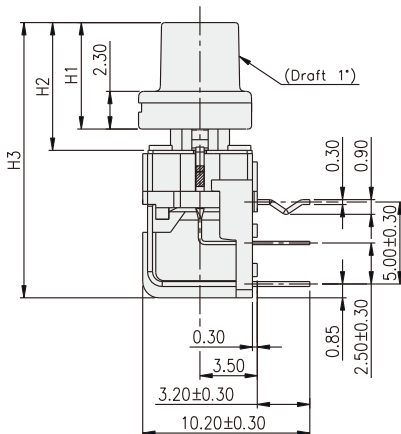
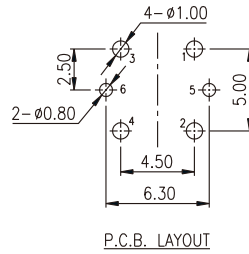
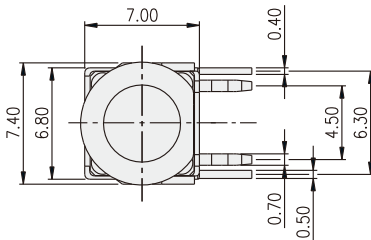
### CIRCUIT



### PACKAGE

- <Tray>  
TL(A)-7□-A: 100 pcs.
- <Tube>  
TL(A)-7□-B: 64 pcs.

### TL(A)-72□□-R□



PART NO.	H1	H2	H3
TL(A)-7□□□-□-R1□	6.50	7.80	16.80
TL(A)-7□□□-□-R2□	8.00	9.30	18.30

NOTE :

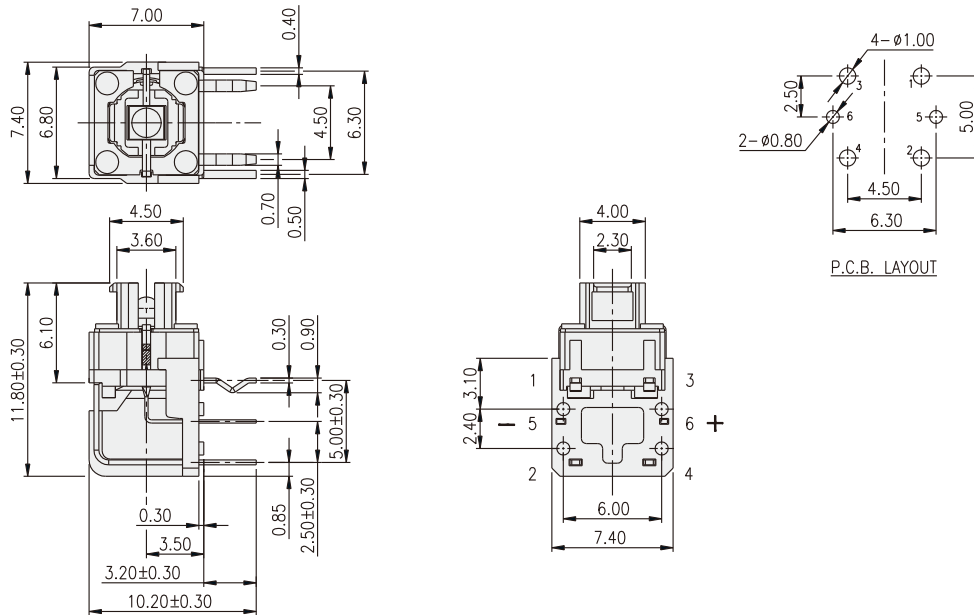
	CAP	
	MARK	COLOR
SH0		SILVER
KH0		BLACK
SH1		SILVER
KH1		BLACK
SH2		SILVER
KH2		BLACK
SH3		SILVER
KH3		BLACK
SH4		SILVER
KH4		BLACK
SH7		SILVER
KH7		BLACK
SH9		SILVER
KH9		BLACK
SHA		SILVER
KHA		BLACK
SHB		SILVER
KHB		BLACK

# ILLUMINATED SWITCH TL(L)A(G)-7 SERIES

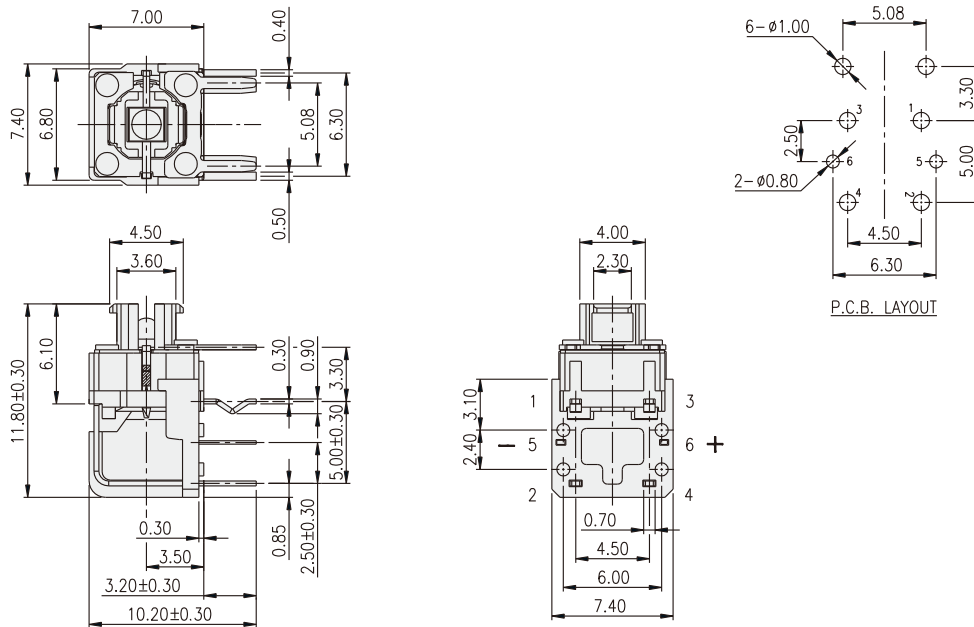
Tact Switch  
Illuminated



## TLLA-72



## TLLAG-7



### LED Color Options:

Part No.	Color	Dominant Wavelength $\lambda_D$ Typ.(nm)	Luminous Intensity $I_v$ (mcd)		Forward Voltage $V_f$ (V)		View Angle $2-\theta_{1/2}$ (Degree)	
			Typ.		Typ.	Max.	A	B
			A	B				
B	Blue	470	70	1100	3.0	3.6	140°	30°
PG	Pure Gree	520	160	2500	3.2	3.6		
G	Yellow Green	570	30	550	2.0	2.3		
Y	Yellow	590	60	1500	2.0	2.3		
A	Soft Orange	605	50	1500	2.0	2.3		
R	Deep Red	640	25	800	2.0	2.3		
W	Cold White	X:0.26 / Y:0.23	350	550	3.0	3.6		

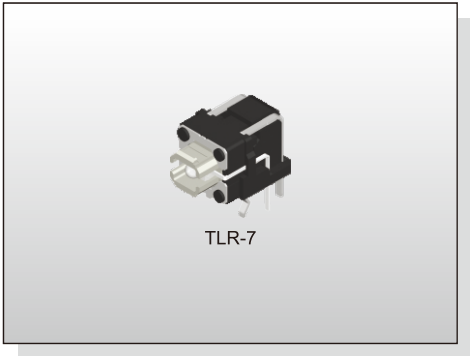
ILLUMINATED SWITCH

# ILLUMINATED SWITCH TLR-7 SERIES

Tact Switch  
Illuminated



ILLUMINATED SWITCH



## FEATURES

- ※ Horizontal operation
- ※ Various LED colors

## APPLICATION

- ※ Automotive
- ※ Server
- ※ Laptop, IPC

## SPECIFICATION

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160±50gf / 260±50gf
Travel	0.2mm
Operating Life	500, 000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

## HOW TO ORDER

TLR-72 □ □ -QA2

Operating Force:  
160±50gf

LED Viewing Angle:  
A=140°   
B=30°

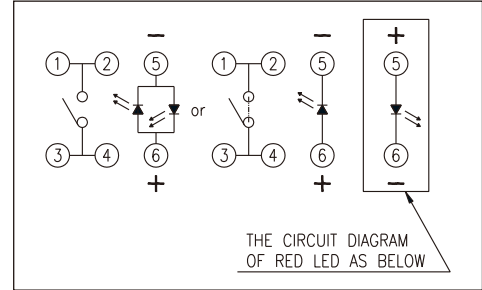
LED Color:  
□=Without LED  
Refer Color Options

Stem Type:  
4.50mm

Package:  
Tray

Halogen Free

## CIRCUIT

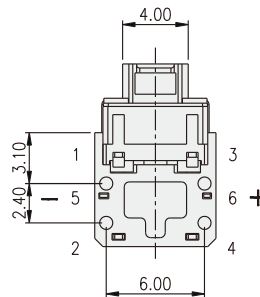
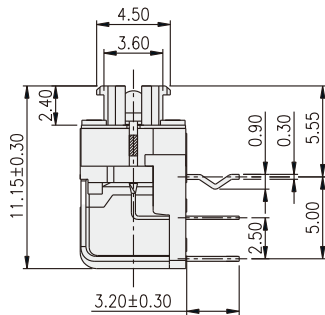
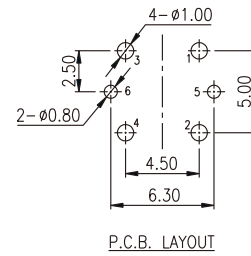
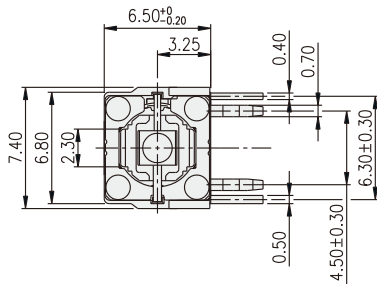


## PACKAGE

<Tray>

100 pcs.

## TLR-7

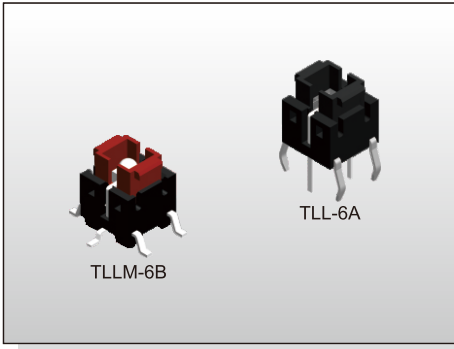


## LED Color Options:

Part No.	Color	Dominant Wavelength $\lambda_d$ Typ.(nm)	Luminous Intensity $I_v$ (mcd)		Forward Voltage $V_f$ (V)		View Angle $2-\theta_{1/2}$ (Degree)	
			Typ.		Typ.	Max.	A	B
B	Blue	470	70	1100	3.0	3.6	140°	30°
PG	Pure Gree	520	160	2500	3.2	3.6		
G	Yellow Green	570	30	550	2.0	2.3		
Y	Yellow	590	60	1500	2.0	2.3		
A	Soft Orange	605	50	1500	2.0	2.3		
R	Deep Red	640	25	800	2.0	2.3		
W	Cold White	X:0.26 / Y:0.23	350	550	3.0	3.6		

# ILLUMINATED SWITCH TL(L)(M)-6 SERIES

## Tact Switch Illuminated



### FEATURES

- ※ Super bright LED
- ※ Various LED colors
- ※ Options of different cap color

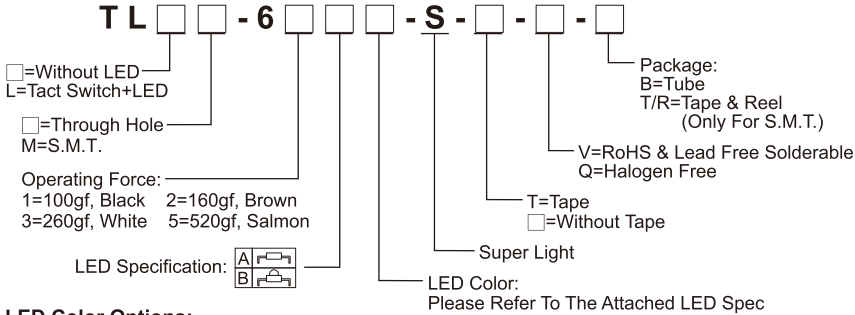
### APPLICATION

- ※ Server
- ※ Laptop, IPC
- ※ Set-top box

### SPECIFICATION

Contact Rating	50mA, 12V DC	
Contact Resistance	100mΩ max.	
Insulation Resistance	100MΩ min. 500V DC	
Dielectric Strength	250V AC/1 minute	
Operating Force	100±50gf	TL(L)-61
	160±50gf	TL(L)-62
	260±50gf	TL(L)-63
	520±130gf	TL(L)-65
Travel	0.2mm	
Operating Life	200,000 cycles for 520/260gf	
	500,000 cycles for 160/100gf	
Operating Temp.	-25°C ~ +70°C	
Storage Temp.	-30°C ~ +80°C	

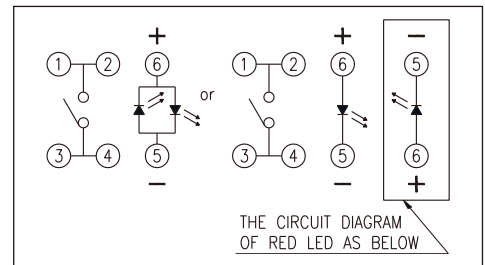
### HOW TO ORDER



### LED Color Options:

Part No.	Color	Dominant Wavelength $\lambda_p$ Typ.(nm)	Luminous Intensity $I_v$ (mcd)		Forward Voltage $V_f$ (V)		View Angle 2- $\theta_{1/2}$ (Degree)	
			A	B	Typ.	Max.	A	B
B	Blue	470	70	1100	3.0	3.6	140°	30°
PG	Pure Green	520	160	2500	3.2	3.6		
G	Yellow Green	570	30	550	2.0	2.3		
Y	Yellow	590	60	1500	2.0	2.3		
A	Soft Orange	605	50	1500	2.0	2.3		
O	Red Orange	620	80	3000	2.0	2.3		
R	Red	630	60	1000	2.0	2.3		
W	Cold White	X:0.26 / Y:0.23	350	550	3.0	3.6		

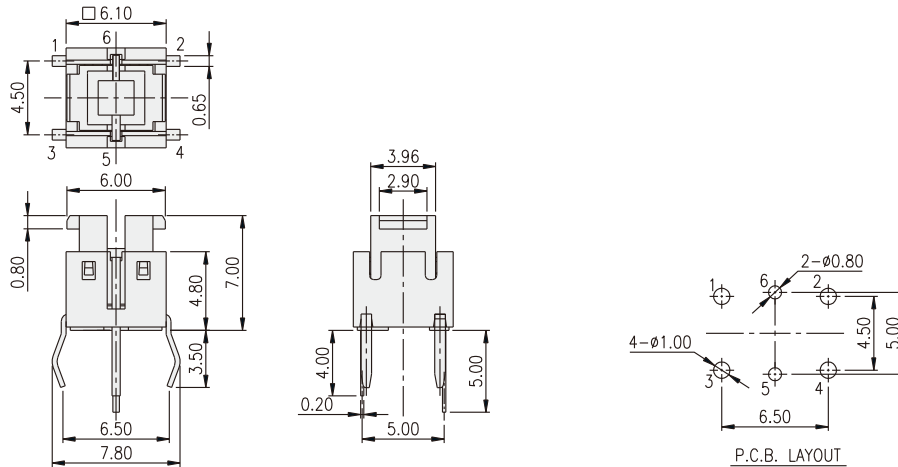
### CIRCUIT



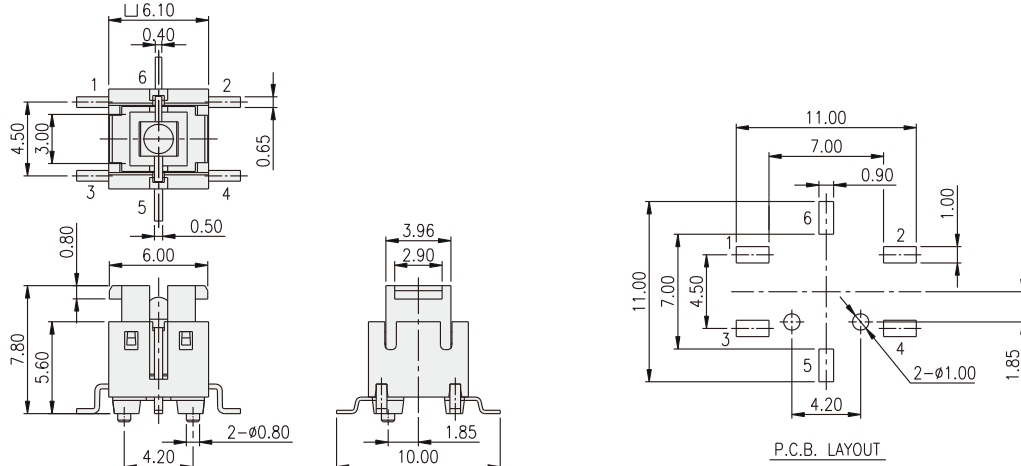
### PACKAGE

- <Tube>  
75 pcs.
- <Tape & Reel>  
450 pcs. (Only for TLLM-6)

### TLL-6 [ ] A



### TLLM-6 [ ] B



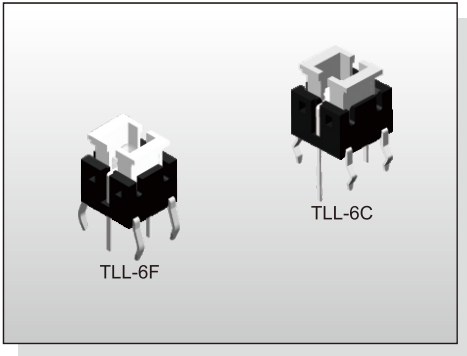


# ILLUMINATED SWITCH TL(L)(M)-6 SERIES

## Tact Switch Illuminated



ILLUMINATED SWITCH



### FEATURES

- ※ Super bright LED
- ※ Various LED colors
- ※ Options of different cap color

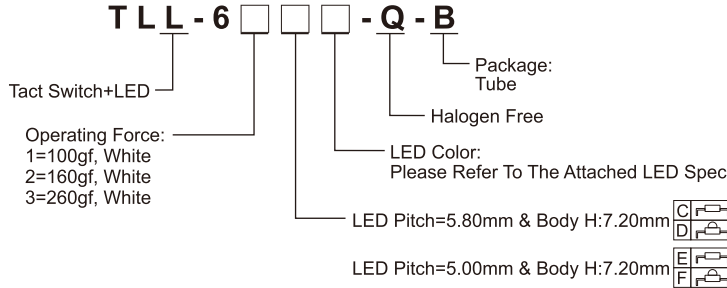
### APPLICATION

- ※ Server
- ※ Laptop, IPC
- ※ Set-top box

### SPECIFICATION

Contact Rating	50mA, 12V DC	
Contact Resistance	100mΩ max.	
Insulation Resistance	100MΩ min. 500V DC	
Dielectric Strength	250V AC/1 minute	
Operating Force	100±50gf	TL(L)-61
	160±50gf	TL(L)-62
	260±50gf	TL(L)-63
Travel	0.2mm	
Operating Life	200,000 cycles for 260gf	
	500,000 cycles for 160/100gf	
Operating Temp.	-25°C ~ +70°C	
Storage Temp.	-30°C ~ +80°C	

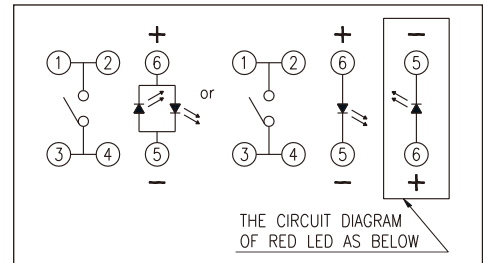
### HOW TO ORDER



### LED Color Options:

Part No.	Color	Dominant Wavelength Typ.(nm)	Luminous Intensity I <sub>v</sub> (mcd)		Forward Voltage V <sub>f</sub> (V)		View Angle 2-θ <sub>1/2</sub> (Degree)	
			Typ.	Typ.	Typ.	Max.	C, E, F	D, F, F
B	Blue	470	70	1100	3.0	3.6	140°	30°
PG	Pure Gree	520	160	2500	3.2	3.6		
G	Yellow Green	570	30	550	2.0	2.3		
Y	Yellow	590	60	1500	2.0	2.3		
A	Soft Orange	605	50	1500	2.0	2.3		
O	Red Orange	620	80	3000	2.0	2.3		
R	Red	630	60	1000	2.0	2.3		
W	Cold White	X:0.26 / Y:0.23	350	550	3.0	3.6		

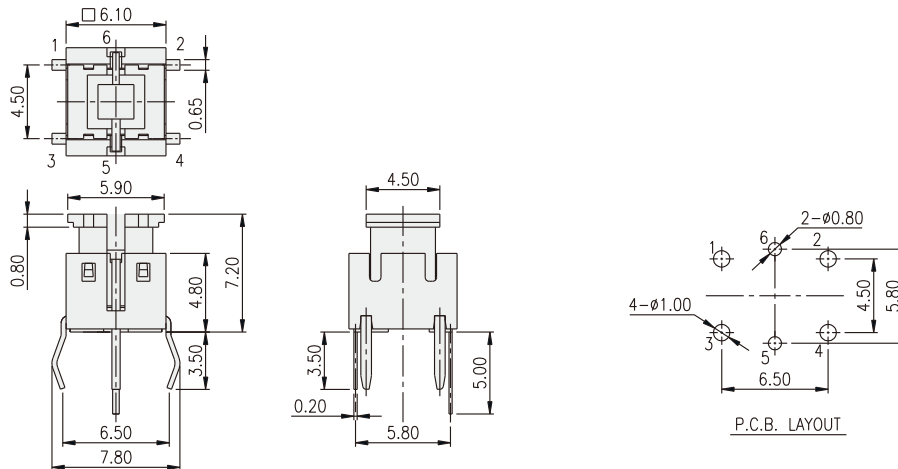
### CIRCUIT



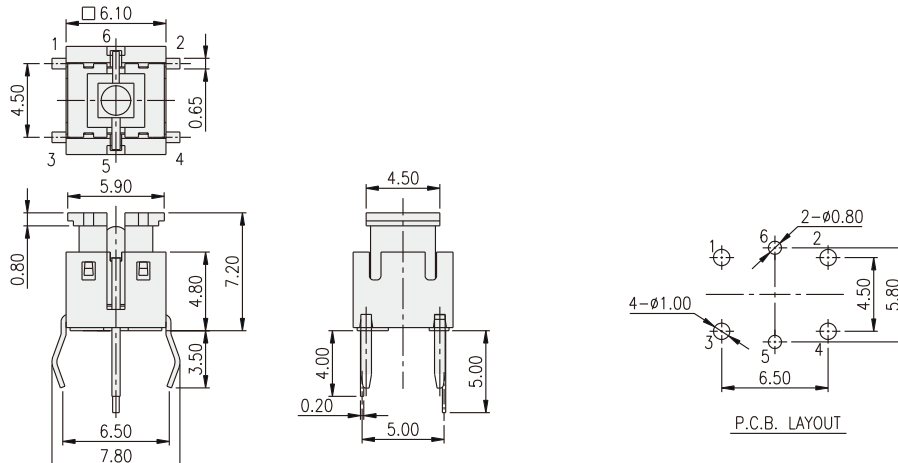
### PACKAGE

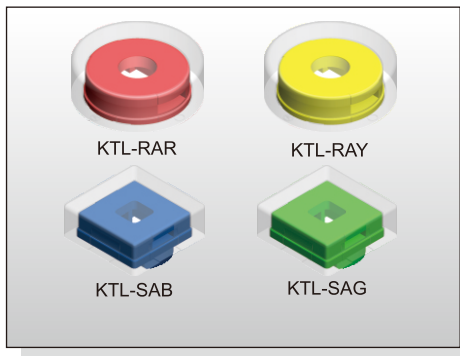
<Tube>  
75 pcs.

### TLL-6□C



### TLL-6□F





### HOW TO ORDER

**KTL - [ ] A [ ]**

R=Round  
S=Square

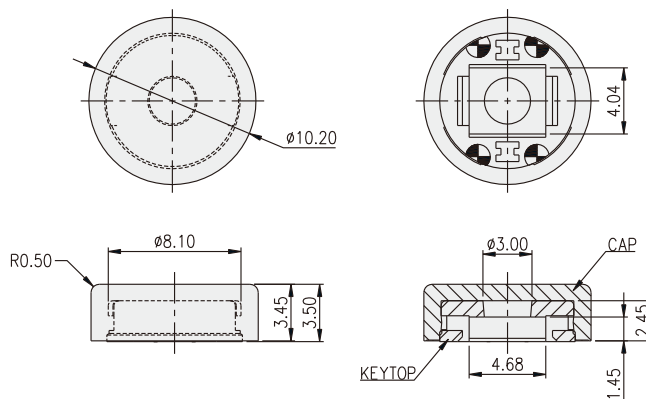
Color:  
Y=Yellow  
B=Blue  
R=Red  
I=Ivory  
K=Black  
G=Green  
S=Salmon

Round 10.20mm or  
Square 10.20mm

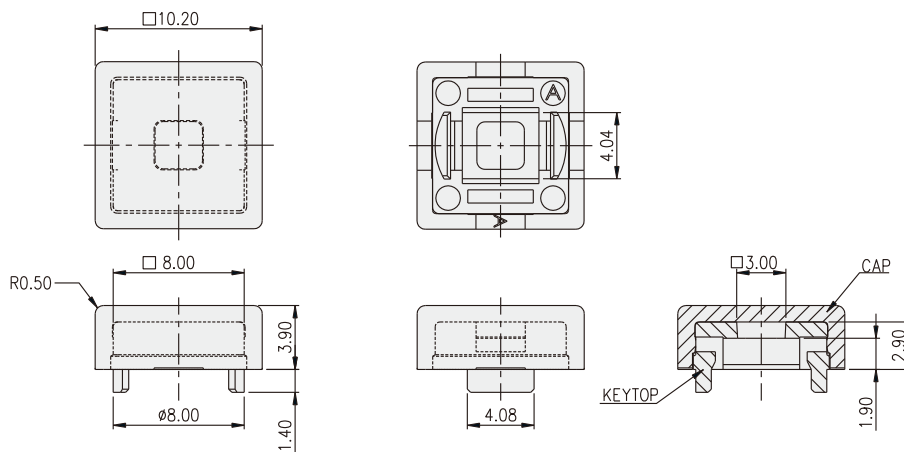
### PACKAGE

<Bag>  
500 pcs.

### KTL-RA



### KTL-SA

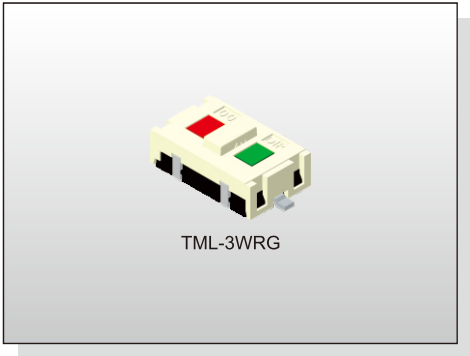


# ILLUMINATED SWITCH TML-3 SERIES

**Tact Switch  
Illuminated**



ILLUMINATED SWITCH



TML-3WRG

### FEATURES

- ※ Compact size
- ※ Bi-color LED light
- ※ Sharp click feeling

### APPLICATION

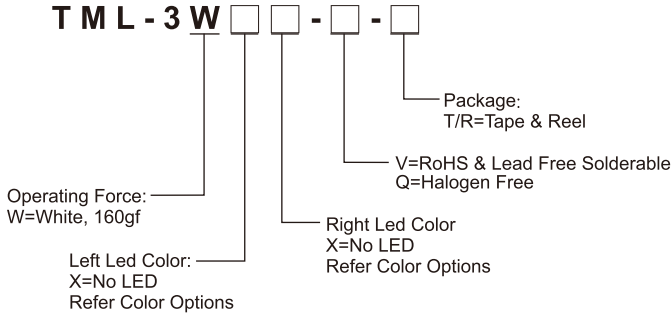
- ※ Testing equipment
- ※ Industrial device
- ※ Automation

### SPECIFICATION

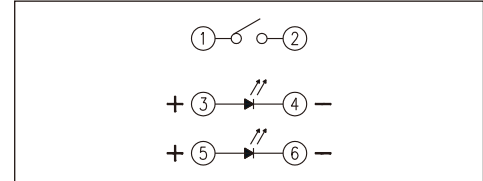
Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160+80/-30gf
Travel	0.2mm
Operating Life	50,000 cycles
Operating Temp.	-20°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

### HOW TO ORDER

**T M L - 3 W**



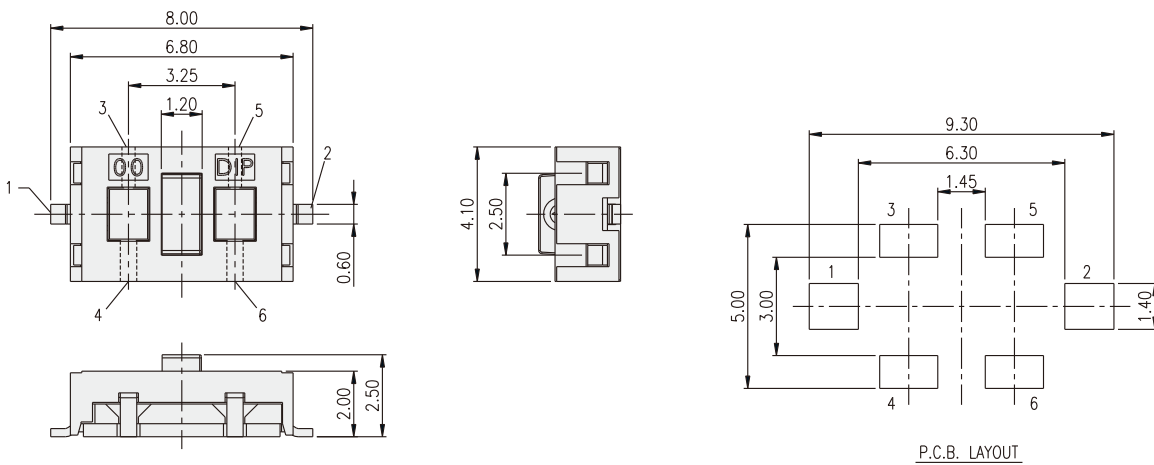
### CIRCUIT



### PACKAGE

<Tape & Reel>  
3000 pcs.

### TML-3



### LED Color Options:

Part No.	Color	Dominant Wavelength $\lambda_p$ Typ.(nm)	Luminous Intensity $I_v$ (mcd)	Forward Voltage $V_f$ (V)		View Angle $2\cdot\theta_{1/2}$ (Degree)
			Typ.	Typ.	Max.	
B	Blue	470	70	3.0	3.6	140°
G	Yellow Green	570	30	2.0	2.3	
O	Yellow	590	60	2.0	2.3	
A	Soft Orange	605	50	2.0	2.3	
R	Red	630	60	2.0	2.3	
W	Cold White	X:0.26 / Y:0.23	350	3.0	3.6	

# ILLUMINATED SWITCH ZPA SERIES

## Sub-Miniature Pushbutton Switches Illuminated



### FEATURES

- ✘ Do not have wear and damage problem by pressed contact structure
- ✘ Shock resistant switch, withstands harsh environments, Available in aluminum and plastic housings

### APPLICATION

- ✘ Lighting, Computer peripherals
- ✘ Communication
- ✘ Medical equipment.
- ✘ IPC, Marine

### SPECIFICATION

Contact Rating	400mA 32VAC-100mA 50VDC-125mA 125VAC	ZPA S6/S7
	500mA 48VAC-200mA 50VDC-200mA 250VAC	
Contact Resistance	100mA 24VDC	ZPA L6
	2A 125VAC	
Insulation Resistance	50mΩ max.	
Dielectric Strength	1GΩ min. 500VDC	
Operating Force	1,000VAC rms.	
	1,500VAC rms. for metal material.	
Travel	2N~5N	
	1.5mm	ZPA S6/S7
Operating Life	2.5mm	ZPA L6
	500,000 cycles	ZPA S6/S7
Operating Temp.	200,000 cycles(100mA, 24VDC)	ZPA L6
	10,000 cycles(2A, 125VAC)	
	-30°C ~ +85°C	

### HOW TO ORDER

Z P A [ ] [ ] - [ ] [ ] - [ ] [ ] - [ ] [ ] - [ ] [ ] - [ ] [ ] - [ ] [ ] - L - [ ] [ ]

S6=SP Off-Mom  
S7=SP On-Mom(Without LED)  
L6=SP Off-On

Bushing:  
B1=Snap-in  
B2=Threaded Bushing  
B3=Snap-in  
D1=Square Threaded Bushing(die-casting)  
D2=Threaded Bushing(die-casting)  
B6=Square Threaded Bushing(plastic case)

Terminations:  
M1=Solder Lug  
M4=PC Through Hole(ZPAS6 Only)  
M3=8.20 Solder Lug(ZPAS6 Only)  
L1=Wire

Cap Color:  
1=White  
2=Black  
3=Red  
4=Orange  
5=Yellow  
6=Green  
7=Blue

Led Color:  
1=White  
3=Red  
5=Yellow  
6=Green  
7=Blue

Additional Hardware

Contact Material:  
C=Gold Over Silver

Seal:  
E=EPOXY(std)  
A=Sealed

S=RoHS & Lead Free Solderable  
F=Halogen Free+RoHS

### CIRCUIT

Model No.	POS.1	POS.2
PAL6	OFF	ON
Term. Comm.	OPEN	1-3
SCHEMATIC		

### PACKAGE

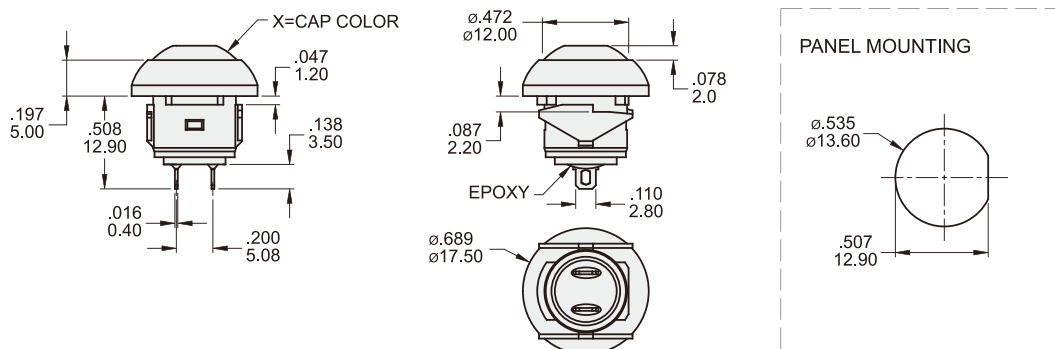
<Tray>  
50 pcs.

### SWITCH FUNCTION

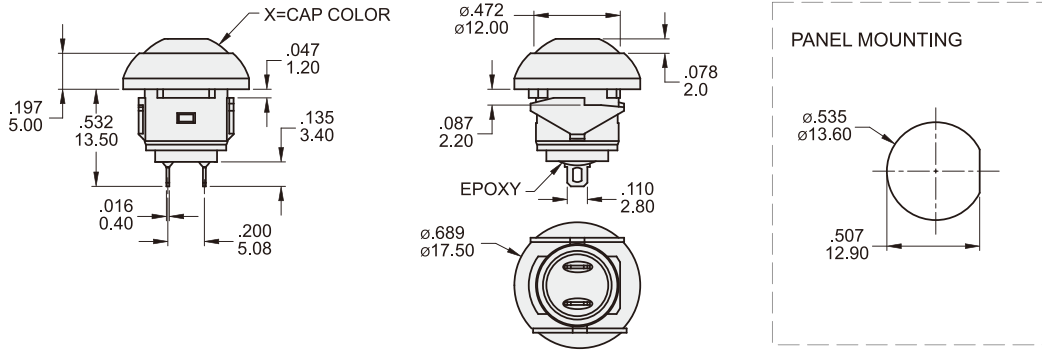
NO. POLES	MODEL NO.	SWITCH FUNCTION		CONNECTED TERMINALS		SCHEMATIC
		POS.1	POS.2	POS.1	POS.2	
SP	ZPAS6	OFF	MOM	OPEN	1-3	
SP	ZPAS7	ON	OFF(MOM)	1-3	OPEN	
SP	ZPAL6	OFF	ON	OPEN	1-3	

MOM=MOMENTARY

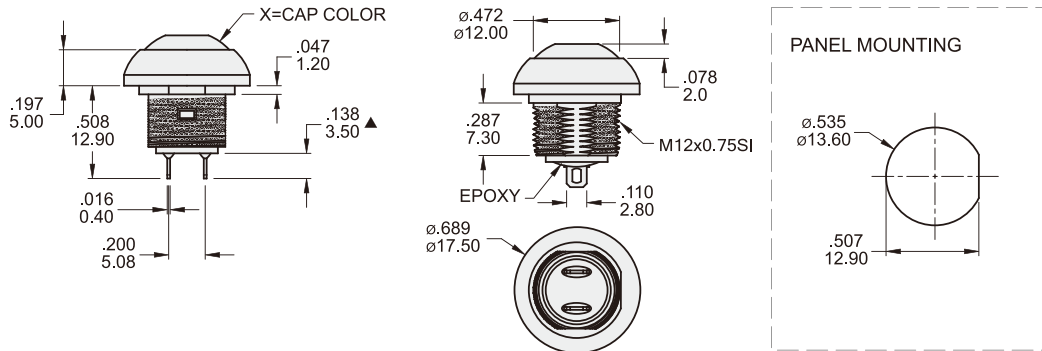
### ZPAS6B1M1CESX-5



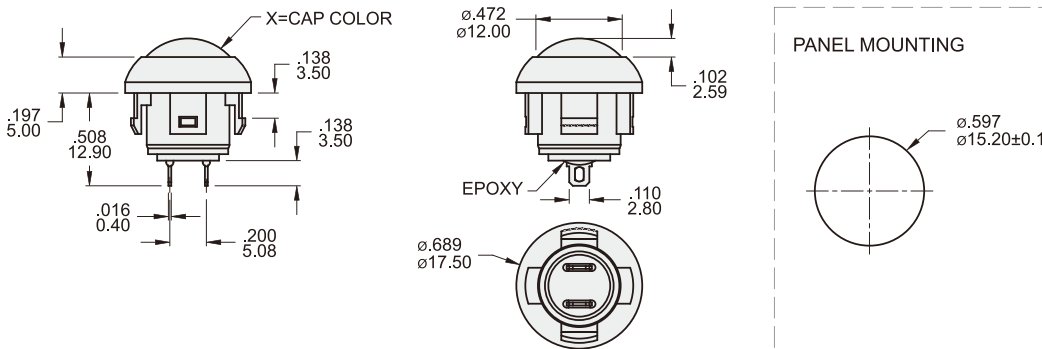
**ZPAS7B1M1CESX-5**



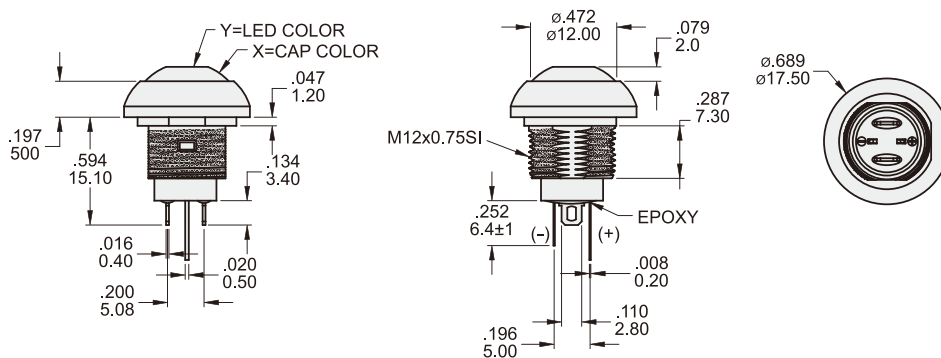
**ZPAS6B2M1CESX-5**



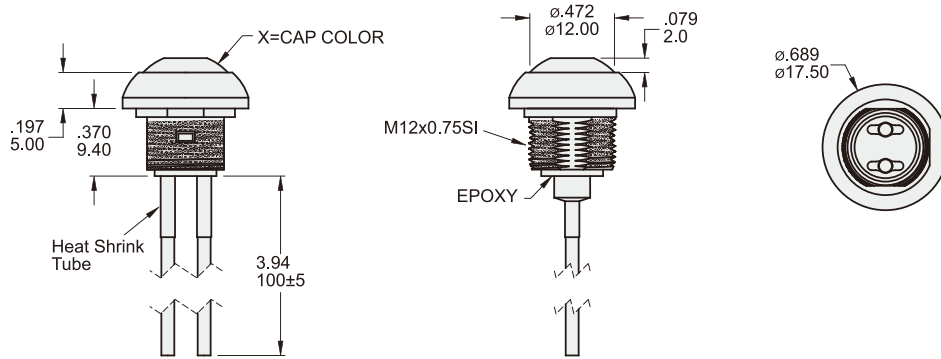
**ZPAS6B3M1CESAX-5**



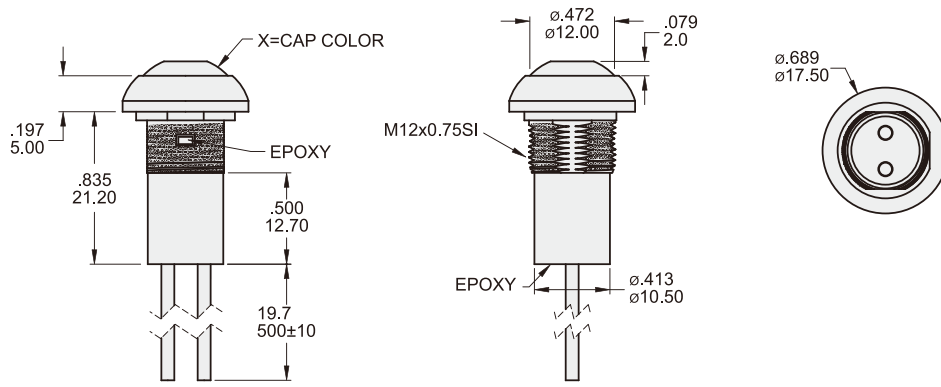
**ZPAS6B2M1CESX-5LY**



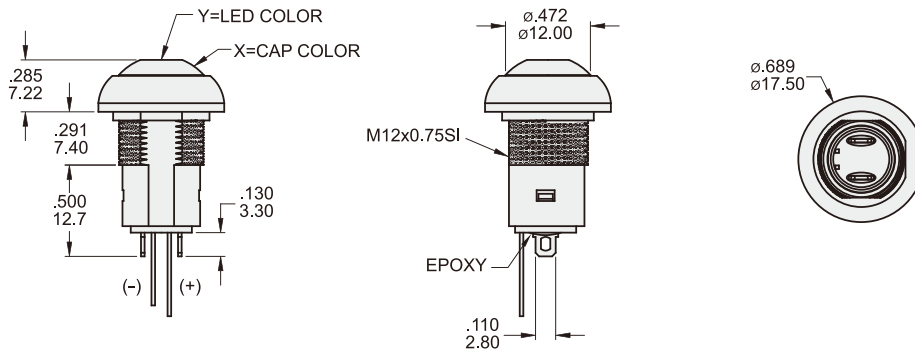
**ZPAS6B2L3CESX-5**



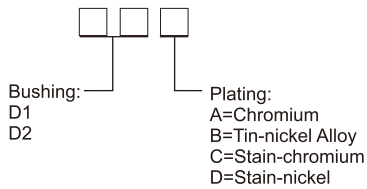
**ZPAS6B2L1CASX-5**



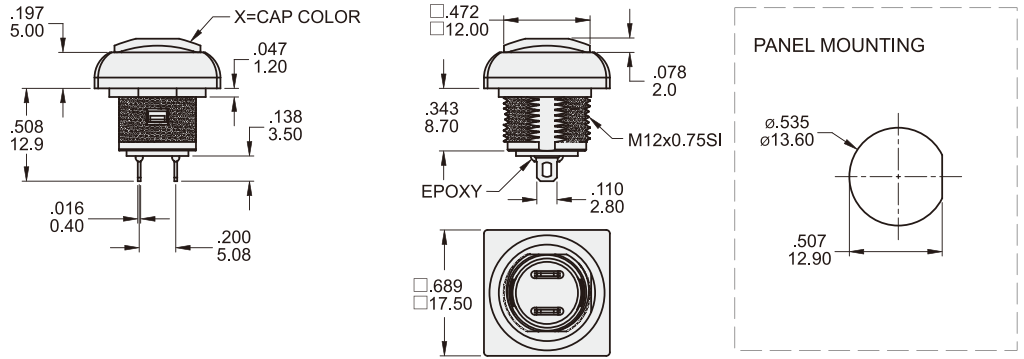
**ZPAL6B2M1CESX-5LY**



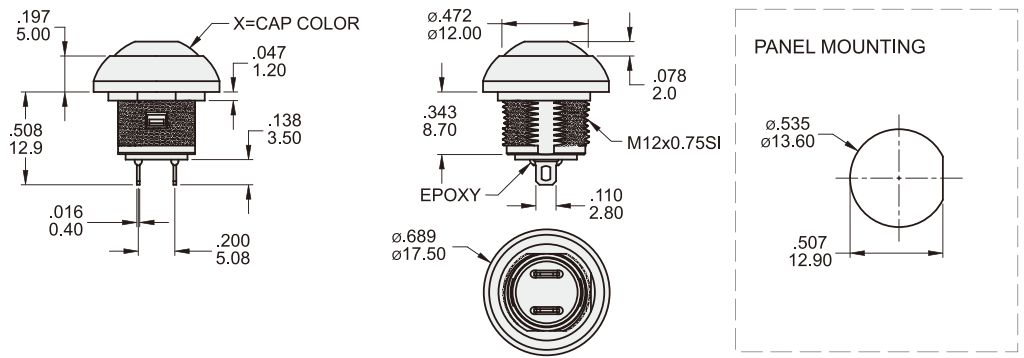
**SWITCH FUNCTION**



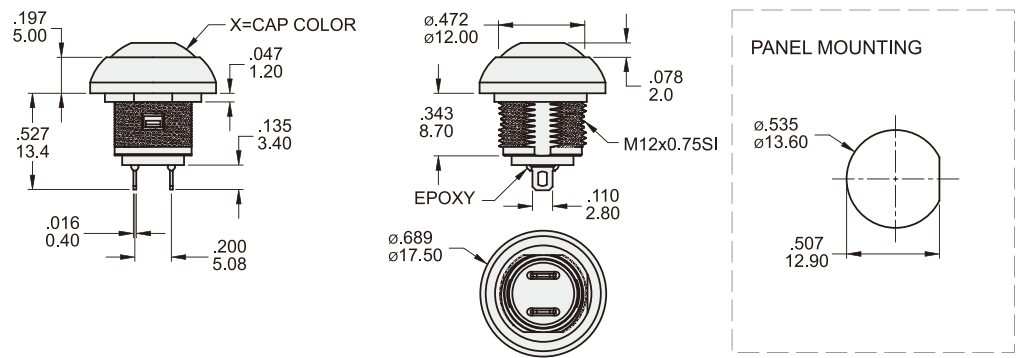
**ZPAS6D1M1CESX-5**



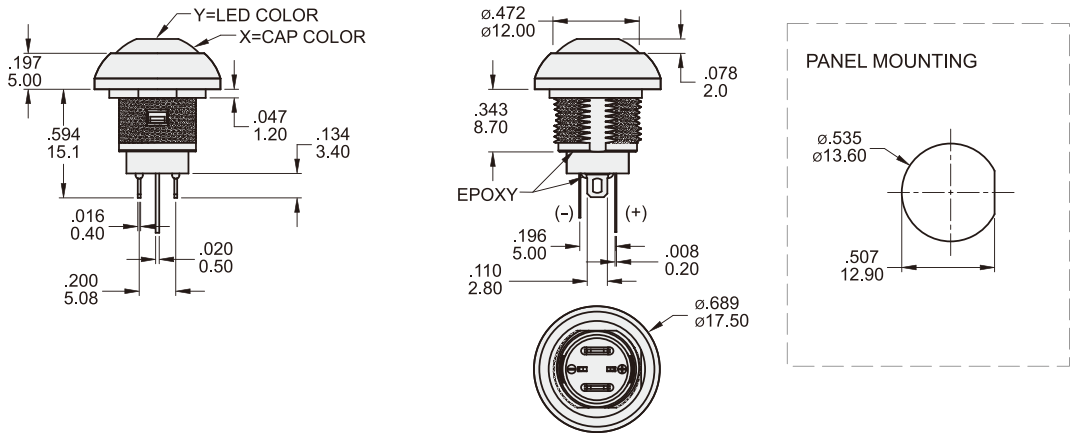
**ZPAS6D2M1CESX-5**



**ZPAS7D2M1CESX-5**

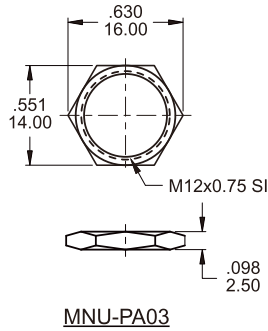


**ZPAS6D2M1CESX-5LY**

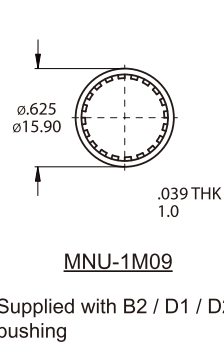


**HARDWARE**

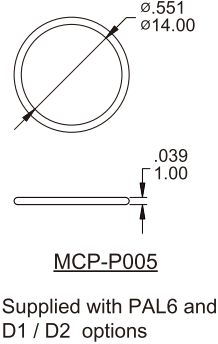
M12 NUT



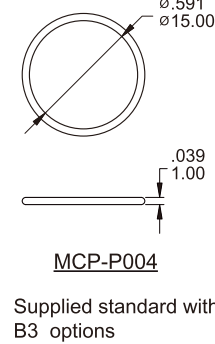
LOCK WASHER



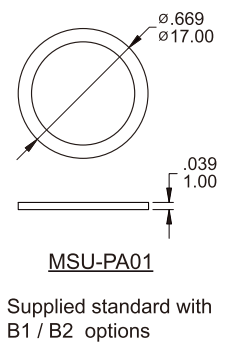
O-RING



O-RING



EVA WASHER



**WITH LED ELECTRO-OPTICAL DATA**

\* The LED specification for reference only

Model No.	Lens Appearance	Color	Electro-optical Data (AT 20mA)				Peak Wavelength	Viewing Angle 2C 1/2 (deg)	
			Vf (V)		Iv (mcd)				
			Typ.	Max.	Typ.	Min.			
PAS6 & PAS7	Water Clear	Super White	2.8	3.3	200	100	X / Y=0.27	35°	
		Super Red	2.0	2.5	700	200	645		
		Yellow	2.1	2.6	100	55	589		
		Green	2.2	2.7	130	70	565		
		Super Blue	3.1	3.6	580	250	460		
		Super Yellow ( Super Green )	Y	2	2.6	475	210		590
			G	2	2.6	210	140		570
		Super Yellow ( Super Blue )	Y	2.1	2.6	200	94		590
			B	3.2	3.6	200	94		460
		Super Yellow ( Super Red )	Y	2.1	2.6	100	63		590
			R	2	2.6	90	42		630
		Super Red ( Super Green )	R	2	2.6	90	42		630
			G	2.0	2.6	90	42		570
		Super Red ( Super Blue )	R	2	2.6	90	42		630
	B	3.2	3.6	200	94	460			
PAL6	Water Clear	White	3.3	4	250	50	X=0.31 Y=0.31	90°	
		Super Red	1.95	2.5	350	70	635		
		Super Yellow	2	2.5	160	70	590		
		Super Green	2.1	2.5	70	18	570		
		Super Blue	3.3	4	150	36	470		
		Super Yellow ( Super Green )	Y	2	2.5	170	50	590	170°
			G	2.1	2.5	50	18	570	
		Super Yellow ( Super Red )	Y	1.95	2.5	220	70	630	
			R	2	2.5	170	50	590	
		Super Red ( Super Green )	R	1.95	2.5	220	70	630	
	G	2.1	2.5	50	18	570			

**SOLDERING PROCESSES**

**MANUAL SOLDERING:** Use soldering iron of 30 watts, controlled at 350°C approximately 5 seconds while applying solder.

**WAVE SOLDERING:**  
Recommended Soldering Temperature: 260 ± 5°C  
Duration of Solder Immersion: Max 5 sec.

(PCB is 1.6mm in thickness)

**IP 67 for the whole series:**  
Protected against the effects of immersion up to 1 m water(30mn)



# ILLUMINATED SWITCH ZPBL SERIES

## Pushbutton Switches Illuminated



ILLUMINATED SWITCH



### FEATURES

- ✘ Small size
- ✘ Long electrical life
- ✘ High brightness LED. Button surface are illuminated and even

### APPLICATION

- ✘ Automotive industry
- ✘ Office appliance
- ✘ Computer products
- ✘ Communication equipments
- ✘ Audio equipment

### SPECIFICATION

Contact Rating	0.1A, 30V DC
Contact Resistance	50mΩ max. 1.5V DC; 100mA, by Method of Voltage DROP
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	500V AC/1 minute
Operating Force	250±100gf
Travel	1.2mm
Operating Life	50,000 cycles
Operating Temp.	-40°C ~ +85°C

### HOW TO ORDER

Z P B L -

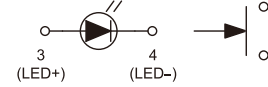
Led Color:  
01=White  
03=Red  
05=Yellow  
06=Green  
07=Blue  
76=Blue(Green)

### WITH LED ELECTRO-OPTICAL DATA

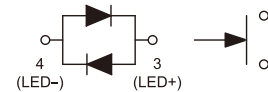
Lens Appearance	Color	Electro-optical Data(AT 20mA)				Peak Wavelength	Viewing Angle 2θ 1/2(deg)
		Vf(V)		Iv(mcd)			
		Typ.	Max.	Typ.	Min.		
Water Clear	White	3.3	4	1500	900	X/Y=0.31	45°
	Red	1.95	2.5	1300	700	630	
	Yellow	2.1	2.5	25	12	588	
	Green	2.1	2.5	300	100	570	
	Blue	3.3	4	1300	700	470	
	Blue(Green)	B	3.3	4	160	80	470
	G	2.1	2.5	80	30	570	

### CIRCUIT

#### Single LED



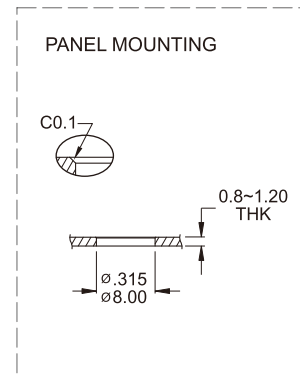
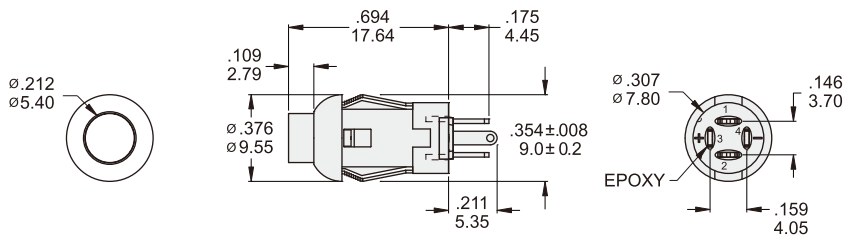
#### Dual Colors LED



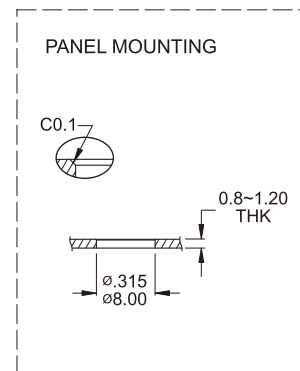
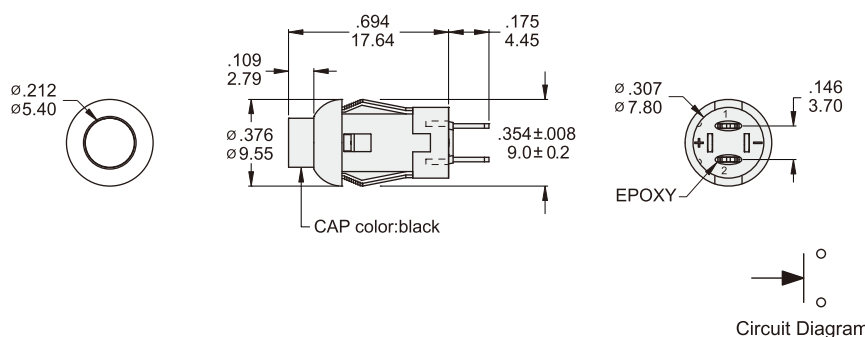
### PACKAGE

<Bag>  
100 pcs.

### ZPBL-XX

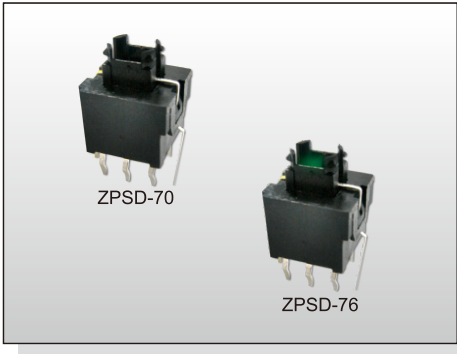


### ZPBL-A2



# ILLUMINATED SWITCH ZPSD SERIES

## Pushbutton Switches Illuminated



### FEATURES

- ✘ Small size
- ✘ Long electrical life

### APPLICATION

- ✘ Audio equipment
- ✘ Consumer products
- ✘ Instrumentation

### SPECIFICATION

Contact Rating	0.1A, 30V DC MAX 100mA, 1.5V DC MIN
Contact Resistance	50mΩ max.
Insulation Resistance	100MΩ min.
Dielectric Strength	500V AC/1 minute
Operating Force	250±100gf
Travel	1mm (Contact Travel) 1.5mm (Full Travel)
Operating Life	50,000 cycles
Operating Temp.	-20°C ~ +70°C

### HOW TO ORDER

Z P S D - [ ] - [ ] + C A P

Function:  
7=On-Mom

Led Color:  
0=Without LED 3=Red  
5=Yellow 6=Green  
7=Blue

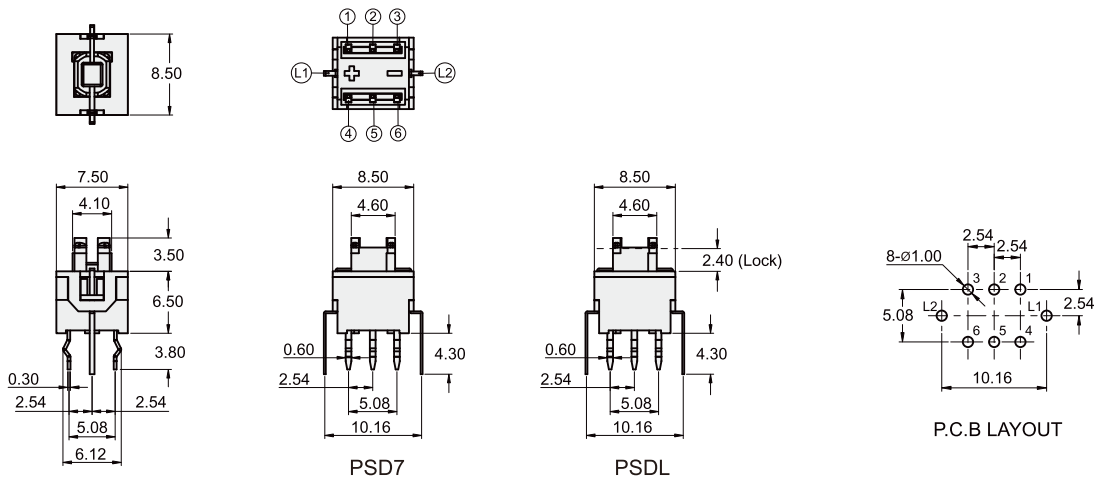
CAP OPTION				
DIMENSION				
Transparent with Diffuser	YCA044TD	YCA043TD	—	—
Transparent	YCA044T	YCA043T	—	—
Ice	—	—	YCA045A	YCA046A
Snow	—	—	YCA045B	YCA046B
Transparent Black	—	—	YCA045C	YCA046C
White	YCA0444	YCA0434	—	—

### CIRCUIT

Type	Switch Action	
ZPSD7	Normal ON	Push(ON)
ZPSDL	Normal ON	LOCK(ON)
Connected Terminals	1-2 4-5	2-3 5-6
LED Circuit	L1 → [LED] → L2	

### PACKAGE

<Tray>  
96 pcs.



### WITH LED ELECTRO-OPTICAL DATA

Lens Appearance	Color	Electro-optical Data(AT 20mA)				Peak wavelength	Viewing Angle 2C 1/2 (deg)
		Vf (V)		Iv (mcd)			
		Typ.	Max.	Min.	Typ.		
Water Clear	Red	1.95	2.5	80	200	630	140°
	Yellow	2	2.5	300	400	590	140°
	Green	3.3	4.1	400	500	525	140°
	Blue	3.3	4	80	190	470	140°

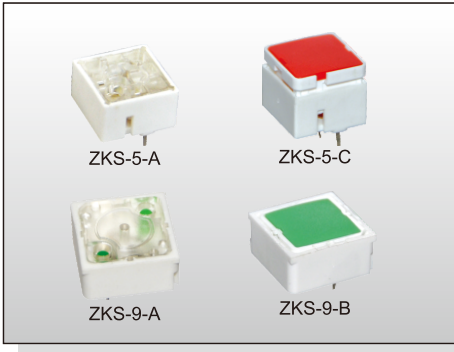
\* The LED specification for reference only

# ILLUMINATED SWITCH ZKS SERIES

## Key Switches Illuminated



ILLUMINATED SWITCH



### FEATURES

- ✘ Several color caps are available
- ✘ High reliability contact · clear switching feedback
- ✘ High brightness LED. Button surface are illuminated and even

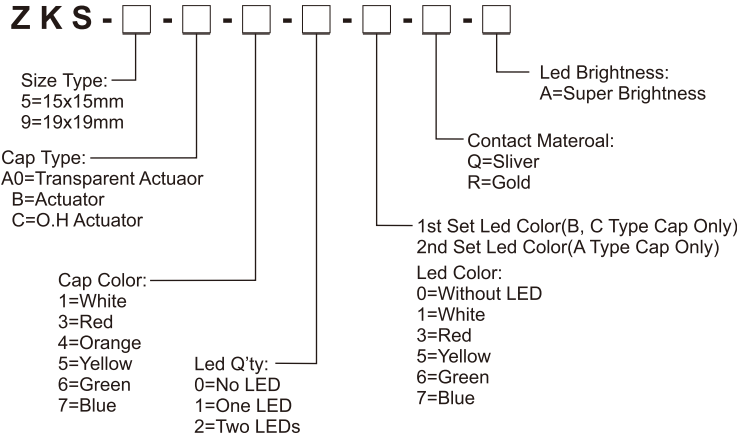
### APPLICATION

- ✘ Medical equipment (Medical Bed)
- ✘ Lighting
- ✘ Instrument panel
- ✘ Operating machine panel
- ✘ Audio control panel, NC panel

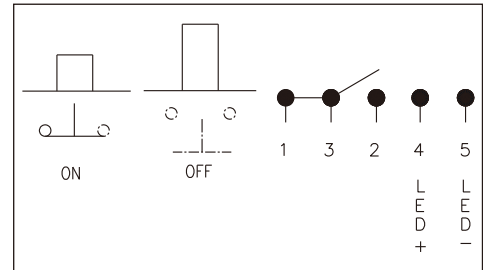
### SPECIFICATION

Contact Rating	100mA max, 42V AC/DC
Contact Resistance	100mΩ max. Initial
Insulation Resistance	1000MΩ min.
Dielectric Strength	1,000V AC
Operating Force	3±0.75N
Travel	0.6mm
Operating Life	1,000, 000 cycles
Operating Temp.	-25°C ~ +75°C

### HOW TO ORDER



### CIRCUIT



### PACKAGE

<Tray>  
135 pcs.

### WITH LED ELECTRO-OPTICAL DATA

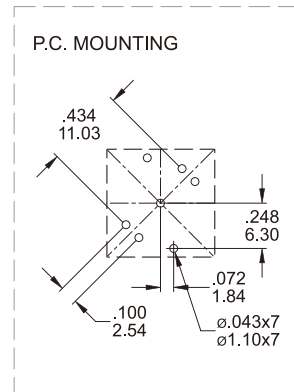
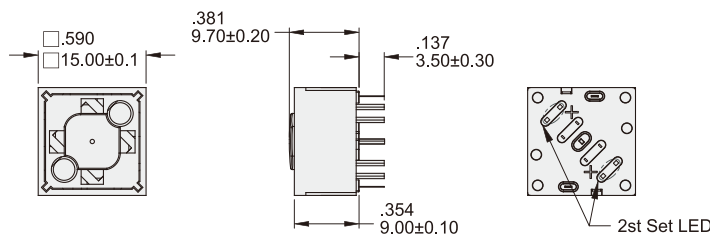
#### ■ 1st Set LED Color

Lens Appearance	Color	Electro-optical Data(AT 20mA)				Peak Wavelength	Viewing Angle 2θ 1/2(deg)
		Vf(V)		Iv(mcd)			
		Typ.	Max.	Typ.	Min.		
Water Clear	White	3.2	3.7	270	160	635	150°
	Red	2	2.5	95	50		
	Yellow	2	2.5	150	80		
	Green	2	2.5	45	25		
	Blue	3.1	3.6	50	20		

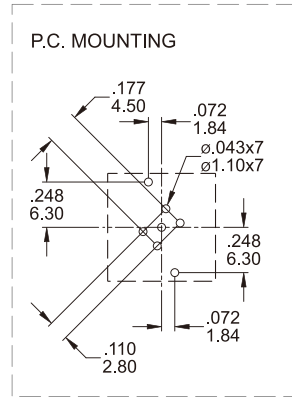
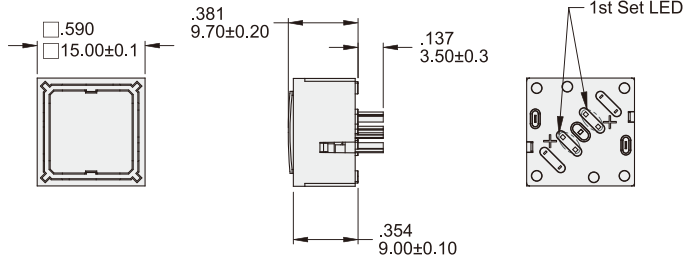
#### ■ 2nd Set LED Color

Lens Appearance	Color	Electro-optical Data(AT 20mA)				Peak Wavelength	Viewing Angle 2θ 1/2(deg)
		Vf(V)		Iv(mcd)			
		Typ.	Max.	Typ.	Min.		
Water Diffused	Cool White	3.3	4	3300	2200	630	45°
Red Diffused	Super Bright Red	2.05	2.6	850	460	630	45°
Yellow Diffused	Super Bright Yellow	2	2.6	500	220	590	40°
Green Diffused	Green	2	2.6	150	63	575	40°
Blue Diffused	Super Bright Blue	3.5	3.8	1300	690	468	45°

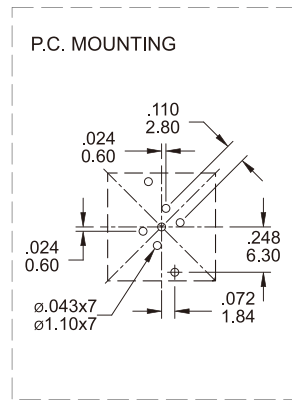
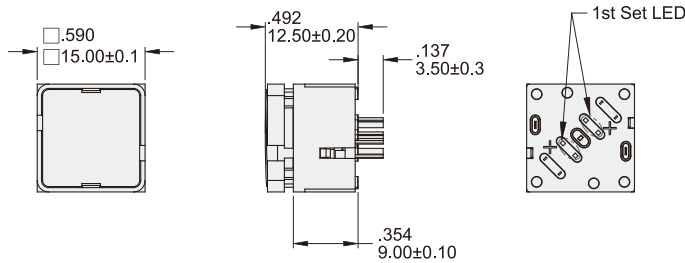
### ZKS5A



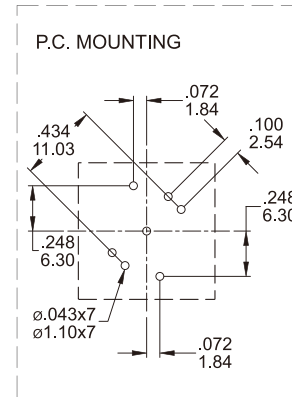
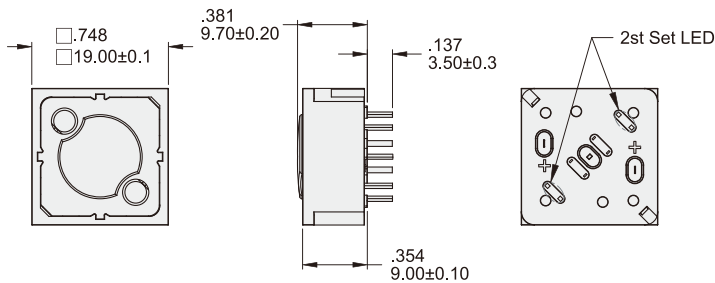
**ZKS5B**



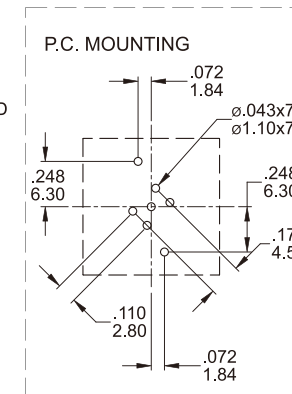
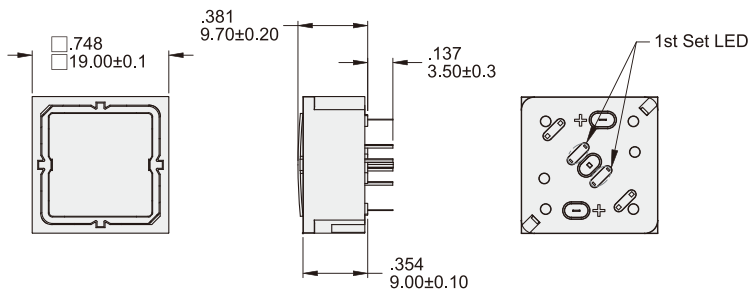
**ZKS5C**



**ZKS9A**

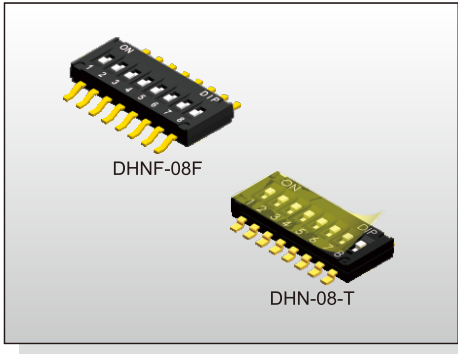


**ZKS9B**



# DIP SWITCH DHN(F) SERIES

1.6mm  
Half Pitch Type



## FEATURES

- ※Low profile 1.6mm height
- ※Gold contact for high reliability
- ※Top tape type for washing process

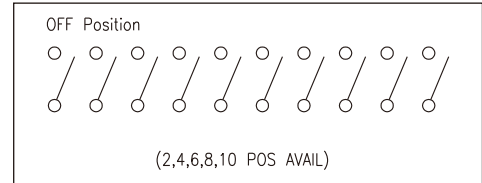
## APPLICATION

- ※Industrial control
- ※Automatic machines control
- ※NB, electronic devices

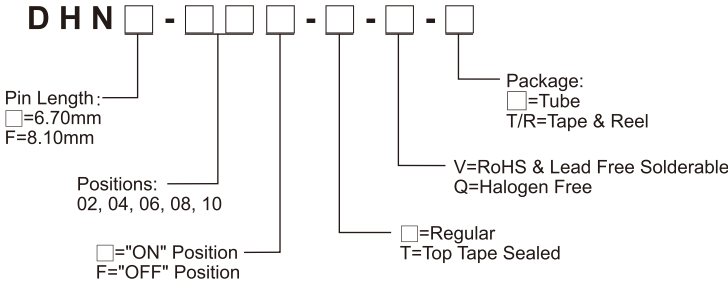
## SPECIFICATION

Contact Rating	25mA, 24V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	300V AC/1 minute
Operating Force	500gf max.
Travel	0.6mm
Operating Life	1,000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

## CIRCUIT



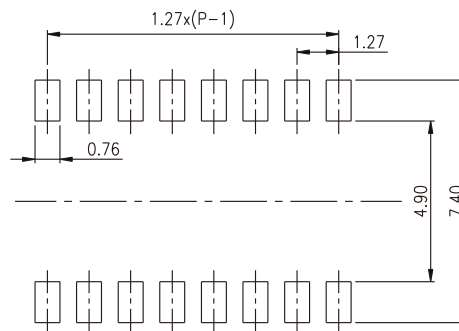
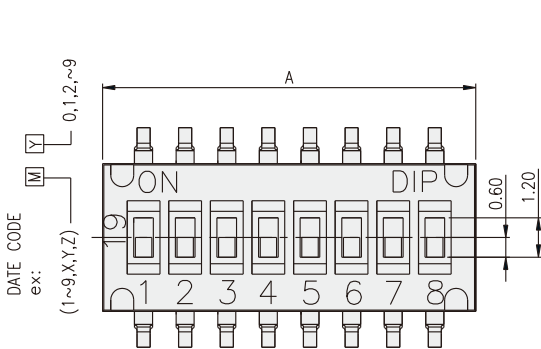
## HOW TO ORDER



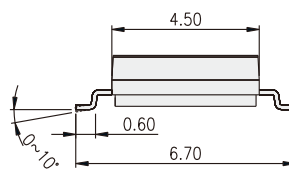
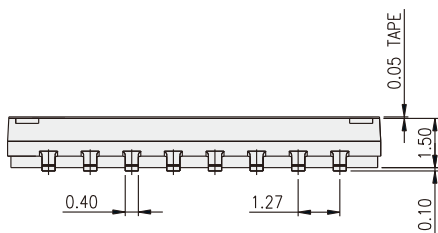
## PACKAGE

- <Tube>  
 DHN(F)-02: 125 pcs  
 DHN(F)-04: 75 pcs  
 DHN(F)-06: 54 pcs  
 DHN(F)-08: 40 pcs  
 DHN(F)-10: 33 pcs
- <Tape & Reel>  
 DHN: 4000 pcs  
 DHNF: 2500 pcs

## DHN

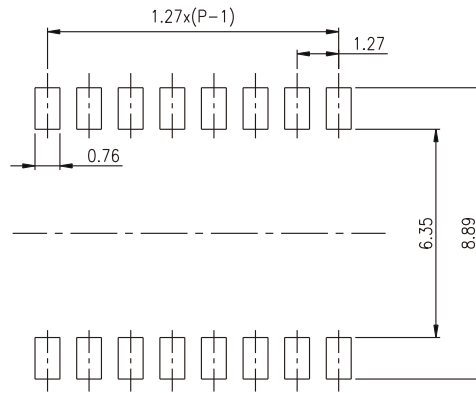
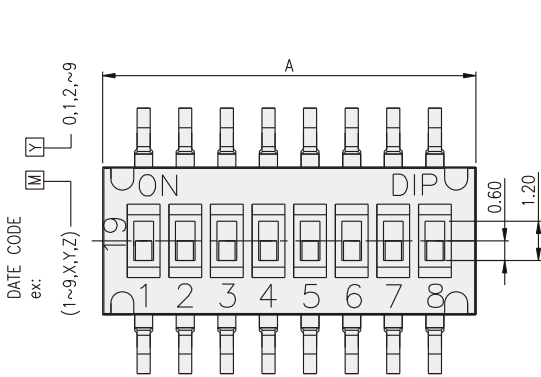


P.C.B. LAYOUT

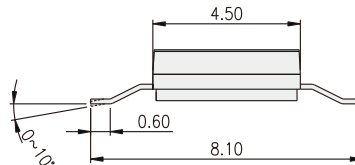
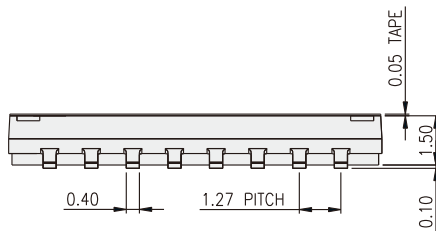


PART NO.	NO.OF POS	DIM A
DHN-02	2	3.77
DHN-04	4	6.31
DHN-06	6	8.85
DHN-08	8	11.39
DHN-10	10	13.93

DHNF



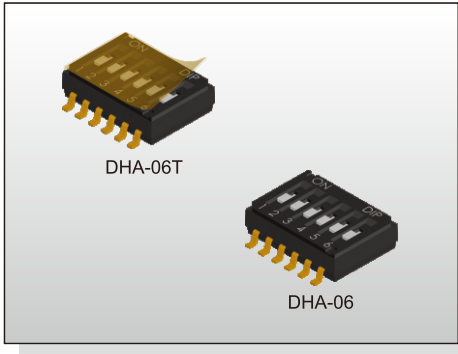
P.C.B. LAYOUT



PART NO.	NO.OF POS	DIM A
DHNF-02	2	3.77
DHNF-04	4	6.31
DHNF-06	6	8.85
DHNF-08	8	11.39
DHNF-10	10	13.93

# DIP SWITCH DHA SERIES

2.2mm  
Half Pitch Type



## FEATURES

- ※Low profile 2.2mm height
- ※Gold contact for high reliability
- ※Top tape type for washing process

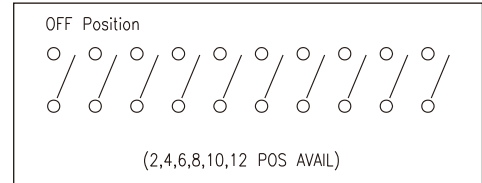
## APPLICATION

- ※Industrial control
- ※Automatic machines control
- ※NB, electronic devices

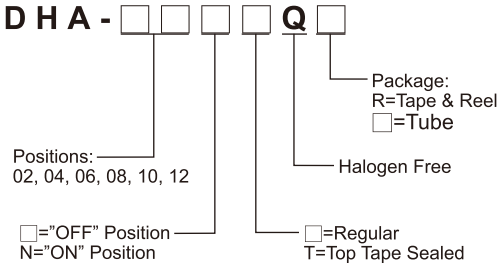
## SPECIFICATION

Contact Rating	25mA, 24V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	300V AC/1 minute
Operating Force	500gf max.
Travel	0.8mm
Operating Life	1,000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

## CIRCUIT



## HOW TO ORDER

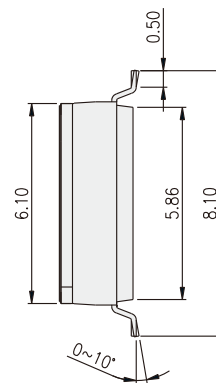
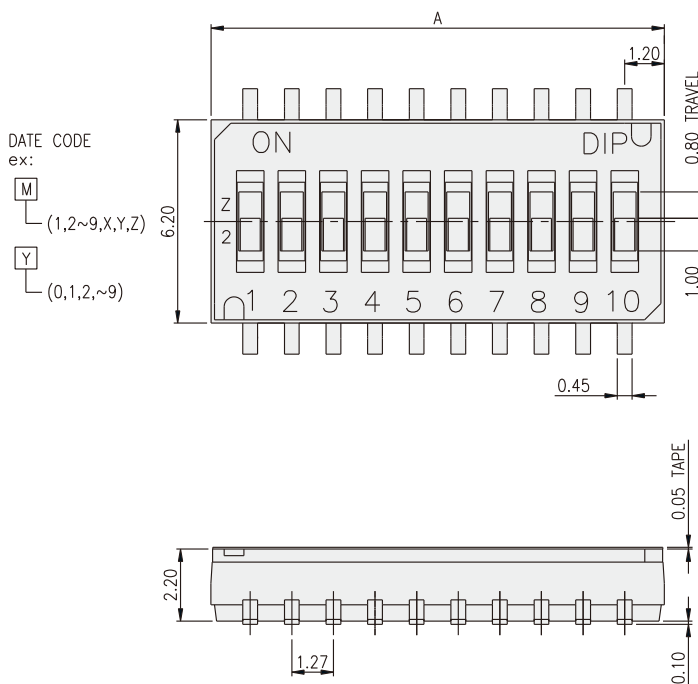


## PACKAGE

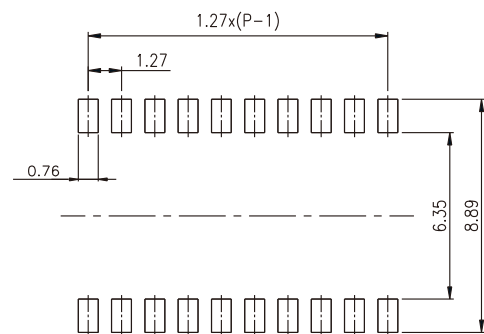
<Tape & Reel>  
1800 pcs

<Tube>  
DHA-02: 125 pcs  
DHA-04: 75 pcs  
DHA-06: 54 pcs  
DHA-08: 40 pcs  
DHA-10: 33 pcs  
DHA-12: 28 pcs

## DHA



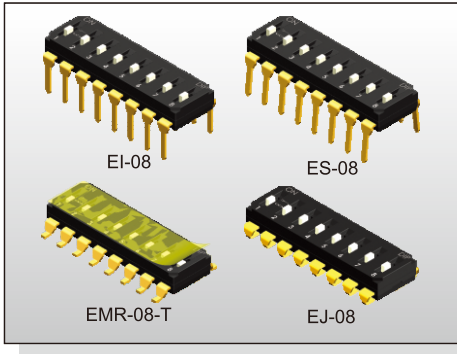
PART NO.	NO.OF POS	DIM A
DHA-02	2	3.67
DHA-04	4	6.21
DHA-06	6	8.75
DHA-08	8	11.29
DHA-10	10	13.83
DHA-12	12	16.37



P.C.B. LAYOUT

# DIP SWITCH E(M)(I)(S)(J) SERIES

End Stackable /  
SMT & Through Hole Type



## FEATURES

- ※End stackable
- ※Through hole or SMT
- ※Gold contact provides high reliability

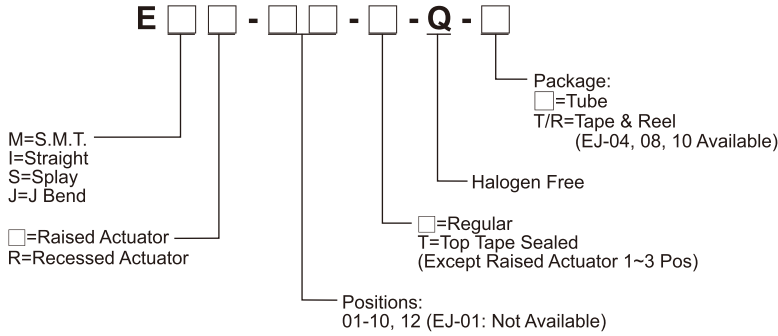
## APPLICATION

- ※Industrial control
- ※Automatic machines control
- ※Telecommunication

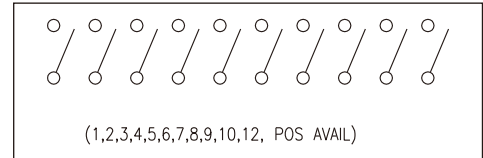
## SPECIFICATION

Contact Rating	25mA, 24V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	500V AC/1 minute
Operating Force	1,000gf max.
Travel	1mm
Operating Life	2,000 cycles
Operating Temp.	-20°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

## HOW TO ORDER



## CIRCUIT



## PACKAGE

### <Tube>

EM(R)/EI(R)/ES(R)-01: 194 pcs

E□(R)-02: 95 pcs

E□(R)-03: 63 pcs

E□(R)-04: 47 pcs

E□(R)-05: 38 pcs

E□(R)-06: 31 pcs

E□(R)-07: 27 pcs

E□(R)-08: 23 pcs

E□(R)-09: 21 pcs

E□(R)-10: 19 pcs

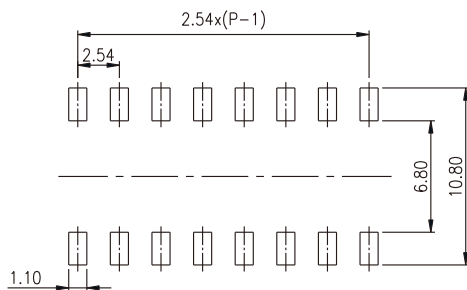
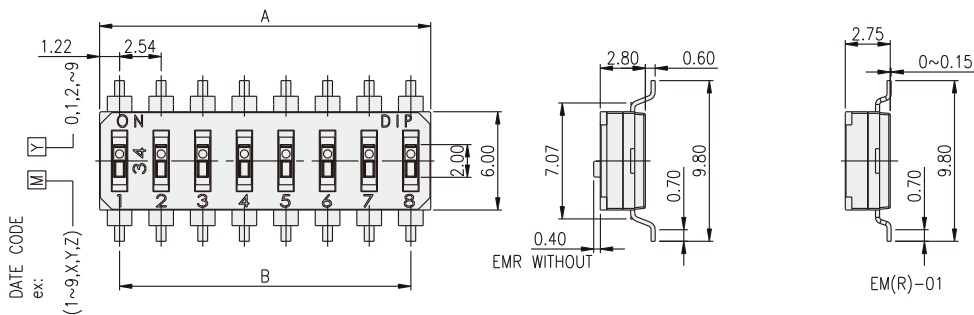
E□(R)-12: 15 pcs

### <Tape & Reel>

EM(R)-01~10, 12: 900 pcs

EJ(R)-04, 08, 10: 900 pcs

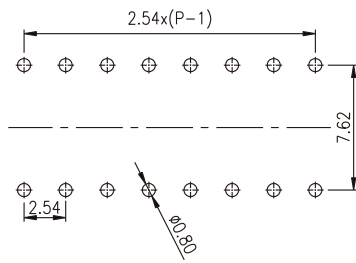
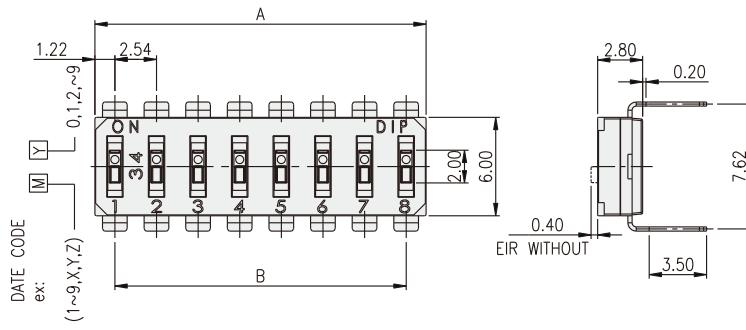
## EM(R)



PART NO.	NO.OF POS.	DIM.A	DIM.B
EM(R)-01	1	2.44	/
EM(R)-02	2	4.98	2.54
EM(R)-03	3	7.52	5.08
EM(R)-04	4	10.06	7.62
EM(R)-05	5	12.60	10.16
EM(R)-06	6	15.14	12.70
EM(R)-07	7	17.68	15.24
EM(R)-08	8	20.22	17.78
EM(R)-09	9	22.76	20.32
EM(R)-10	10	25.30	22.86
EM(R)-12	12	30.38	27.94



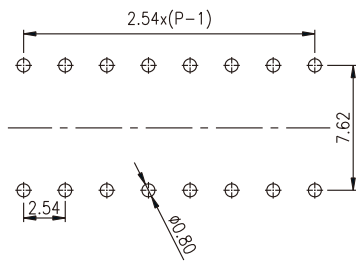
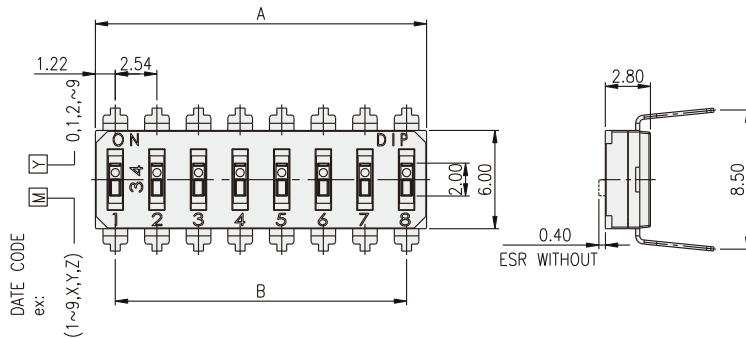
EI(R)



P.C.B. LAYOUT

PART NO.	NO.OF POS.	DIM.A	DIM.B
EI(R)-01	1	2.44	/
EI(R)-02	2	4.98	2.54
EI(R)-03	3	7.52	5.08
EI(R)-04	4	10.06	7.62
EI(R)-05	5	12.60	10.16
EI(R)-06	6	15.14	12.70
EI(R)-07	7	17.68	15.24
EI(R)-08	8	20.22	17.78
EI(R)-09	9	22.76	20.32
EI(R)-10	10	25.30	22.86
EI(R)-12	12	30.38	27.94

ES(R)



P.C.B. LAYOUT

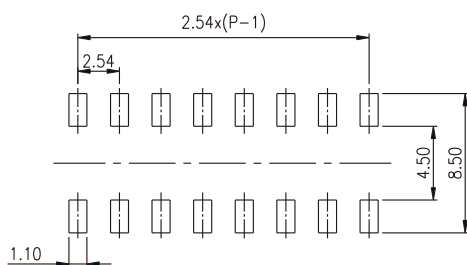
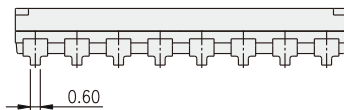
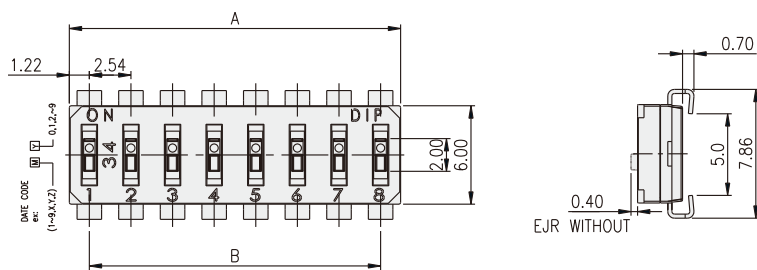
PART NO.	NO.OF POS.	DIM.A	DIM.B
ES(R)-01	1	2.44	/
ES(R)-02	2	4.98	2.54
ES(R)-03	3	7.52	5.08
ES(R)-04	4	10.06	7.62
ES(R)-05	5	12.60	10.16
ES(R)-06	6	15.14	12.70
ES(R)-07	7	17.68	15.24
ES(R)-08	8	20.22	17.78
ES(R)-09	9	22.76	20.32
ES(R)-10	10	25.30	22.86
ES(R)-12	12	30.38	27.94

DIP SWITCH  
**E(M)(I)(S)(J) SERIES**

End Stackable /  
 SMT & Through Hole Type



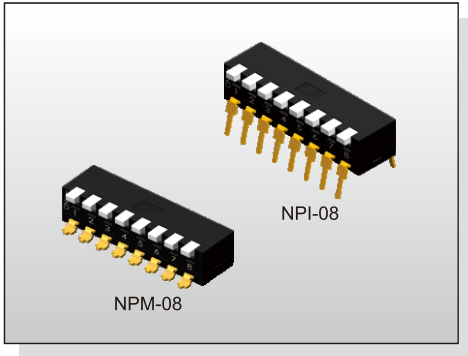
EJ(R)



P.C.B. LAYOUT

PART NO.	NO.OF POS.	DIM.A	DIM.B
EJ(R)-02	2	4.98	2.54
EJ(R)-03	3	7.52	5.08
EJ(R)-04	4	10.06	7.62
EJ(R)-05	5	12.60	10.16
EJ(R)-06	6	15.14	12.70
EJ(R)-07	7	17.68	15.24
EJ(R)-08	8	20.22	17.78
EJ(R)-09	9	22.76	20.32
EJ(R)-10	10	25.30	22.86
EJ(R)-12	12	30.38	27.94

DIP SWITCH



**FEATURES**

- ※Side actuation
- ※Wide stem for easy operation
- ※Gold contact for high reliability

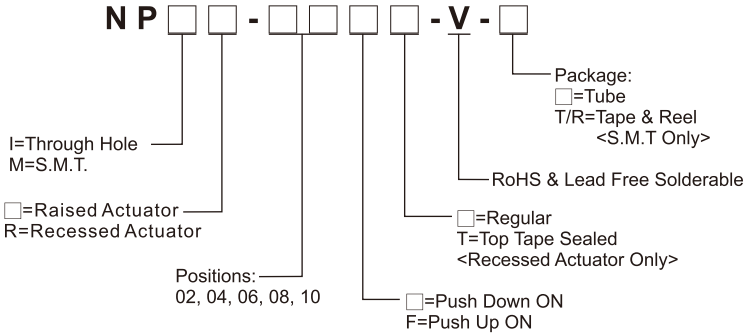
**APPLICATION**

- ※Industrial control
- ※Automatic machines control
- ※Telecommunication

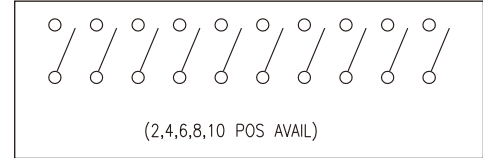
**SPECIFICATION**

Contact Rating	25mA, 24V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	500V AC/1 minute
Operating Force	800gf max.
Travel	1mm
Operating Life	2,000 cycles
Operating Temp.	-20°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**



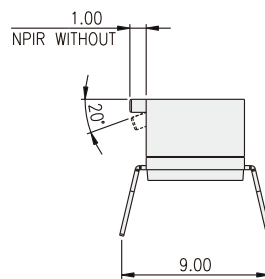
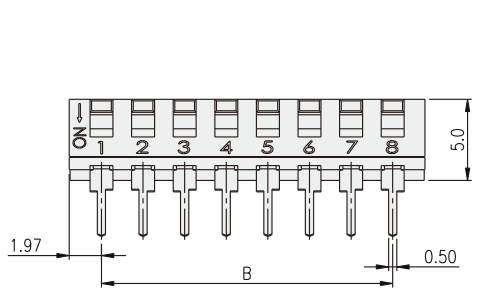
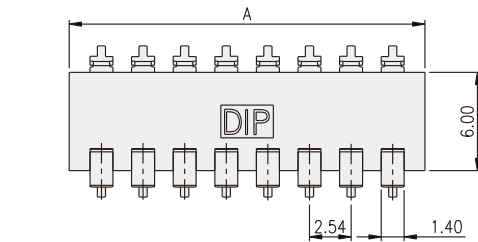
**CIRCUIT**



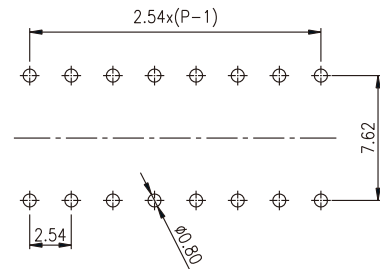
**PACKAGE**

- <Tube>**  
 NPI(R)/NPM(R)-02: 70 pcs  
 NPI(R)/NPM(R)-04: 40 pcs  
 NPI(R)/NPM(R)-06: 28 pcs  
 NPI(R)/NPM(R)-08: 20 pcs  
 NPI(R)/NPM(R)-10: 16 pcs
- <Tape & Reel>**  
 NPM(R)-02, 04, 06, 08, 10: 700 pcs

**NPI**

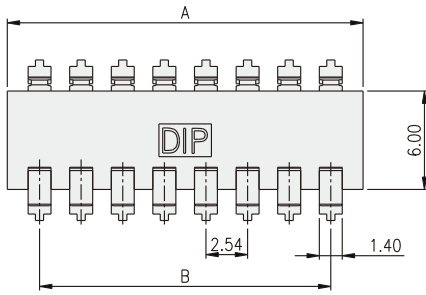


PART NO.	NO.OF POS.	DIM.A	DIM.B
NPI(R)-02	2	6.48	2.54
NPI(R)-04	4	11.56	7.62
NPI(R)-06	6	16.64	12.70
NPI(R)-08	8	21.72	17.78
NPI(R)-10	10	26.80	22.86

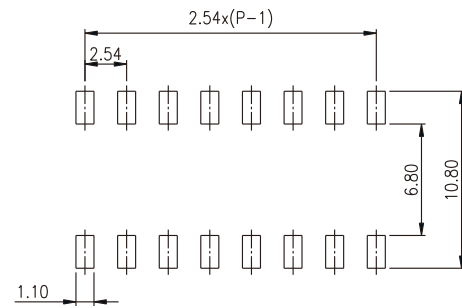
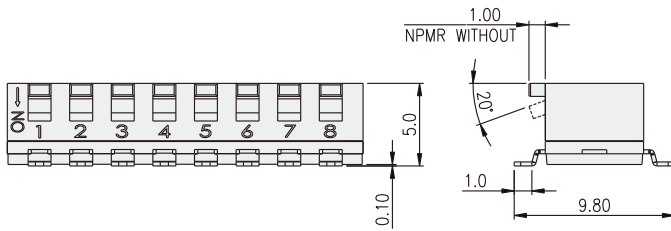


P.C.B. LAYOUT

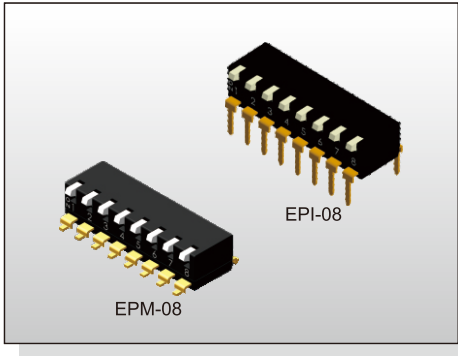
NPM



PART NO.	NO.OF POS.	DIM.A	DIM.B
NPM(R)-02	2	6.48	2.54
NPM(R)-04	4	11.56	7.62
NPM(R)-06	6	16.64	12.70
NPM(R)-08	8	21.72	17.78
NPM(R)-10	10	26.80	22.86



P.C.B. LAYOUT



**FEATURES**

- ※Side actuation
- ※End stackable
- ※Through hole or SMT

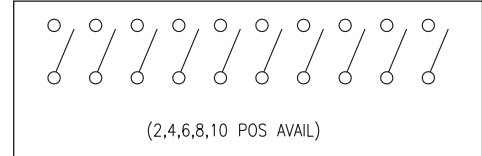
**APPLICATION**

- ※Industrial control
- ※Automatic machines control
- ※Telecommunication

**SPECIFICATION**

Contact Rating	25mA, 24V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	500V AC/1 minute
Operating Force	800gf max.
Travel	1mm
Operating Life	2,000 cycles
Operating Temp.	-20°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

**CIRCUIT**

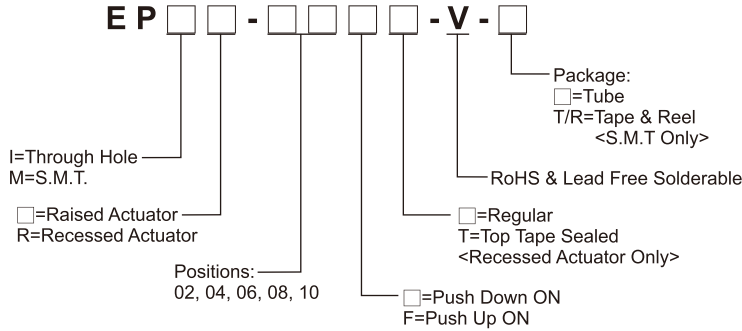


**PACKAGE**

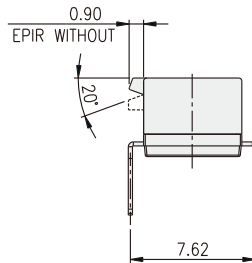
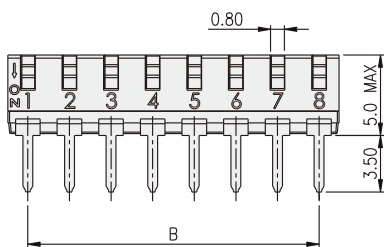
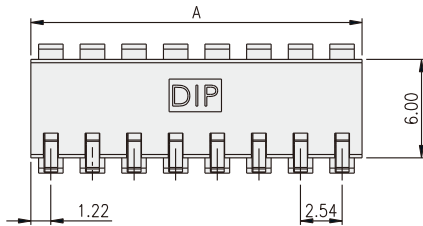
- <Tube>**  
 EP□(R)-02: 95 pcs  
 EP□(R)-04: 47 pcs  
 EP□(R)-06: 31 pcs  
 EP□(R)-08: 23 pcs  
 EP□(R)-10: 18 pcs  
**<Tape & Reel>**  
 EPM(R): 700 pcs

DIP SWITCH

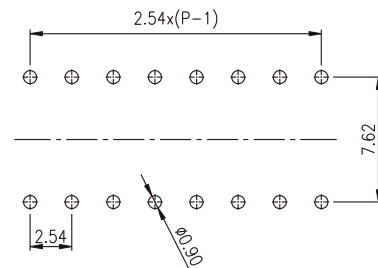
**HOW TO ORDER**



**EPI(R)**

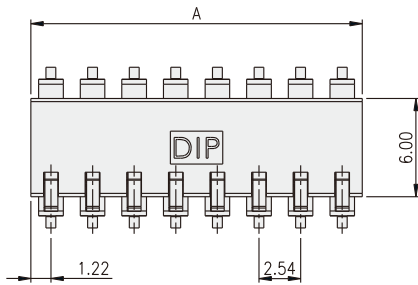


PART NO.	NO.OF POS.	DIM.A	DIM.B
EPI(R)-02	2	4.98	2.54
EPI(R)-04	4	10.06	7.62
EPI(R)-06	6	15.14	12.70
EPI(R)-08	8	20.22	17.78
EPI(R)-10	10	25.30	22.86

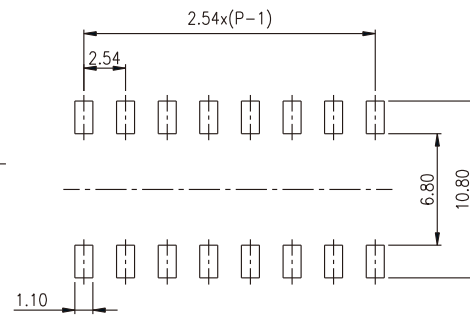
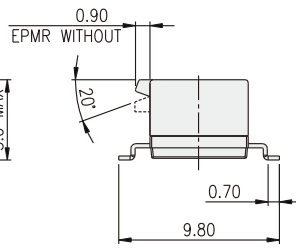
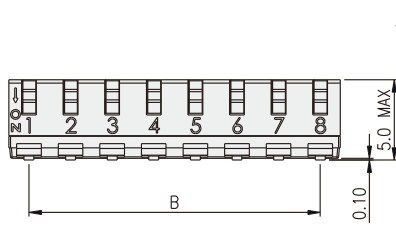


P.C.B. LAYOUT

**EPM(R)**



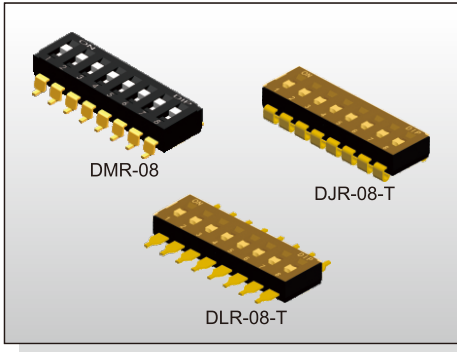
PART NO.	NO.OF POS.	DIM.A	DIM.B
EPM(R)-02	2	4.98	2.54
EPM(R)-04	4	10.06	7.62
EPM(R)-06	6	15.14	12.70
EPM(R)-08	8	20.22	17.78
EPM(R)-10	10	25.30	22.86



P.C.B. LAYOUT

# DIP SWITCH D(M)(J)(L) SERIES

SMT Type



## FEATURES

- ※ Low profile for space saving
- ※ Gold contact for high reliability
- ※ Top tape type for washing process

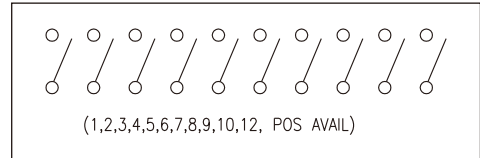
## APPLICATION

- ※ Industrial control
- ※ Automatic machines control
- ※ Telecommunication

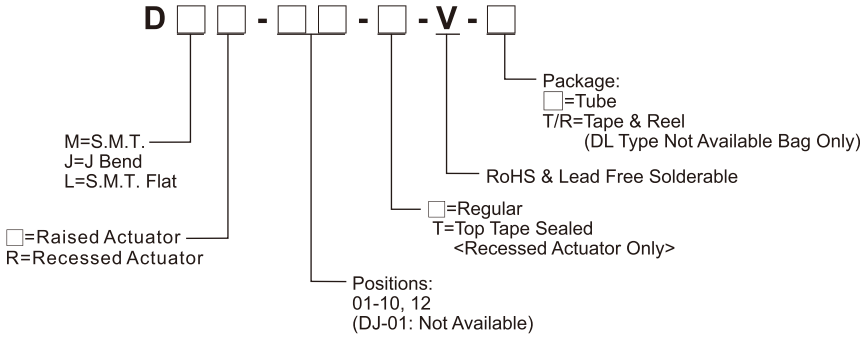
## SPECIFICATION

Contact Rating	25mA, 24V DC
Contact Resistance	50mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	500V AC/1 minute
Operating Force	1,000gf max.
Travel	1mm
Operating Life	2,000 cycles
Operating Temp.	-20°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

## CIRCUIT



## HOW TO ORDER



## PACKAGE

### <Tube>

DM(R), DJ(R):

- 01: 130 pcs 02: 76 pcs 03: 55 pcs 04: 42 pcs
- 05: 35 pcs 06: 28 pcs 07: 25 pcs 08: 22 pcs
- 09: 20 pcs 10: 18 pcs 12: 15 pcs

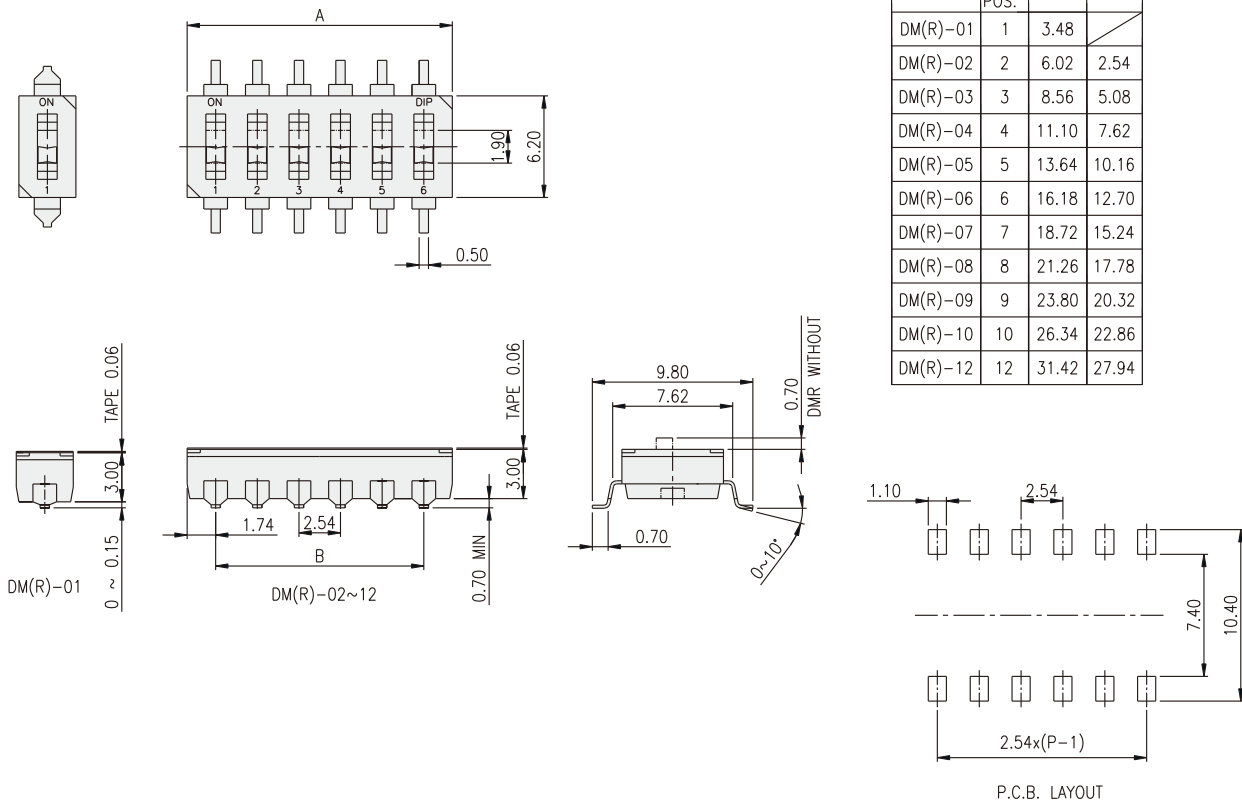
### <Tape & Reel>

- DM(R)-01: 800 pcs
- DMR-02~DMR-12: 900 pcs
- DM-(01)(05)(07): 800 pcs
- DM-(02)(03)(04)(06)(08)(09)(10)(12): 700 pcs
- DJR-(02)(03)(04)(08)(09)(10): 1000 pcs

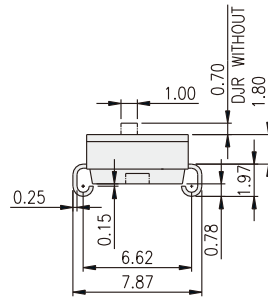
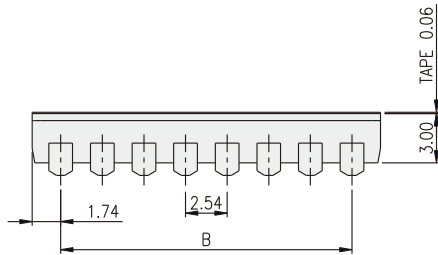
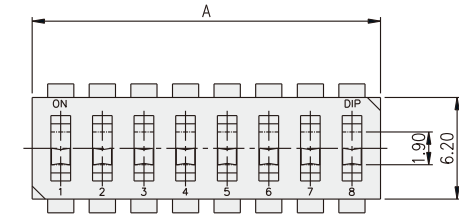
### <Bag>

DL(R): 1000 pcs

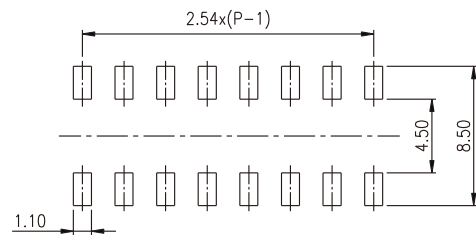
## DM(R)



DJ(R)

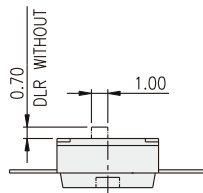
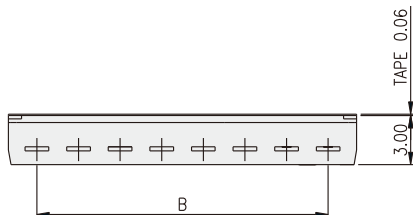
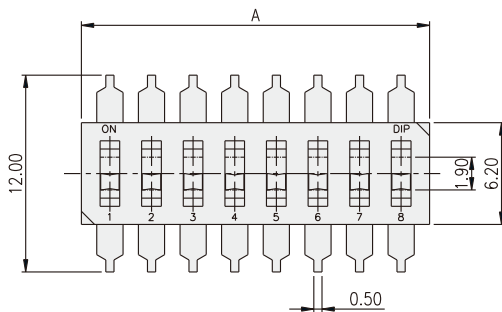


PART NO.	NO.OF POS.	DIM.A	DIM.B
DJ(R)-02	2	6.02	2.54
DJ(R)-03	3	8.56	5.08
DJ(R)-04	4	11.10	7.62
DJ(R)-05	5	13.64	10.16
DJ(R)-06	6	16.18	12.70
DJ(R)-07	7	18.72	15.24
DJ(R)-08	8	21.26	17.78
DJ(R)-09	9	23.80	20.32
DJ(R)-10	10	26.34	22.86
DJ(R)-12	12	31.42	27.94

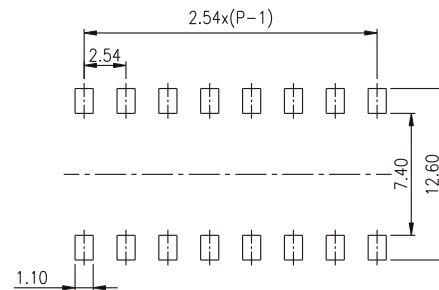


P.C.B. LAYOUT

DL(R)

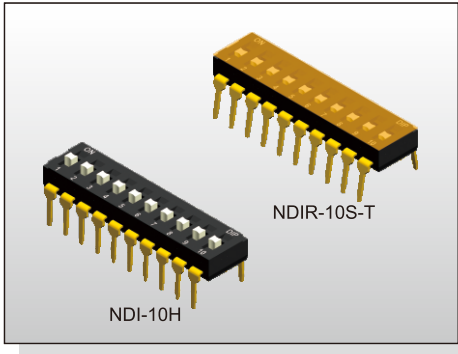


PART NO.	NO.OF POS.	DIM.A	DIM.B
DL(R)-01	1	3.48	
DL(R)-02	2	6.02	2.54
DL(R)-03	3	8.56	5.08
DL(R)-04	4	11.10	7.62
DL(R)-05	5	13.64	10.16
DL(R)-06	6	16.18	12.70
DL(R)-07	7	18.72	15.24
DL(R)-08	8	21.26	17.78
DL(R)-09	9	23.80	20.32
DL(R)-10	10	26.34	22.86
DL(R)-12	12	31.42	27.94



P.C.B. LAYOUT





**FEATURES**

- ※Low profile for space saving
- ※Gold contact for high reliability
- ※Top tape type for washing process

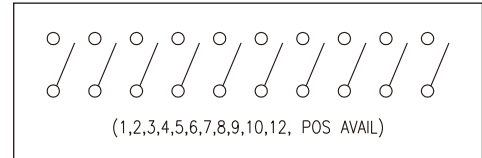
**APPLICATION**

- ※Industrial control
- ※Automatic machines control
- ※Telecommunication

**SPECIFICATION**

Contact Rating	25mA, 24V DC
Contact Resistance	50mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	500V AC/1 minute
Operating Force	1,000gf max.
Travel	1mm
Operating Life	2,000 cycles
Operating Temp.	-20°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

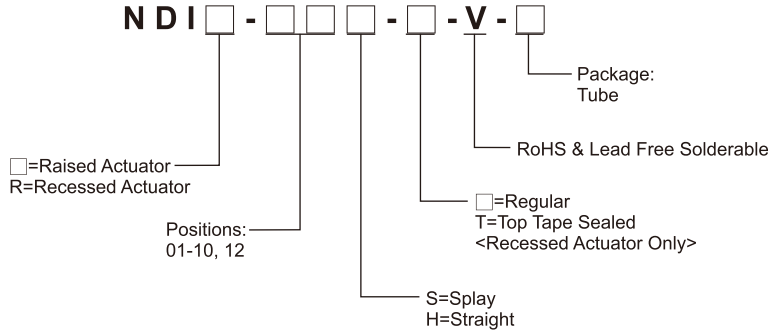
**CIRCUIT**



**PACKAGE**

- <Tube>**
- NDI(R)-01: 130 pcs
  - NDI(R)-02: 76 pcs
  - NDI(R)-03: 55 pcs
  - NDI(R)-04: 42 pcs
  - NDI(R)-05: 35 pcs
  - NDI(R)-06: 28 pcs
  - NDI(R)-07: 25 pcs
  - NDI(R)-08: 22 pcs
  - NDI(R)-09: 20 pcs
  - NDI(R)-10: 18 pcs
  - NDI(R)-12: 15 pcs

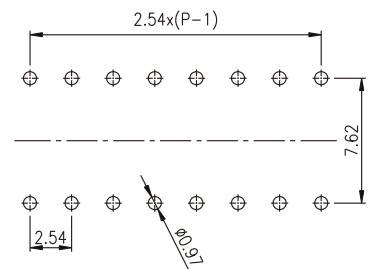
**HOW TO ORDER**



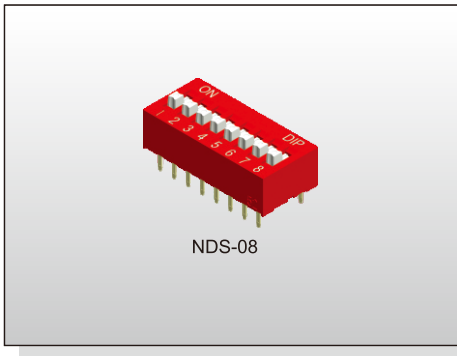
**NDI(R)**



PART NO.	NO.OF POS.	DIM.A	DIM.B
NDI(R)-01	1	3.48	
NDI(R)-02	2	6.02	2.54
NDI(R)-03	3	8.56	5.08
NDI(R)-04	4	11.10	7.62
NDI(R)-05	5	13.64	10.16
NDI(R)-06	6	16.18	12.70
NDI(R)-07	7	18.72	15.24
NDI(R)-08	8	21.26	17.78
NDI(R)-09	9	23.80	20.32
NDI(R)-10	10	26.34	22.86
NDI(R)-12	12	31.42	27.94



P.C.B. LAYOUT



NDS-08

**FEATURES**

- ※Both ON/OFF position applicable for soldering process.
- ※Gold contact for high reliability
- ※Red, blue, and black color options.

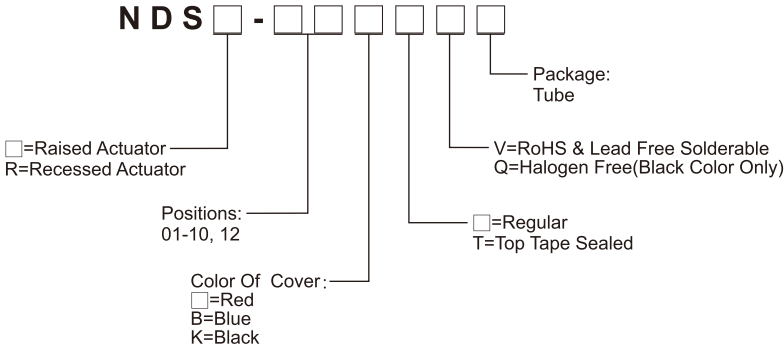
**APPLICATION**

- ※Industrial control
- ※Computers and peripherals
- ※Variety of function controls

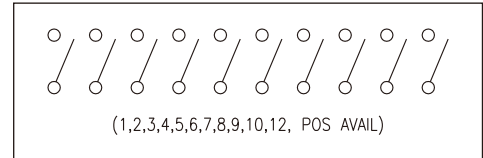
**SPECIFICATION**

Contact Rating	25mA, 24V DC
Contact Resistance	50mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	500V AC/1 minute
Operating Force	1,000gf max.
Travel	2mm
Operating Life	2,000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**



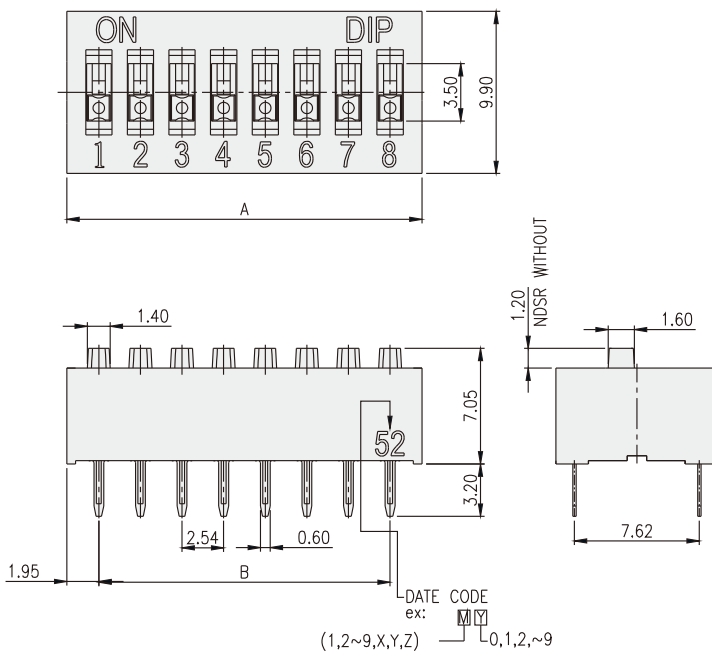
**CIRCUIT**



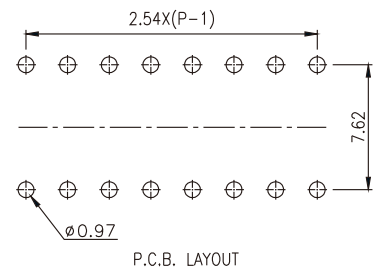
**PACKAGE**

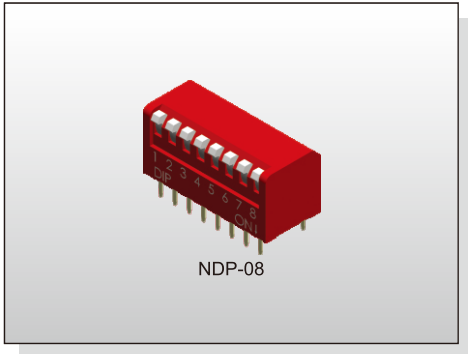
- <Tube>**
- NDS(R)-01: 120 pcs
  - NDS(R)-02: 72 pcs
  - NDS(R)-03: 51 pcs
  - NDS(R)-04: 40 pcs
  - NDS(R)-05: 32 pcs
  - NDS(R)-06: 27 pcs
  - NDS(R)-07: 24 pcs
  - NDS(R)-08: 21 pcs
  - NDS(R)-09: 19 pcs
  - NDS(R)-10: 17 pcs
  - NDS(R)-12: 14 pcs
  - NDS(R)-01T: 110 pcs
  - NDS(R)-02T: 70 pcs
  - NDS(R)-03T: 50 pcs
  - NDS(R)-04T: 39 pcs
  - NDS(R)-05T: 32 pcs
  - NDS(R)-06T: 27 pcs
  - NDS(R)-07T: 24 pcs
  - NDS(R)-08T: 21 pcs
  - NDS(R)-09T: 19 pcs
  - NDS(R)-10T: 17 pcs
  - NDS(R)-12T: 14 pcs

**NDS(R)**



PART NO.	NO.OF POS.	DIM.A	DIM.B
NDS(R)-01	1	3.90	
NDS(R)-02	2	6.44	2.54
NDS(R)-03	3	8.98	5.08
NDS(R)-04	4	11.52	7.62
NDS(R)-05	5	14.06	10.16
NDS(R)-06	6	16.60	12.70
NDS(R)-07	7	19.14	15.24
NDS(R)-08	8	21.68	17.78
NDS(R)-09	9	24.22	20.32
NDS(R)-10	10	26.76	22.86
NDS(R)-12	12	31.84	27.94





**FEATURES**

- ※Side actuation
- ※Gold contact for high reliability
- ※Red, blue, and black color options.

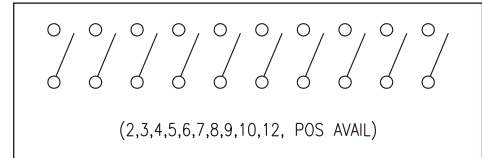
**APPLICATION**

- ※Industrial control
- ※Computers and peripherals
- ※Variety of function controls

**SPECIFICATION**

Contact Rating	25mA, 24V DC
Contact Resistance	50mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	500V AC/1 minute
Operating Force	400gf max.
Travel	25°
Operating Life	2,000 cycles
Operating Temp.	-20°C ~ +70°C
Storage Temp.	-40°C ~ +85°C

**CIRCUIT**



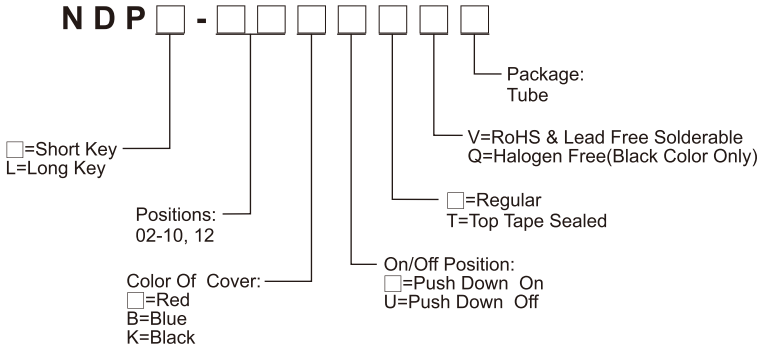
**PACKAGE**

**<Tube>**

NDP(L)-02: 70 pcs	NDP(L)-02T: 65 pcs
NDP(L)-03: 50 pcs	NDP(L)-03T: 49 pcs
NDP(L)-04: 39 pcs	NDP(L)-04T: 39 pcs
NDP(L)-05: 32 pcs	NDP(L)-05T: 32 pcs
NDP(L)-06: 27 pcs	NDP(L)-06T: 27 pcs
NDP(L)-07: 24 pcs	NDP(L)-07T: 24 pcs
NDP(L)-08: 21 pcs	NDP(L)-08T: 21 pcs
NDP(L)-09: 19 pcs	NDP(L)-09T: 19 pcs
NDP(L)-10: 17 pcs	NDP(L)-10T: 17 pcs
NDP(L)-12: 14 pcs	NDP(L)-12T: 14 pcs

DIP SWITCH

**HOW TO ORDER**



**NDP(L)**

Dimensions: A, 9.90, 2.54(P-1), 7.62, 11.79, 1.89, 10.20, 9.75, 25°, 1.14, 7.62, 0.20, 10.20, 3.20 MIN, 2.05, 1.30, 2.54, B, 22

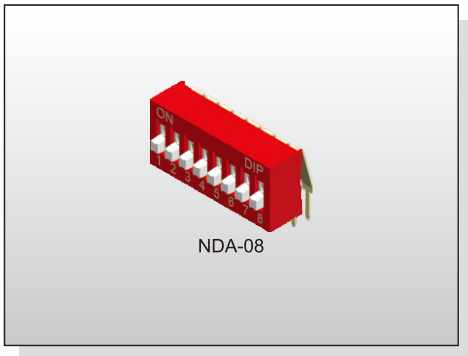
P.C.B. LAYOUT

PART NO.	NO. OF POS.	DIM.A	DIM.B
NDP(L)-02	2	6.64	2.54
NDP(L)-03	3	9.18	5.08
NDP(L)-04	4	11.72	7.62
NDP(L)-05	5	14.26	10.16
NDP(L)-06	6	16.80	12.70
NDP(L)-07	7	19.34	15.24
NDP(L)-08	8	21.88	17.78
NDP(L)-09	9	24.42	20.32
NDP(L)-10	10	26.96	22.86
NDP(L)-12	12	32.04	27.94

Date code ex: M Y (1,2~9,X,Y,Z) 0,1,2,~9

# DIP SWITCH NDA SERIES

Right Angle Type



## FEATURES

- ※ Side actuation
- ※ Gold contact for high reliability
- ※ Red, blue, and black color options.

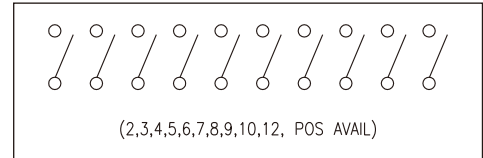
## APPLICATION

- ※ Industrial control
- ※ Computers and peripherals
- ※ Variety of function controls

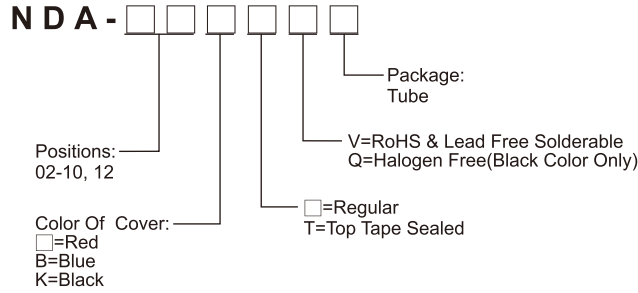
## SPECIFICATION

Contact Rating	25mA, 24V DC
Contact Resistance	50mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	500V AC/1 minute
Operating Force	1,000gf max.
Travel	2mm
Operating Life	2,000 cycles
Operating Temp.	-20°C ~ +70°C
Storage Temp.	-40°C ~ +85°C

## CIRCUIT



## HOW TO ORDER

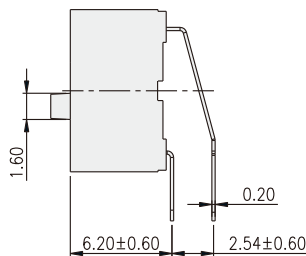
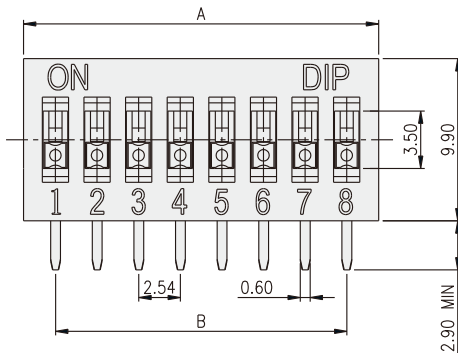
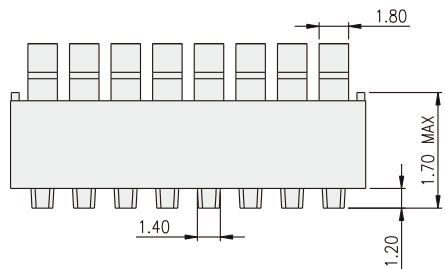


## PACKAGE

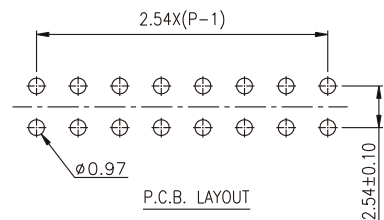
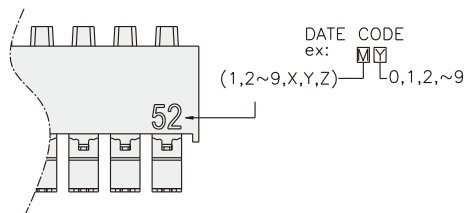
**<Tube>**

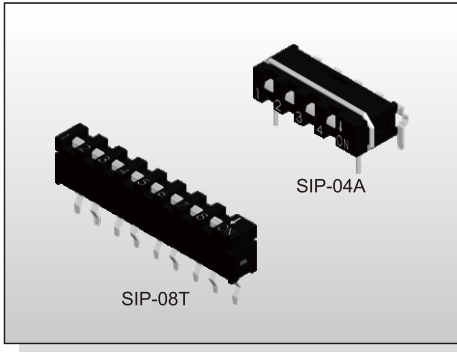
NDA-02: 73pcs	NDA-02T: 70 pcs
NDA-03: 52pcs	NDA-03T: 50 pcs
NDA-04: 40pcs	NDA-04T: 39 pcs
NDA-05: 33pcs	NDA-05T: 32 pcs
NDA-06: 28pcs	NDA-06T: 28 pcs
NDA-07: 24pcs	NDA-07T: 24 pcs
NDA-08: 21pcs	NDA-08T: 21 pcs
NDA-09: 19pcs	NDA-09T: 19 pcs
NDA-10: 17pcs	NDA-10T: 17 pcs
NDA-12: 14pcs	NDA-12T: 14 pcs

## NDA



PART NO.	NO.OF POS.	DIM.A	DIM.B
NDA-02	2	6.44	2.54
NDA-03	3	8.98	5.08
NDA-04	4	11.52	7.62
NDA-05	5	14.06	10.16
NDA-06	6	16.60	12.70
NDA-07	7	19.14	15.24
NDA-08	8	21.68	17.78
NDA-09	9	24.22	20.32
NDA-10	10	26.76	22.86
NDA-12	12	31.84	27.94





**FEATURES**

- ※Single In-line Packaging saves PCB space
- ※Available in vertical or right angle models

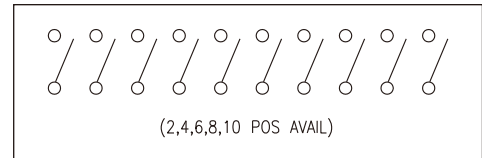
**APPLICATION**

- ※Industrial control
- ※Computers and peripherals
- ※Variety of function controls

**SPECIFICATION**

Contact Rating	10mA, 5V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	300V AC/1 minute
Operating Force	800gf max.
Operating Life	500 cycles
Operating Temp.	-30°C ~ +80°C
Storage Temp.	-30°C ~ +80°C

**CIRCUIT**



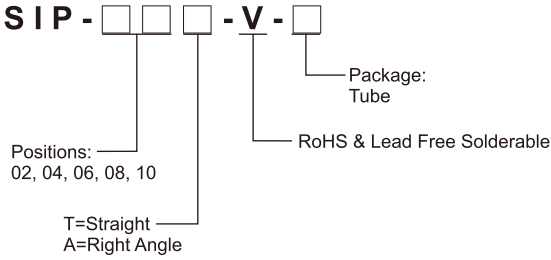
**PACKAGE**

**<Tube>**

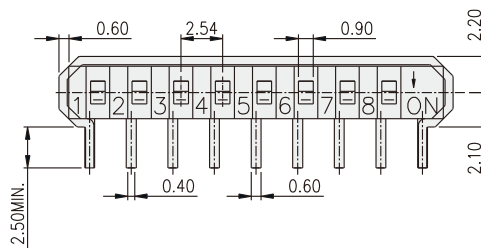
SIP-02A: 56 pcs	SIP-02T: 61 pcs
SIP-04A: 35 pcs	SIP-04T: 37 pcs
SIP-06A: 25 pcs	SIP-06T: 26 pcs
SIP-08A: 20 pcs	SIP-08T: 20 pcs
SIP-10A: 16 pcs	SIP-10T: 17 pcs

DIP SWITCH

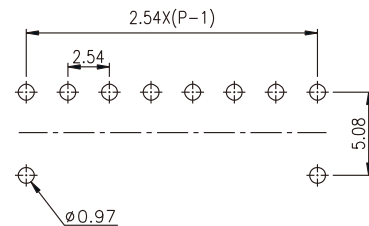
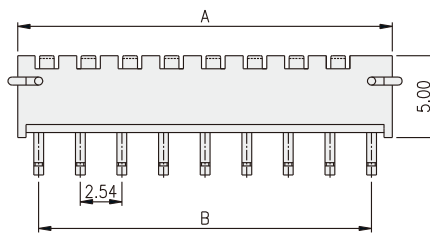
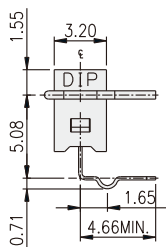
**HOW TO ORDER**



**SIP-A**

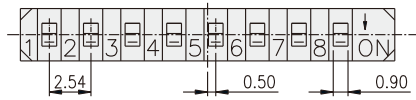


PART NO.	NO.OF POS.	DIM.A	DIM.B
SIP-02	2	7.62	5.08
SIP-04	4	12.70	10.16
SIP-06	6	17.78	15.24
SIP-08	8	22.86	20.32
SIP-10	10	27.94	25.40

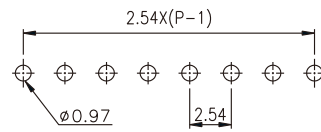
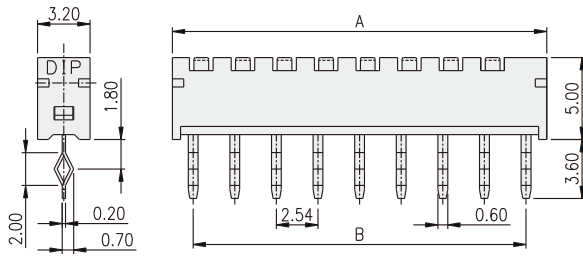


P.C.B. LAYOUT

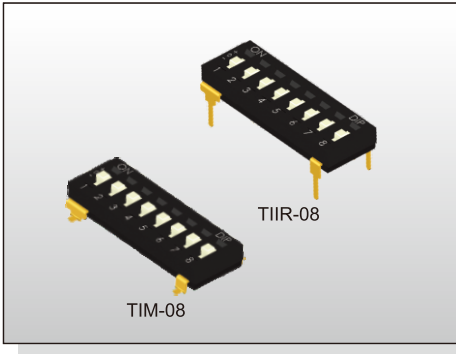
SIP-T



PART NO.	NO.OF POS.	DIM.A	DIM.B
SIP-02	2	7.62	5.08
SIP-04	4	12.70	10.16
SIP-06	6	17.78	15.24
SIP-08	8	22.86	20.32
SIP-10	10	27.94	25.40



P.C.B. LAYOUT



**FEATURES**

- ※3-state setting
- ※Low profile for space saving

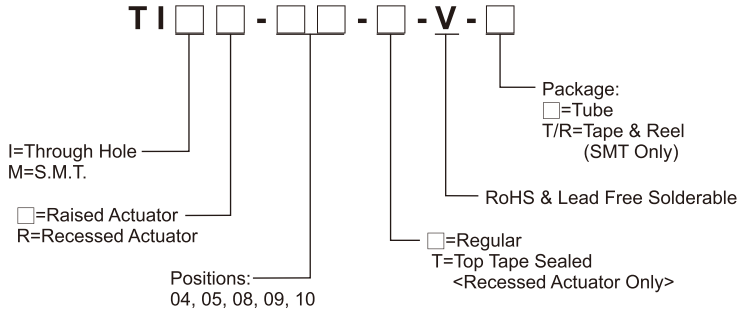
**APPLICATION**

- ※Remote control
- ※Home automation
- ※Telecommunication

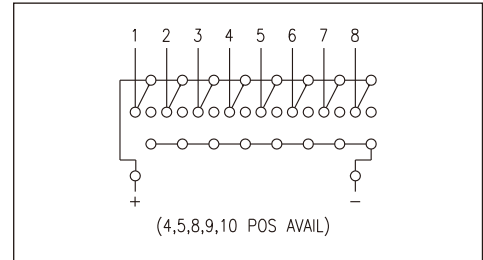
**SPECIFICATION**

Contact Rating	25mA, 24V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	500V AC/1 minute
Operating Force	1,000gf max.
Travel	0.8mm
Operating Life	2,000 cycles
Operating Temp.	-20°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**



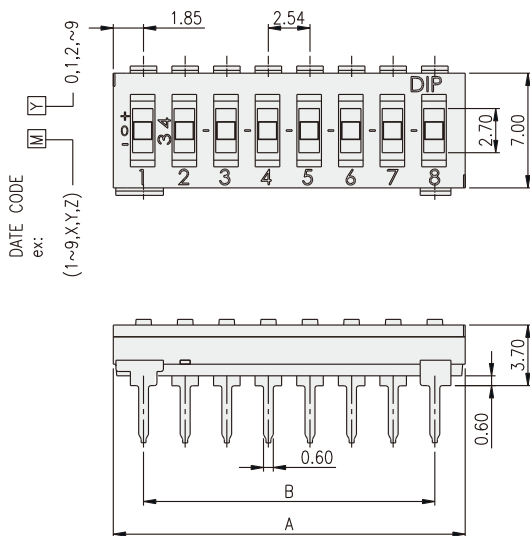
**CIRCUIT**



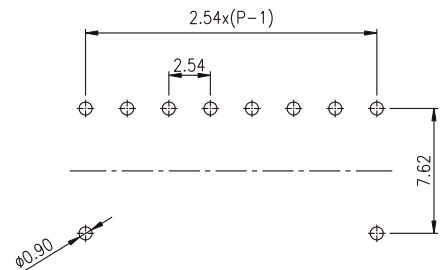
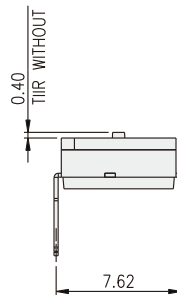
**PACKAGE**

- <Tube>  
 TII(R)/TIM(R)-04: 41 pcs  
 TII(R)/TIM(R)-05: 34 pcs  
 TII(R)/TIM(R)-08: 22 pcs  
 TII(R)/TIM(R)-09: 20 pcs  
 TII(R)/TIM(R)-10: 18 pcs
- <Tape & Reel>  
 TIM(R): 900 pcs

**TII(R)**

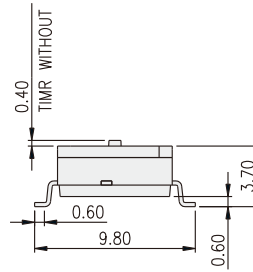
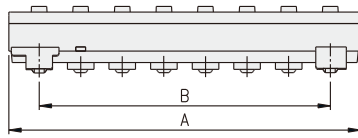
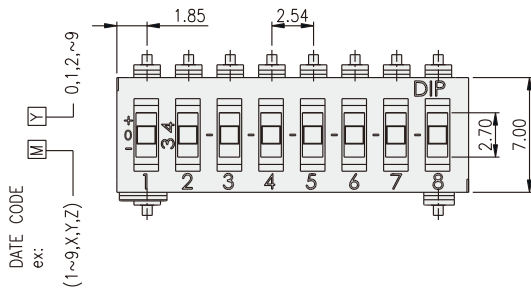


PART NO.	NO. OF POS.	DIM.A	DIM.B
TII(R)-04	4	11.32	7.62
TII(R)-05	5	13.86	10.16
TII(R)-08	8	21.48	17.78
TII(R)-09	9	24.02	20.32
TII(R)-10	10	26.56	22.86

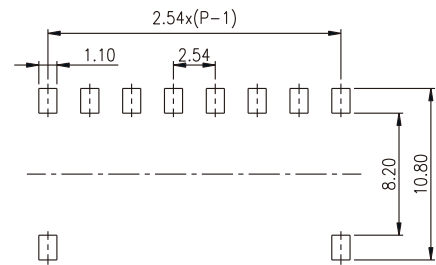


P.C.B. LAYOUT

TIM(R)

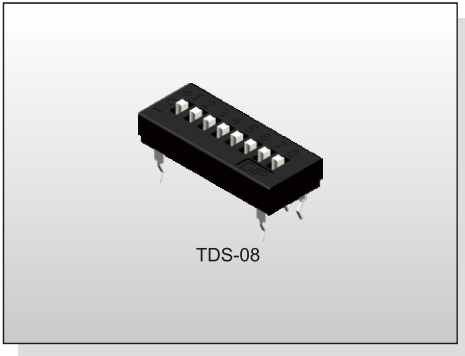


PART NO.	NO.OF POS.	DIM.A	DIM.B
TIM(R)-04	4	11.32	7.62
TIM(R)-05	5	13.86	10.16
TIM(R)-08	8	21.48	17.78
TIM(R)-09	9	24.02	20.32
TIM(R)-10	10	26.56	22.86



P.C.B. LAYOUT





TDS-08

**FEATURES**

※3-state setting

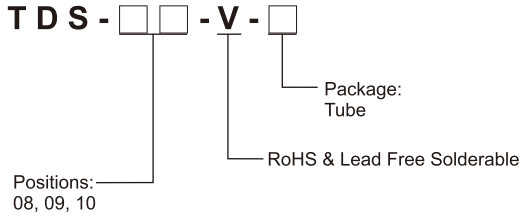
**APPLICATION**

- ※Remote control
- ※Home automation
- ※Telecommunication

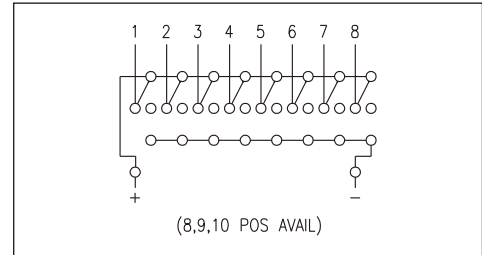
**SPECIFICATION**

Contact Rating	25mA, 24V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	500V AC/1 minute
Operating Force	1,000gf max.
Travel	1mm
Operating Life	2,000 cycles
Operating Temp.	-20°C ~ +70°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**



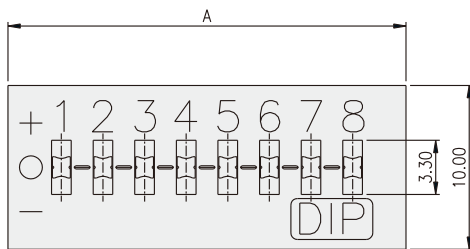
**CIRCUIT**



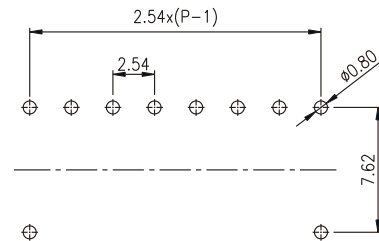
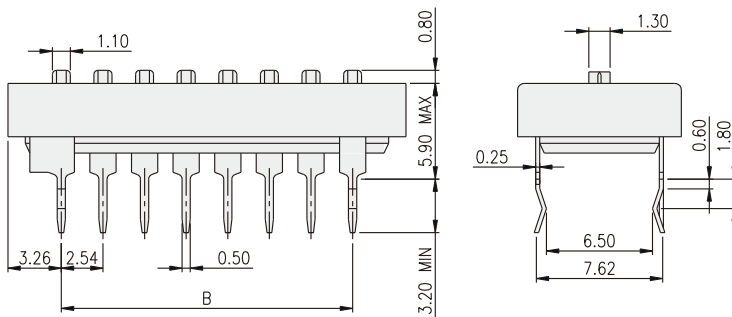
**PACKAGE**

<Tube>  
TDS-08: 19 pcs  
TDS-09: 17 pcs  
TDS-10: 16 pcs

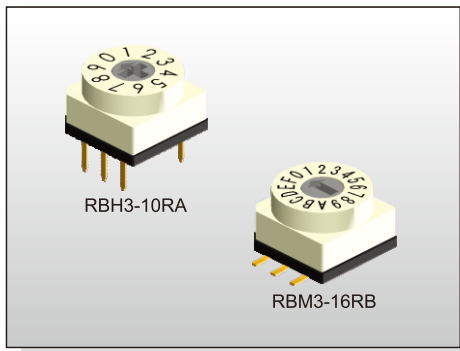
**TDS**



PART NO.	NO. OF POS.	DIM.A	DIM.B
TDS-08	8	24.30	17.78
TDS-09	9	26.84	20.32
TDS-10	10	29.38	22.86



P.C.B. LAYOUT



**FEATURES**

- ※BCD, Hexadecimal
- ※Cross-head& Flat-head Actuator
- ※Washable

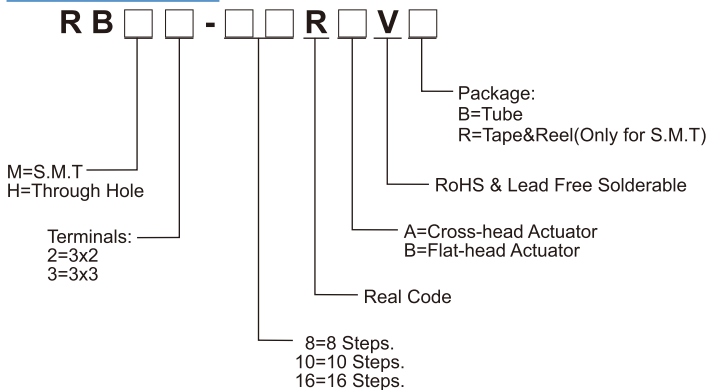
**APPLICATION**

- ※Steering system
- ※White goods
- ※Wireless microphone

**SPECIFICATION**

Contact Rating	150mA, 24V DC
Contact Resistance	80mΩ max.
Insulation Resistance	100MΩ min. 250V DC
Dielectric Strength	250V AC/1 minute
Operating Force	400gf·cm max.
Operating Life	10,000 steps
Operating Temp.	-60°C ~ +125°C
Storage Temp.	-60°C ~ +125°C

**HOW TO ORDER**

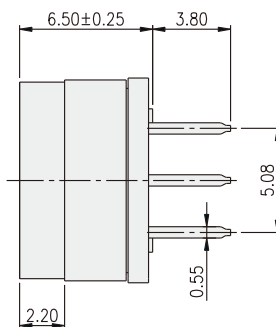
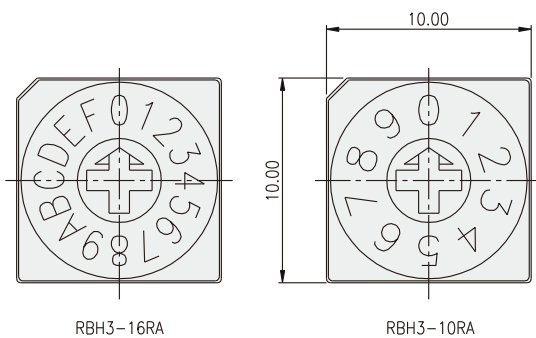


**PACKAGE**

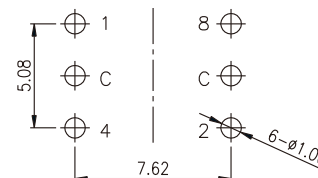
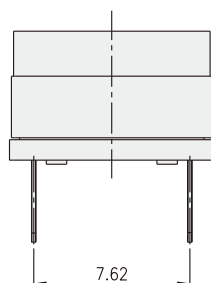
<Tube>  
47 pcs  
<Tape & Reel>  
RBM: 450 pcs.

ROTARY CODED SWITCH

**RBH3-1□RA**

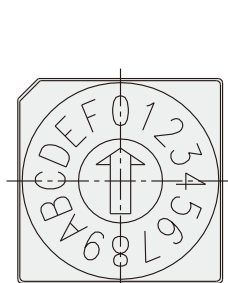


TYPE	POSITION	CODE			
		1	2	4	8
10R	0	●	●	●	●
	1	○	●	●	●
	2	●	○	●	●
	3	○	○	●	●
	4	●	●	○	●
	5	○	●	○	●
	6	●	○	○	●
	7	○	○	○	●
	8	●	●	●	○
	9	○	○	●	○
16R	A	○	○	●	○
	B	○	○	●	○
	C	●	●	○	○
	D	○	●	○	○
	E	●	○	○	○
	F	○	○	○	○

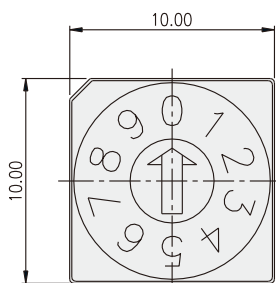


P.C.B. LAYOUT

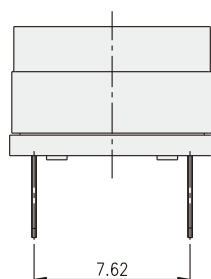
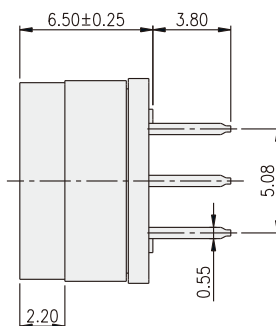
**RBH2-1** □ RB



RBH2-16RB

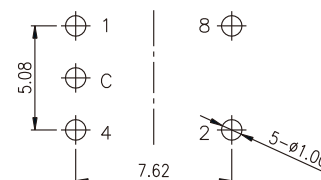


RBH2-10RB



○ ON  
● OFF

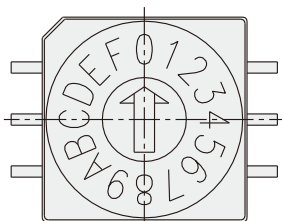
TYPE	POSITION	CODE			
		1	2	4	8
10R	0	●	●	●	●
	1	○	○	●	●
	2	●	○	○	●
	3	○	○	●	●
	4	●	●	○	●
	5	○	○	○	●
	6	●	○	○	●
	7	○	○	○	●
	8	●	●	●	○
	9	○	●	●	○
16R	A	●	○	●	○
	B	○	○	●	○
	C	●	●	○	○
	D	○	○	○	○
	E	●	○	○	○
	F	○	○	○	○



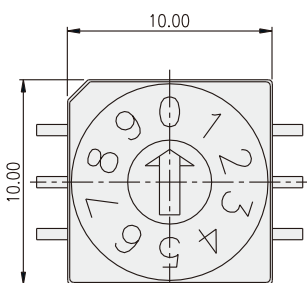
P.C.B. LAYOUT

ROTARY CODED SWITCH

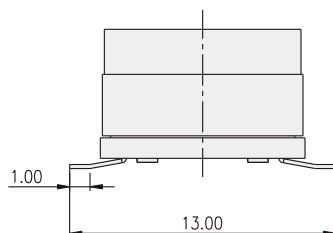
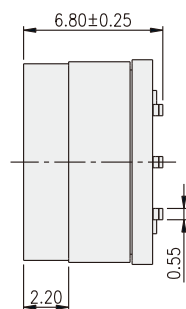
**RBM3-1** □ RB



RBM3-16RB

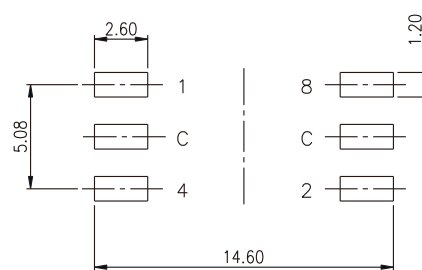


RBM3-10RB

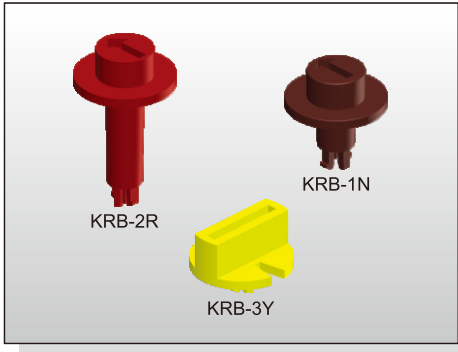


○ ON  
● OFF

TYPE	POSITION	CODE			
		1	2	4	8
10R	0	●	●	●	●
	1	○	●	●	●
	2	●	○	●	●
	3	○	○	●	●
	4	●	●	○	●
	5	○	●	○	●
	6	●	○	○	●
	7	○	○	○	●
	8	●	●	●	○
	9	○	●	●	○
16R	A	●	○	●	○
	B	○	○	●	○
	C	●	●	○	○
	D	○	○	○	○
	E	●	○	○	○
	F	○	○	○	○



P.C.B. LAYOUT



### HOW TO ORDER

**KRB -**

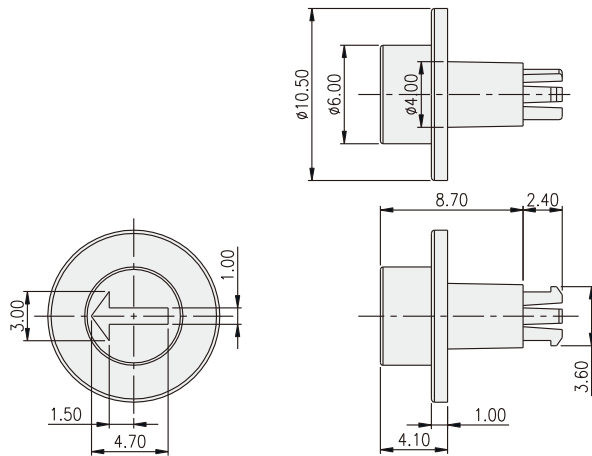
Cap Color:  
 K=Black  
 N=Brown  
 B=Blue  
 Ge=Grey  
 R=Red  
 Y=Yellow

Knob Type:  
 1= Short Spindle  
 2= Long Spindle  
 3=Segment Wheel

### PACKAGE

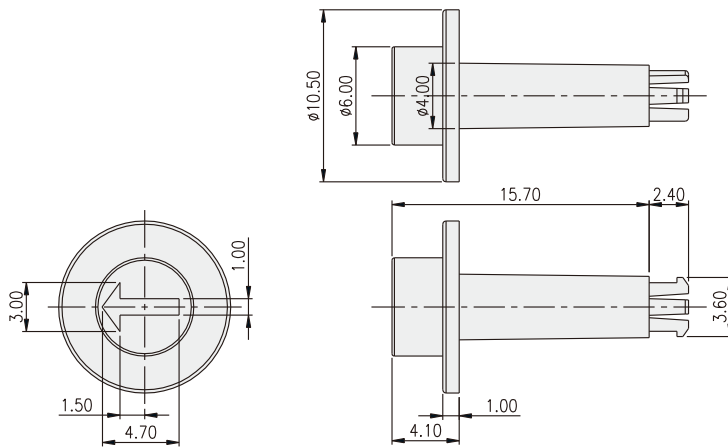
<Bag>  
 KRB-1, KRB-2: 500 pcs.  
 KRB-3: 1000 pcs.

### KRB-1



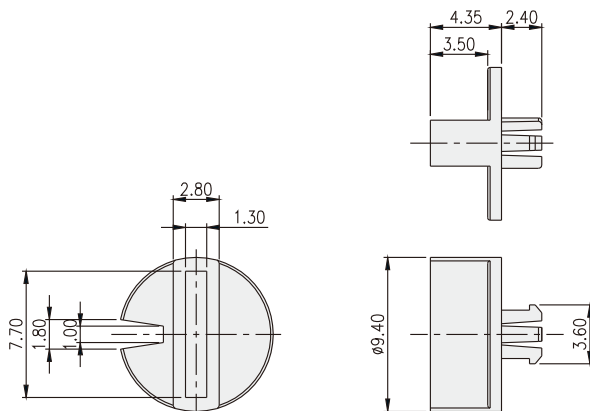
PART NO.	COLOR
KRB-1K	BLACK
KRB-1N	BROWN
KRB-1R	RED
KRB-1B	BLUE
KRB-1Y	YELLOW
KRB-1Ge	GREY

### KRB-2



PART NO.	COLOR
KRB-2K	BLACK
KRB-2N	BROWN
KRB-2R	RED
KRB-2B	BLUE
KRB-2Y	YELLOW
KRB-2Ge	GREY

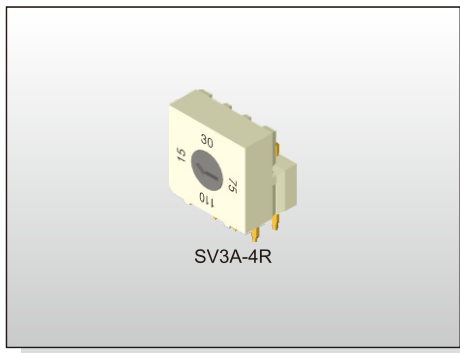
### KRB-3



PART NO.	COLOR
KRB-3K	BLACK
KRB-3N	BROWN
KRB-3R	RED
KRB-3B	BLUE
KRB-3Y	YELLOW
KRB-3Ge	GREY

ROTARY CODED SWITCH  
**SV3A-4** SERIES

10x10mm  
 Selector Rotary Type



**FEATURES**

- ※ Through hole pin type
- ※ Flush Actuator
- ※ 20,000 steps mechanical Life

**APPLICATION**

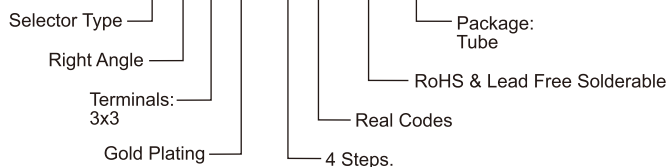
- ※ Building & home automation
- ※ White goods
- ※ Electronic instrument

**SPECIFICATION**

Contact Rating	25mA, 24V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 250V DC
Dielectric Strength	250V AC/1 minute
Operating Force	200gf·cm max.
Operating Life	20,000 steps
Operating Temp.	-25°C ~ +80°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**

**S V 3 A - 4 R - V - B**

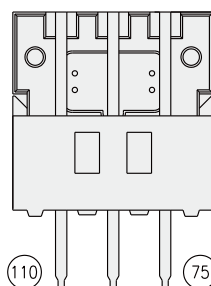
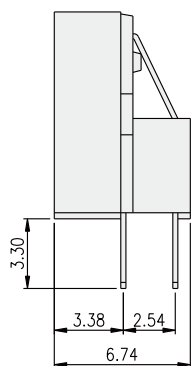
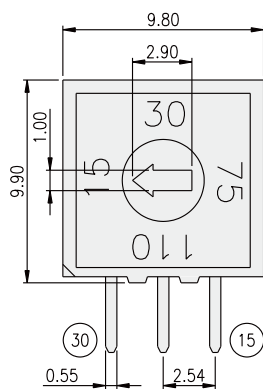


**PACKAGE**

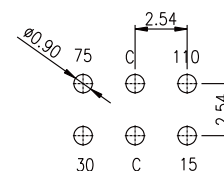
<Tube>  
 48 pcs

ROTARY CODED SWITCH

**SV3A-4**



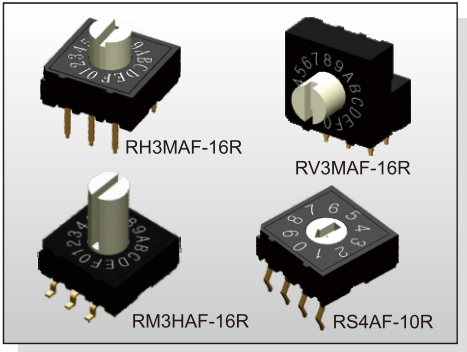
		CODE			
POSITION		15	30	75	110
15	○ ON	○	●	●	●
30	● OFF	●	○	●	●
75		●	●	○	●
110		●	●	●	○



P.C.B. LAYOUT

# ROTARY CODED SWITCH R(H)(V)(M)(S) SERIES

10x10mm  
Rotary Type



## FEATURES

- ※Vertical and right angel type
- ※Flush & raised actuator
- ※BCD; Hexadecimal

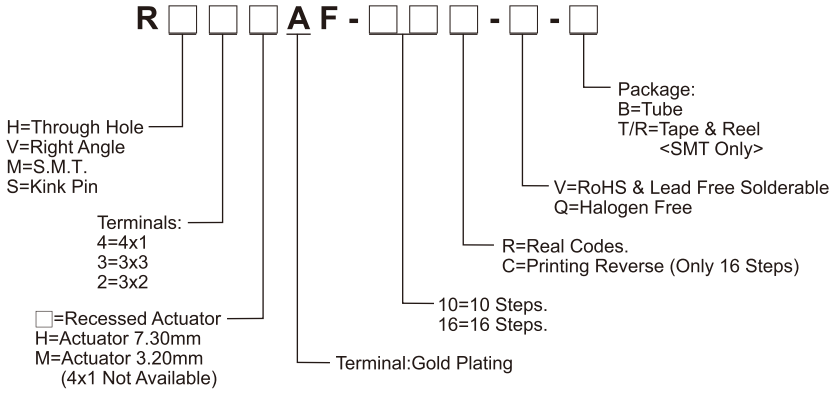
## APPLICATION

- ※Building & home automation
- ※White goods
- ※Electronic instrument

## SPECIFICATION

Contact Rating	25mA, 24V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 250V DC
Dielectric Strength	250V AC/1 minute
Operating Force	400gf·cm max.
Operating Life	20,000 Steps
Operating Temp.	-25°C ~ +80°C
Storage Temp.	-40°C ~ +85°C

## HOW TO ORDER

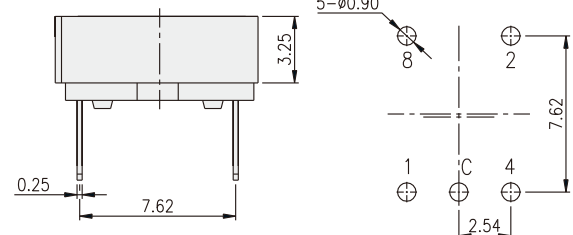
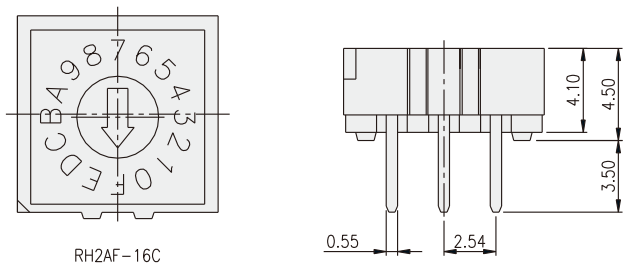
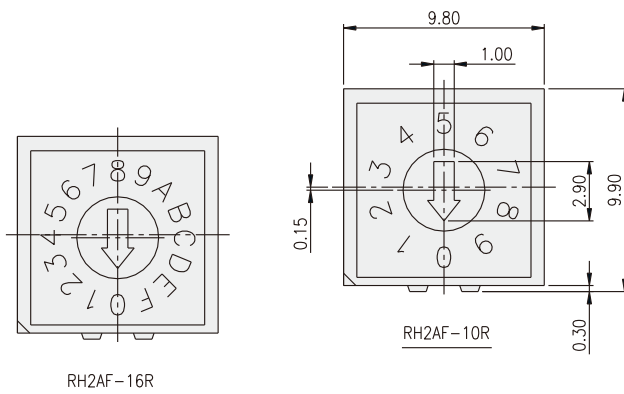


## PACKAGE

- <Tube>  
48 pcs
- <Tape & Reel>  
750 pcs (recessed actuator)  
500 pcs (3.2mm actuator)  
250 pcs (7.3mm actuator)

ROTARY CODED SWITCH

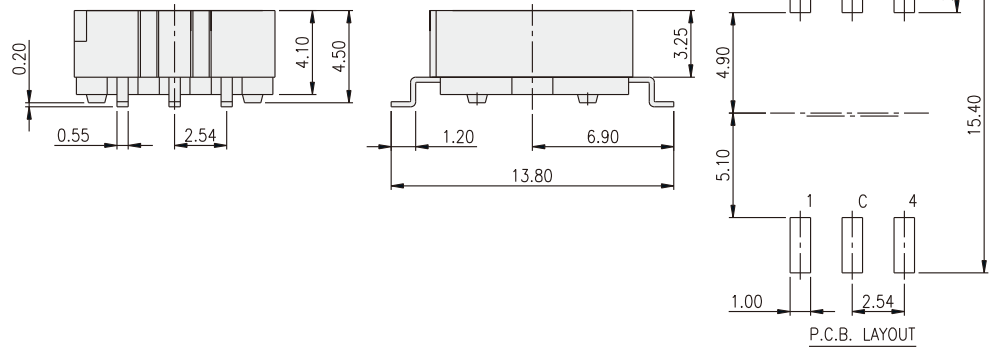
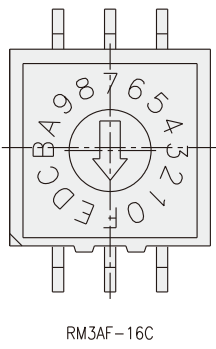
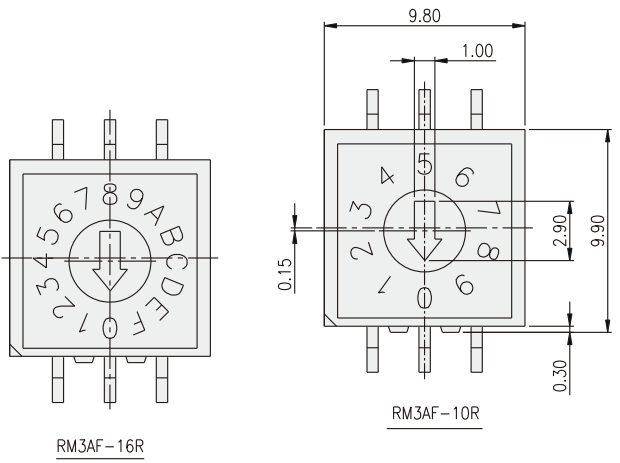
## RH2



TYPE	POSITION	CODE				
		16C	1	2	4	8
10R	0	F	●	●	●	●
	1	E	○	●	●	●
	2	D	●	○	●	●
	3	C	○	○	●	●
	4	B	○	●	○	●
	5	A	○	●	○	●
	6	9	●	○	○	●
	7	8	○	○	○	●
	8	7	●	●	●	○
	9	6	○	●	●	○
16R,C	A	5	○	○	●	○
	B	4	○	○	○	○
	C	3	●	●	○	○
	D	2	○	●	○	○
	E	1	●	○	○	○
	F	0	○	○	○	○

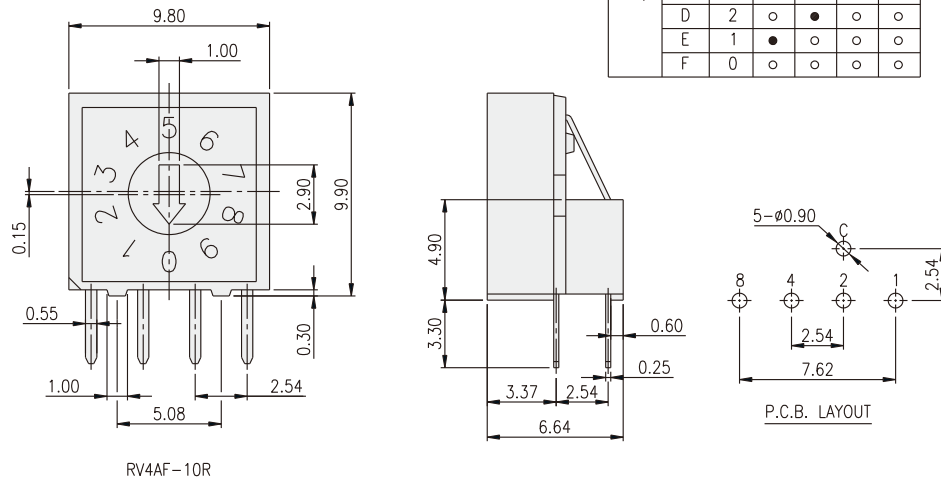
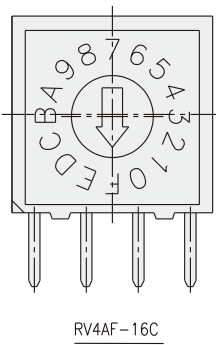
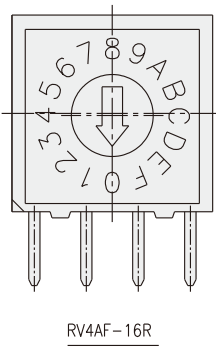
○ ON  
● OFF

RM3



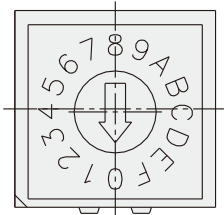
TYPE	POSITION		CODE				
	□	□R	16C	1	2	4	8
10R	0	F	●	●	●	●	●
	1	E	○	○	●	●	●
	2	D	●	○	○	●	●
	3	C	○	○	○	●	●
	4	B	●	●	○	○	●
	5	A	○	○	○	○	●
	6	9	●	○	○	○	●
	7	8	○	○	○	○	●
	8	7	●	●	●	○	○
	9	6	○	○	○	○	○
16R,C	A	5	●	○	○	○	○
	B	4	○	○	○	○	○
	C	3	●	●	○	○	○
	D	2	○	○	○	○	○
	E	1	●	○	○	○	○
	F	0	○	○	○	○	○

RV4

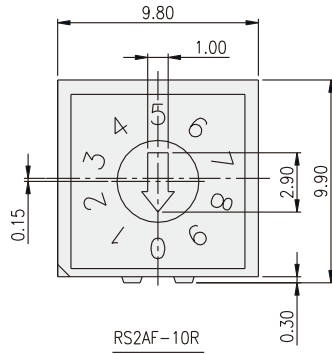


TYPE	POSITION		CODE				
	□	□R	16C	1	2	4	8
10R	0	F	●	●	●	●	●
	1	E	○	○	●	●	●
	2	D	●	○	○	●	●
	3	C	○	○	○	●	●
	4	B	●	●	○	○	●
	5	A	○	○	○	○	●
	6	9	●	○	○	○	●
	7	8	○	○	○	○	●
	8	7	●	●	●	○	○
	9	6	○	○	○	○	○
16R,C	A	5	●	○	○	○	○
	B	4	○	○	○	○	○
	C	3	●	●	○	○	○
	D	2	○	○	○	○	○
	E	1	●	○	○	○	○
	F	0	○	○	○	○	○

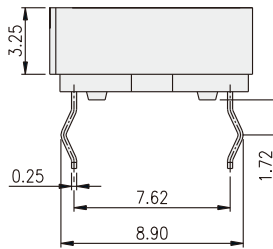
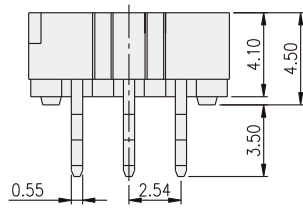
RS2



RS2AF-16R

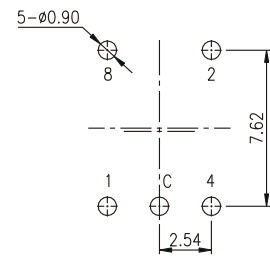


RS2AF-10R



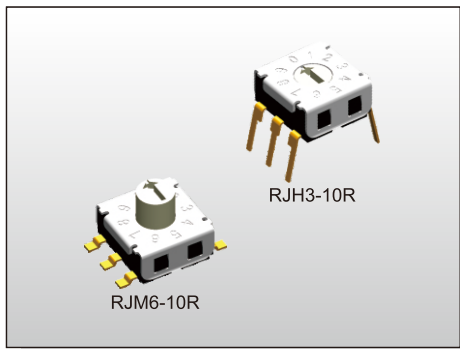
○ ON  
 ● OFF

TYPE	POSITION	CODE			
		1	2	4	8
10R	0	●	●	●	●
	1	○	●	●	●
	2	●	○	●	●
	3	○	○	●	●
	4	●	●	○	●
	5	○	●	○	●
	6	●	○	○	●
	7	○	○	○	●
	8	●	●	●	○
	9	○	○	●	○
16R	A	○	○	●	○
	B	○	○	●	○
	C	●	●	○	○
	D	○	○	○	○
	E	●	○	○	○
	F	○	○	○	○



P.C.B. LAYOUT





**FEATURES**

- ※Center common terminal pin
- ※Through hole or SMT
- ※Flush & raised actuator

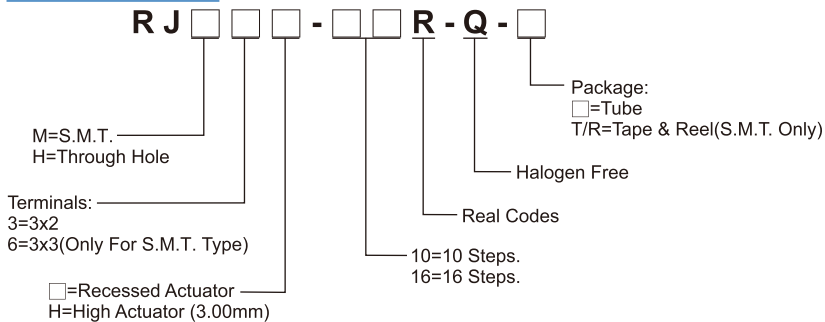
**APPLICATION**

- ※Industrial equipment
- ※Power supply
- ※Safety relay

**SPECIFICATION**

Contact Rating	25mA, 24V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	200gf·cm max.
Operating Life	20, 000 Steps
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**

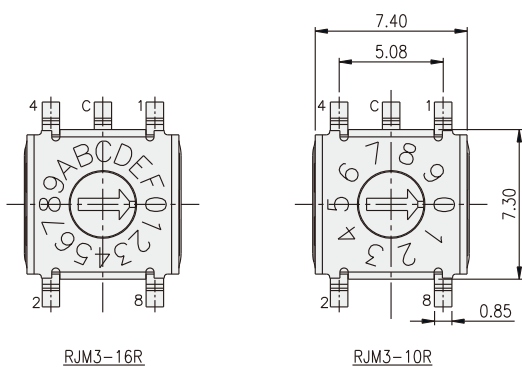


**PACKAGE**

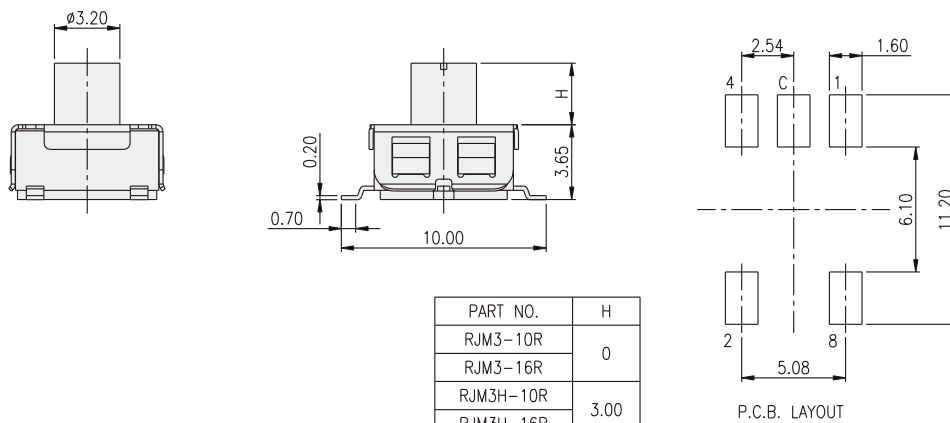
<Tube>  
62 pcs  
<Tape & Reel>  
RJM[ ]: 1200 pcs  
RJM[ ]H: 650 pcs

ROTARY CODED SWITCH

**RJM3**

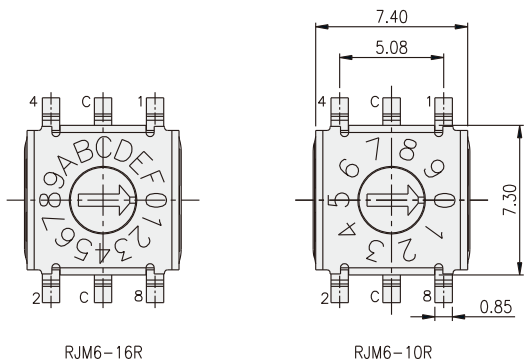


TYPE	POSITION	CODE			
		1	2	4	8
10R	0	●	●	●	●
	1	○	●	●	●
	2	●	○	●	●
	3	○	○	●	●
	4	●	●	○	●
	5	○	●	○	●
	6	●	○	○	●
	7	○	○	○	●
	8	○	●	●	○
	9	○	●	●	○
16R	A	●	○	●	○
	B	○	○	●	○
	C	○	●	○	○
	D	○	○	○	○
	E	●	○	○	○
	F	○	○	○	○



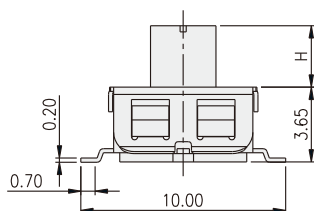
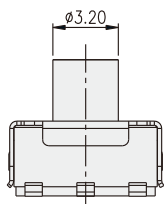
PART NO.	H
RJM3-10R	0
RJM3-16R	0
RJM3H-10R	3.00
RJM3H-16R	3.00

**RJM6**

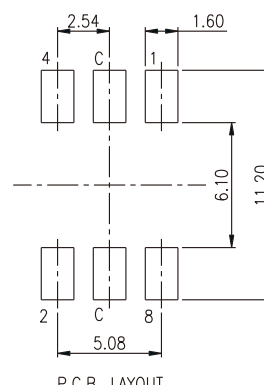


RJM6-16R

RJM6-10R



PART NO.	H
RJM6-10R	0
RJM6-16R	0
RJM6H-10R	3.00
RJM6H-16R	3.00

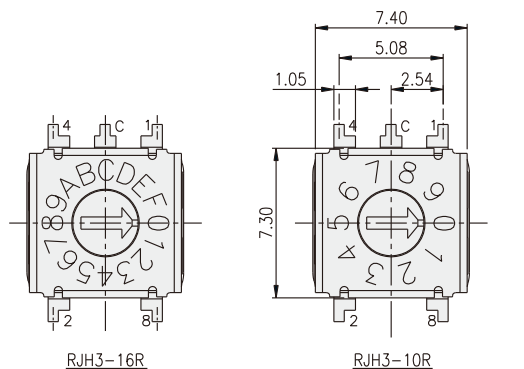


P.C.B. LAYOUT

TYPE	POSITION	CODE			
		1	2	4	8
10R	0	●	●	●	●
	1	○	●	●	●
	2	●	○	●	●
	3	○	○	●	●
	4	●	●	○	●
	5	○	●	○	●
	6	●	○	○	●
	7	○	○	○	●
	8	●	○	●	○
	9	○	●	●	○
16R	A	●	○	○	○
	B	○	○	●	○
	C	●	●	○	○
	D	○	●	○	○
	E	●	○	○	○
	F	○	○	○	○

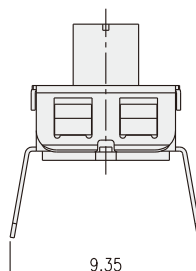
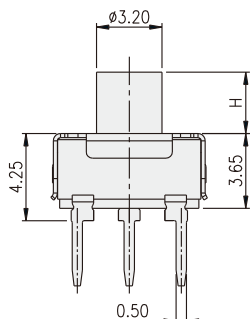
ROTARY CODED SWITCH

**RJH3**



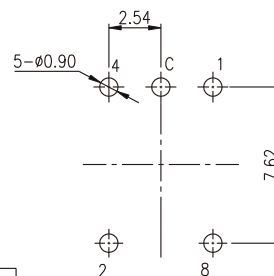
RJH3-16R

RJH3-10R

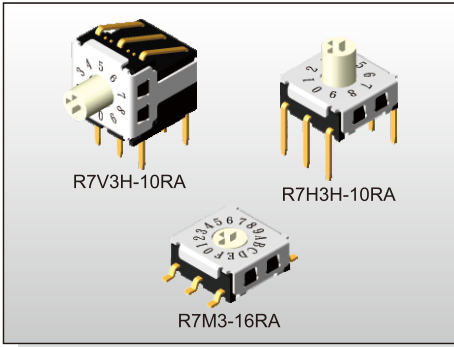


PART NO.	H
RJH3-10R	0
RJH3-16R	0
RJH3H-10R	3.00
RJH3H-16R	3.00

TYPE	POSITION	CODE			
		1	2	4	8
10R	0	●	●	●	●
	1	○	●	●	●
	2	●	○	●	●
	3	○	○	●	●
	4	●	●	○	●
	5	○	●	○	●
	6	●	○	○	●
	7	○	○	○	●
	8	●	○	●	○
	9	○	●	●	○
16R	A	●	○	○	○
	B	○	○	●	○
	C	●	●	○	○
	D	○	●	○	○
	E	●	○	○	○
	F	○	○	○	○



P.C.B. LAYOUT



**FEATURES**

- ※ Vertical and right angle types
- ※ Miniature size with stainless steel cover
- ※ Low profile (3.0mm)

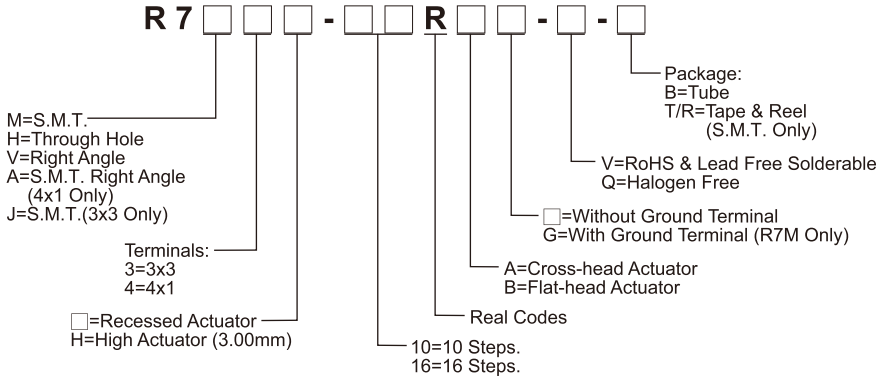
**APPLICATION**

- ※ Instrumentation
- ※ Industrial automation
- ※ Building & Home automation

**SPECIFICATION**

Contact Rating	25mA, 24V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	200gf·cm max.
Operating Life	10, 000 Steps
Operating Temp.	-30°C ~ +80°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**

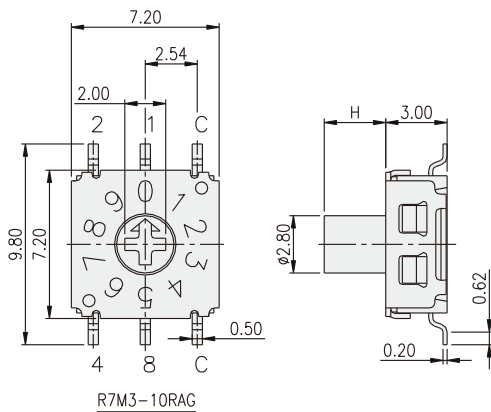


**PACKAGE**

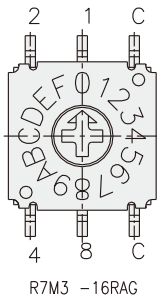
- <Tube>  
R7H, R7M: 63 pcs  
R7V: 60 pcs
- <Tape & Reel>  
R7M\*: 1450 pcs  
R7M\*H: 850 pcs  
R7A: 750 pcs  
R7A4H: 750 pcs  
R7J: 1450 pcs

ROTARY CODED SWITCH

**R7M3- [ ] [ ] [ ] RAG**



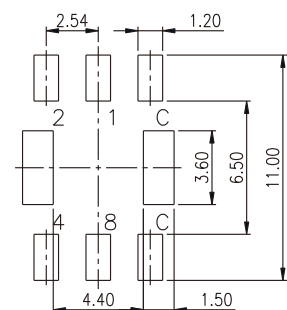
R7M3-10RAG



R7M3-16RAG

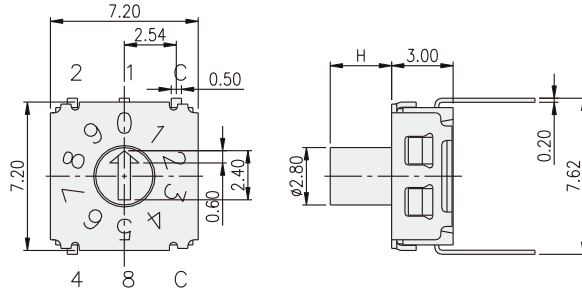
TYPE	POSITION	CODE			
		1	2	4	8
10R	0	●	●	●	●
	1	○	●	●	●
	2	●	○	●	●
	3	○	○	●	●
	4	●	●	○	●
	5	○	○	○	●
	6	●	○	○	●
	7	○	○	○	●
	8	●	●	●	○
	9	○	○	●	○
16R	A	●	○	●	○
	B	○	○	●	○
	C	●	○	○	○
	D	○	●	○	○
	E	●	○	○	○
	F	○	○	○	○

PART NO.	H
R7M3-10RAG	0
R7M3-16RAG	0
R7M3H-10RAG	3.00
R7M3H-16RAG	3.00

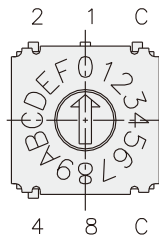


P.C.B. LAYOUT

**R7H3**



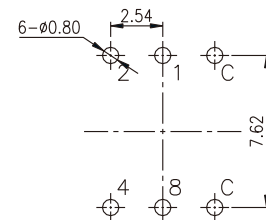
R7H3-10RB



R7H3-16RB

PART NO.	H
R7H3-10RB	0
R7H3-16RB	0
R7H3H-10RB	3.00
R7H3H-16RB	3.00

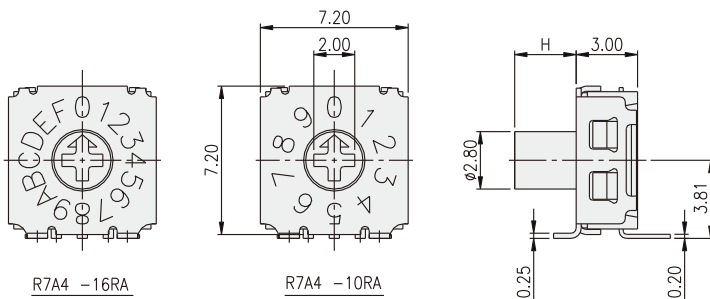
TYPE	POSITION	CODE			
		1	2	4	8
10R	0	●	●	●	●
	1	○	○	●	●
	2	●	○	●	●
	3	○	○	●	●
	4	●	●	○	●
	5	○	○	○	●
	6	●	○	○	●
	7	○	○	○	●
	8	●	●	●	○
	9	○	○	○	○
16R	A	●	○	●	○
	B	○	○	●	○
	C	●	●	○	○
	D	○	●	○	○
	E	●	○	○	○
	F	○	○	○	○



P.C.B. LAYOUT

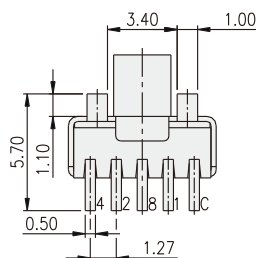
ROTARY CODED SWITCH

**R7A4**



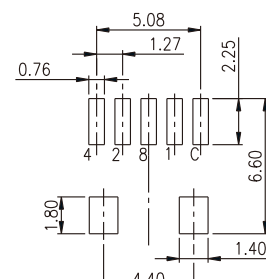
R7A4-16RA

R7A4-10RA



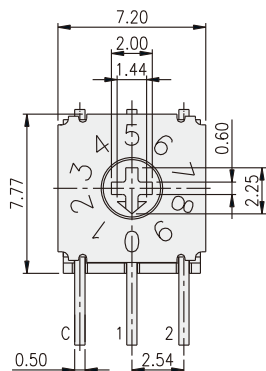
PART NO.	H
R7A4-10RA	0
R7A4-16RA	0
R7A4H-10RA	3.00
R7A4H-16RA	3.00

TYPE	POSITION	CODE			
		1	2	4	8
10R	0	●	●	●	●
	1	○	○	●	●
	2	●	○	●	●
	3	○	○	●	●
	4	●	●	○	●
	5	○	○	○	●
	6	●	○	○	●
	7	○	○	○	●
	8	●	●	●	○
	9	○	○	○	○
16R	A	●	○	●	○
	B	○	○	●	○
	C	●	●	○	○
	D	○	○	○	○
	E	●	○	○	○
	F	○	○	○	○

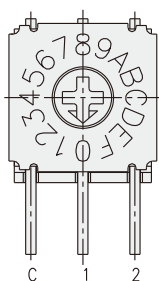
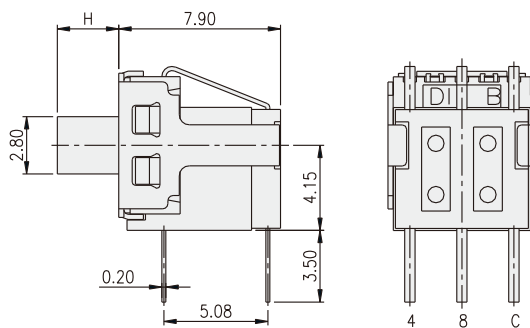


P.C.B. LAYOUT

**R7V3**



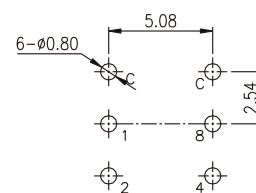
R7V3 -10RA



R7V3 -16RA

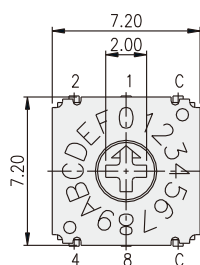
PART NO.	H
R7V3-10RA	0
R7V3-16RA	0
R7V3H-10RA	3.00
R7V3H-16RA	3.00

TYPE	POSITION	CODE			
		1	2	4	8
10R	0	●	●	●	●
	1	○	●	●	●
	2	●	○	●	●
	3	○	○	●	●
	4	●	●	○	●
	5	○	●	○	●
	6	●	○	○	●
	7	○	○	○	●
	8	●	●	●	○
	9	○	●	●	○
16R	A	●	○	●	○
	B	○	○	●	○
	C	●	●	○	○
	D	○	●	○	○
	E	●	○	○	○
	F	○	○	○	○

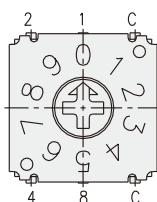
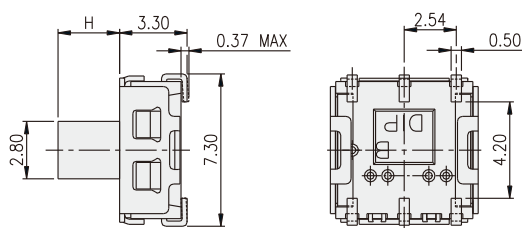


P.C.B. LAYOUT

**R7J3**



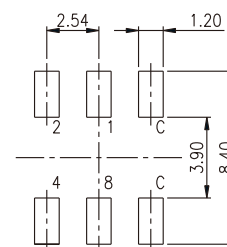
R7J3-16RA



R7J3-10RA

PART NO.	H
R7J3-10RA	0
R7J3-16RA	0
R7J3H-10RA	3.00
R7J3H-16RA	3.00

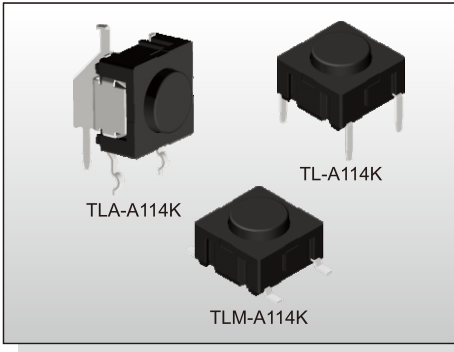
TYPE	POSITION	CODE			
		1	2	4	8
10R	0	●	●	●	●
	1	○	○	●	●
	2	●	○	●	●
	3	○	○	●	●
	4	●	●	○	●
	5	○	○	○	●
	6	●	○	○	●
	7	○	○	○	●
	8	●	●	●	○
	9	○	○	○	○
16R	A	●	○	●	○
	B	○	○	●	○
	C	●	●	○	○
	D	○	○	○	○
	E	●	○	○	○
	F	○	○	○	○



P.C.B. LAYOUT

# TACT SWITCH TL(A)-A1 SERIES

10x10  
High Reliability



## FEATURES

- ✧ Sealed
- ✧ Long life of 10million
- ✧ Variety of actuator lengths

## APPLICATION

- ✧ Music instrument
- ✧ Intercom system
- ✧ Industrial

## SPECIFICATION

Contact Rating	0.5~50mA, 24V DC
Contact Resistance	30mΩ max.
Insulation Resistance	10MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	300±75gf
Travel	1mm
Operating Life	10,000, 000 cycles
Operating Temp.	-40°C ~ +160°C
Storage Temp.	-40°C ~ +160°C

## HOW TO ORDER

TL  - A 1 1 4 K - Q -

Solder Type:  
=Through Hole  
 M=S.M.T.  
 A=Right Angle

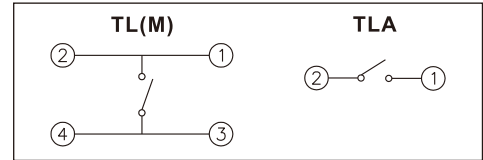
Package:  
 B=Tube  
 (For Through Hole Type)  
 T/R=Tape & Reel(For S.M.T. Type)

Halogen Free

Button Color:  
 Black

Operating Force:  
 300gf

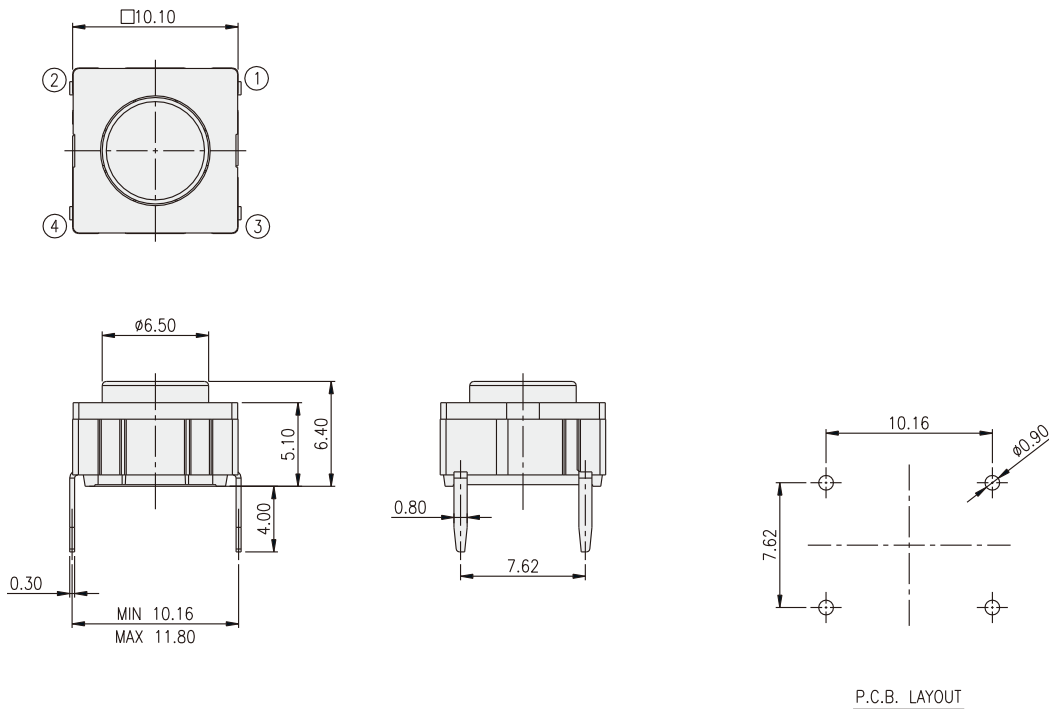
## CIRCUIT



## PACKAGE

<Tube>  
 TL(A): 45 pcs  
 <Tape & Reel>  
 TLM: 650 pcs

## TL-A114K

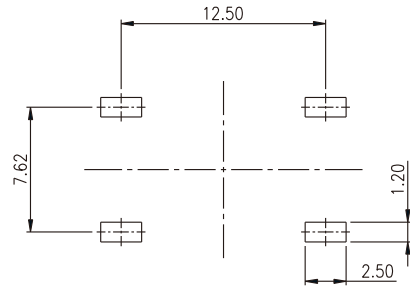
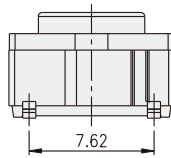
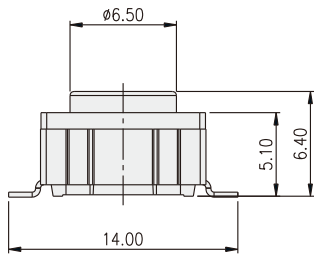
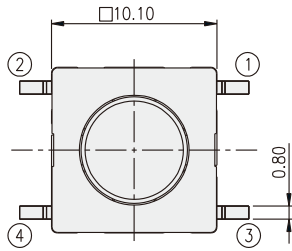


TACT SWITCH  
**TL( )-A1 SERIES**

10x10  
**High Reliability**



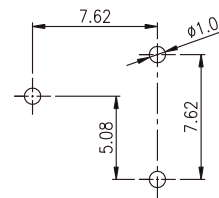
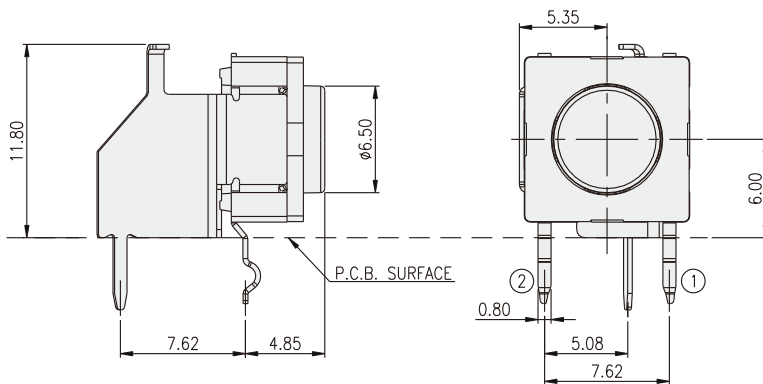
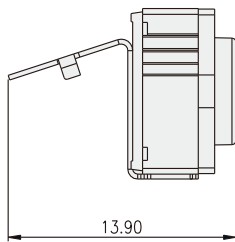
**TLM-A114K**



P.C.B. LAYOUT

TACT SWITCH

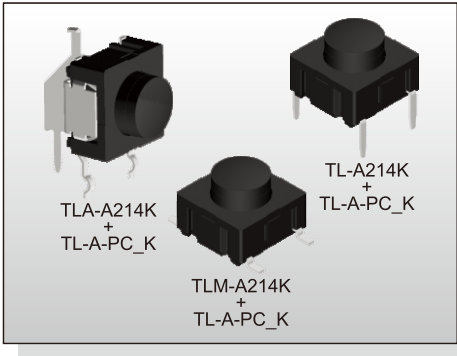
**TLA-A114K**



P.C.B. LAYOUT

# TACT SWITCH TL(A)-A2 SERIES

10x10  
High Reliability



## FEATURES

- ※ Sealed
- ※ Long life of 10million
- ※ Variety of actuator lengths

## APPLICATION

- ※ Music instrument
- ※ Intercom system
- ※ Industrial

## SPECIFICATION

Contact Rating	0.5~50mA, 24V DC
Contact Resistance	30mΩ max.
Insulation Resistance	10MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	300±75gf
Travel	1mm
Operating Life	10,000, 000 cycles
Operating Temp.	-40°C ~ +160°C
Storage Temp.	-40°C ~ +160°C

## HOW TO ORDER

TL □ - A 2 1 4 K - Q - □ + TL - A - PC □ K

□=Through Hole  
M=S.M.T.  
A=Right Angle

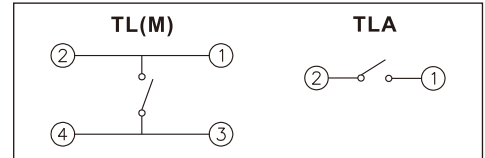
Package:  
B=Tube  
(For Through Hole Type)  
T/R=Tape & Reel(For S.M.T. Type)

Halogen Free

Button Color:  
Black

Operating Force:  
300gf

## CIRCUIT



## PACKAGE

<Tube>

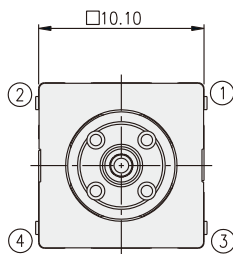
TL(A): 45 pcs

<Tape & Reel>

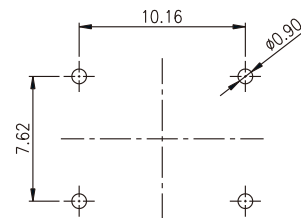
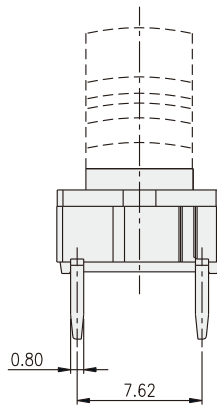
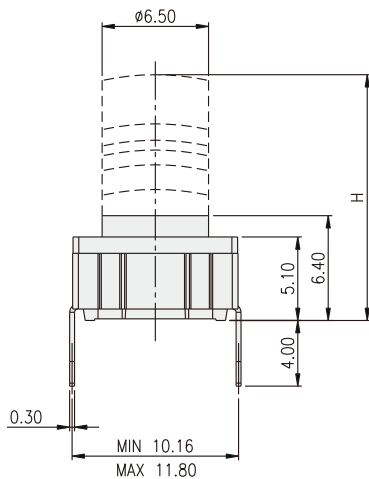
TLM: 650 pcs

TACT SWITCH

## TL-A214K+TL-A-PC□K



PART NO.	H
TL-A214K-Q-B+TL-A-PC1K	8.00
TL-A214K-Q-B+TL-A-PC2K	9.50
TL-A214K-Q-B+TL-A-PC3K	10.40
TL-A214K-Q-B+TL-A-PC4K	11.00
TL-A214K-Q-B+TL-A-PC5K	12.00
TL-A214K-Q-B+TL-A-PC6K	15.00



P.C.B. LAYOUT

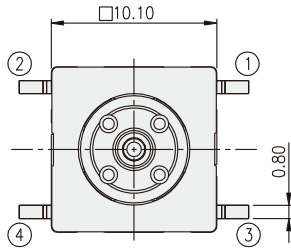


TACT SWITCH  
**TL( )-A2 SERIES**

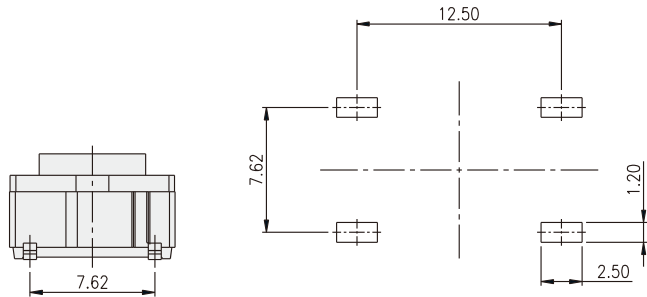
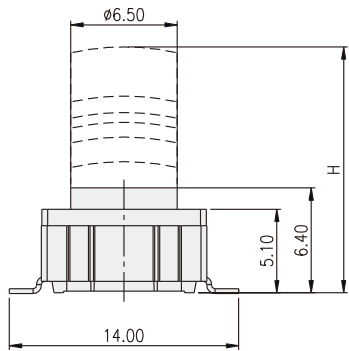
10x10  
**High Reliability**



**TLM-A214K+TL-A-PC□K**



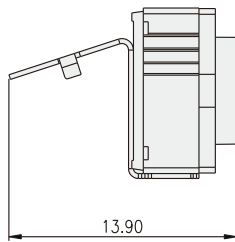
PART NO.	H
TLM-A214K-Q-B+TL-A-PC1K	8.00
TLM-A214K-Q-B+TL-A-PC2K	9.50
TLM-A214K-Q-B+TL-A-PC3K	10.40
TLM-A214K-Q-B+TL-A-PC4K	11.00
TLM-A214K-Q-B+TL-A-PC5K	12.00
TLM-A214K-Q-B+TL-A-PC6K	15.00



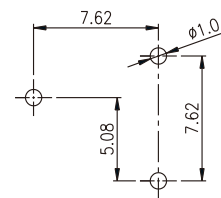
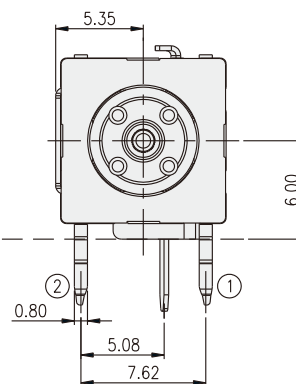
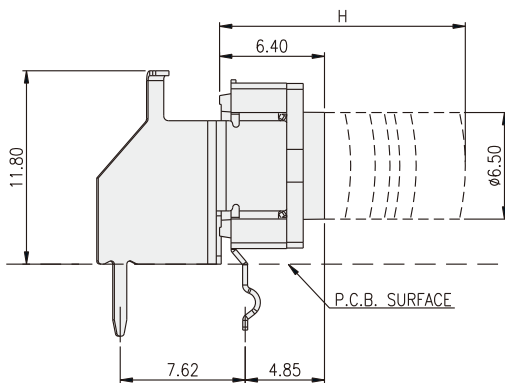
P.C.B. LAYOUT

TACT SWITCH

**TLA-A214K+TL-A-PC□K**



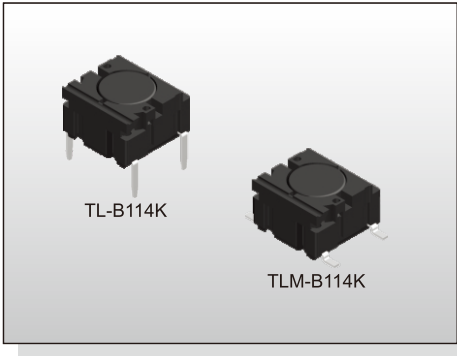
PART NO.	H
TLA-A214K-Q-B+TL-A-PC1K	8.00
TLA-A214K-Q-B+TL-A-PC2K	9.50
TLA-A214K-Q-B+TL-A-PC3K	10.40
TLA-A214K-Q-B+TL-A-PC4K	11.00
TLA-A214K-Q-B+TL-A-PC5K	12.00
TLA-A214K-Q-B+TL-A-PC6K	15.00



P.C.B. LAYOUT

TACT SWITCH  
**TL( )-B1 SERIES**

10x10  
**High Reliability**



**FEATURES**

- ※ Sealed
- ※ Long life of 10million
- ※ Variety of actuator lengths

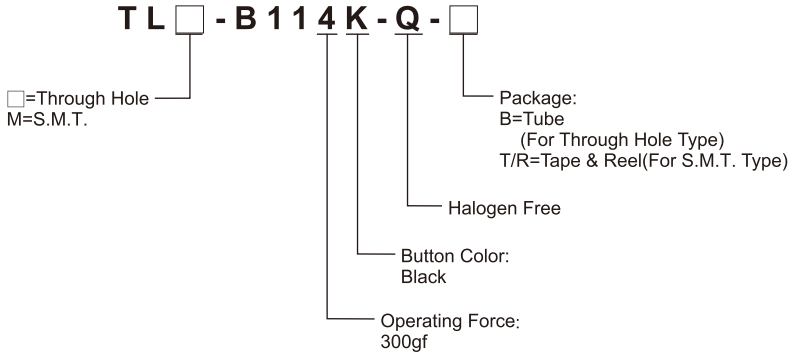
**APPLICATION**

- ※ Music instrument
- ※ Intercom system
- ※ Industrial

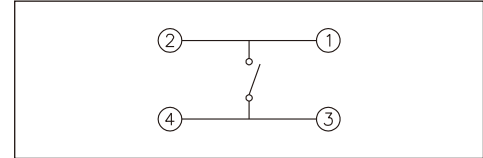
**SPECIFICATION**

Contact Rating	0.5~50mA, 24V DC
Contact Resistance	30mΩ max.
Insulation Resistance	10MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	300±75gf
Travel	1mm
Operating Life	10,000, 000 cycles
Operating Temp.	-40°C ~ +160°C
Storage Temp.	-40°C ~ +160°C

**HOW TO ORDER**



**CIRCUIT**

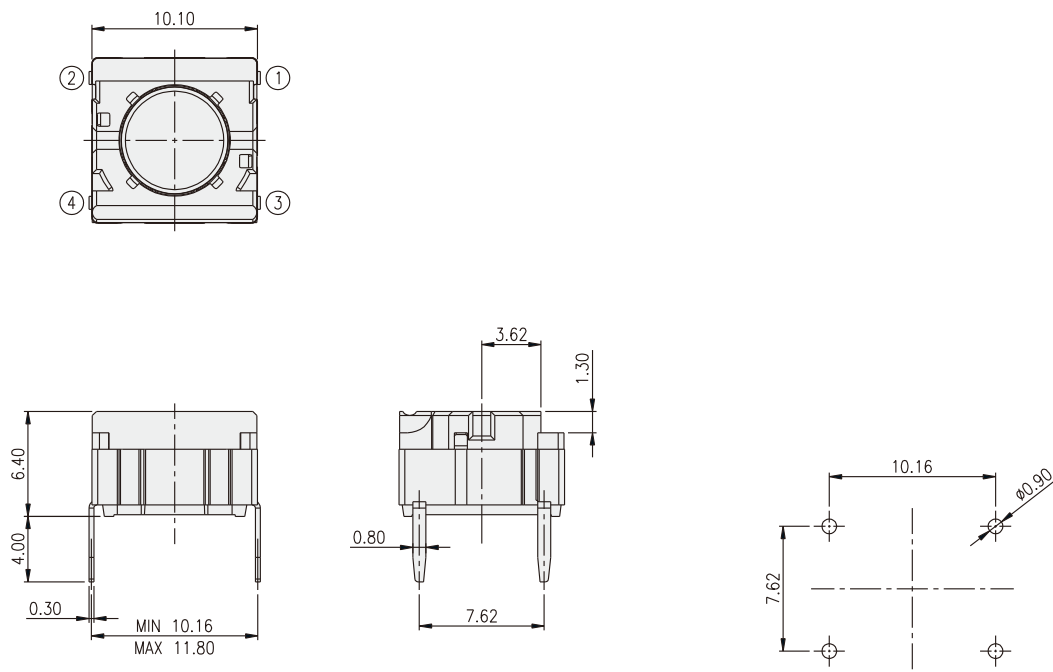


**PACKAGE**

<Tube>  
TL: 45 pcs  
<Tape & Reel>  
TLM: 650 pcs

TACT SWITCH

**TL-B114K**

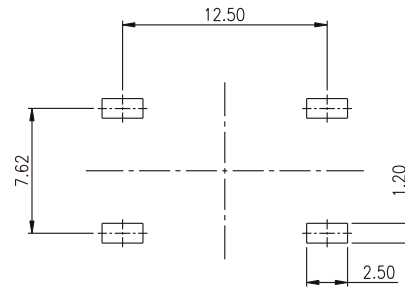
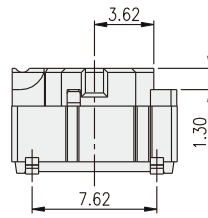
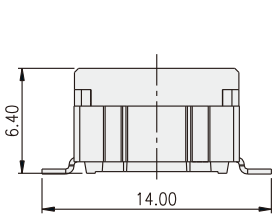
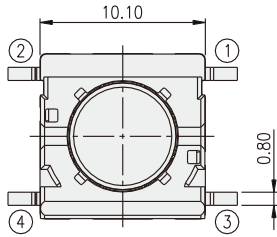


TACT SWITCH  
**TL( )-B1 SERIES**

**10x10**  
*High Reliability*

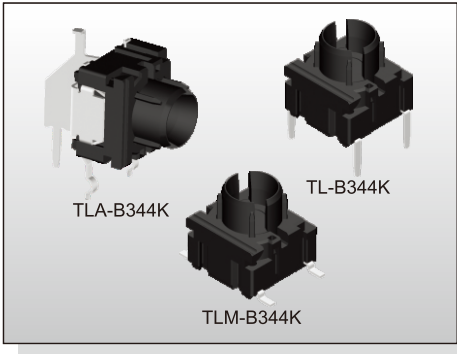


**TLM-B114K**



P.C.B. LAYOUT

TACT SWITCH



### FEATURES

- ✘ Sealed
- ✘ Long life of 10million
- ✘ Variety of actuator lengths

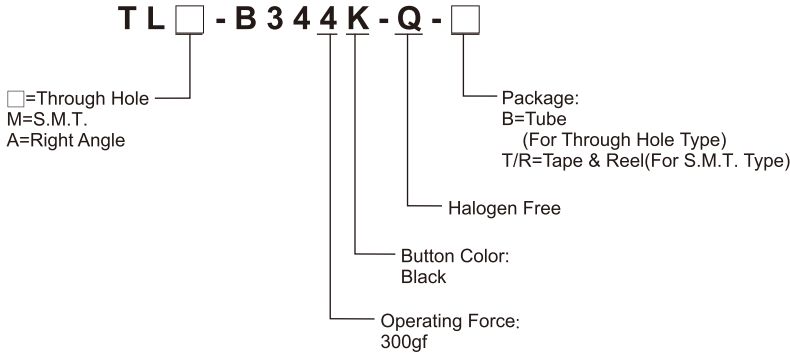
### APPLICATION

- ✘ Music instrument
- ✘ Intercom system
- ✘ Industrial

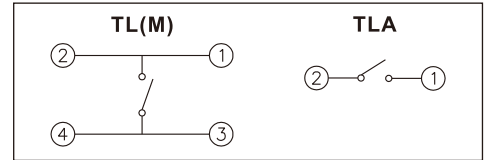
### SPECIFICATION

Contact Rating	0.5~50mA, 24V DC
Contact Resistance	30mΩ max.
Insulation Resistance	10MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	300±75gf
Travel	1mm
Operating Life	10,000, 000 cycles
Operating Temp.	-40°C ~ +160°C
Storage Temp.	-40°C ~ +160°C

### HOW TO ORDER



### CIRCUIT

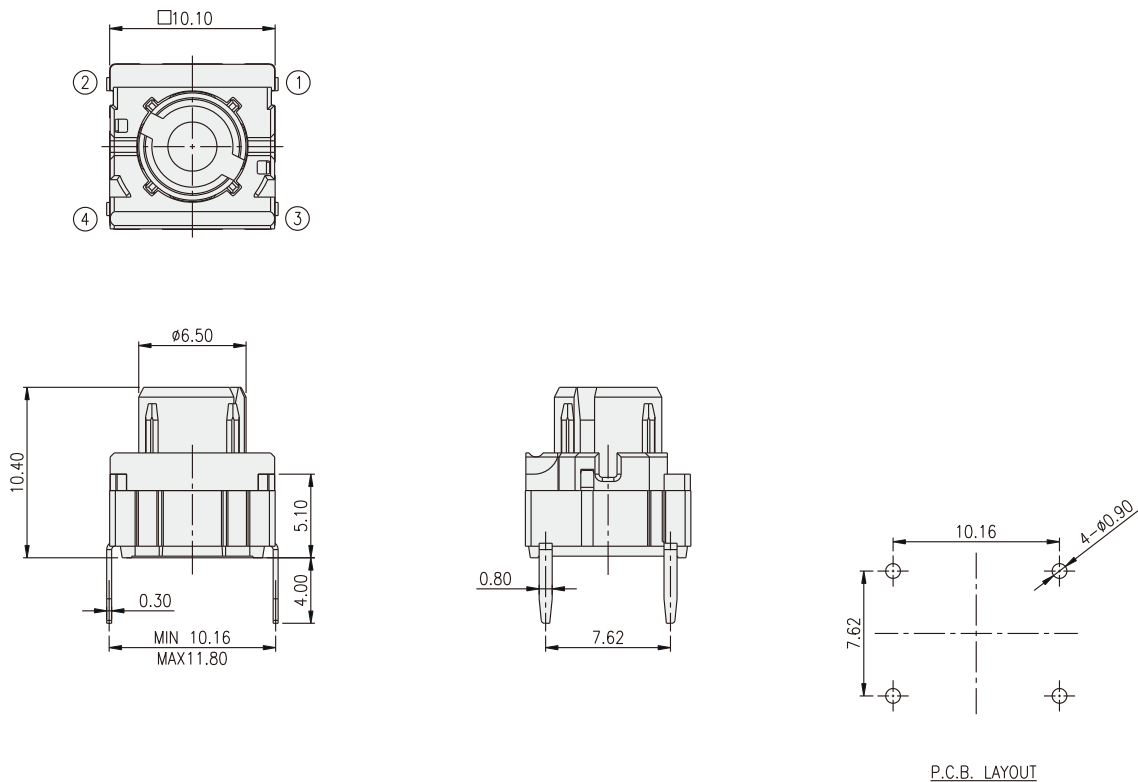


### PACKAGE

<Tube>  
 TL(A): 45 pcs  
 <Tape & Reel>  
 TLM: 300 pcs

TACT SWITCH

## TL-B344K

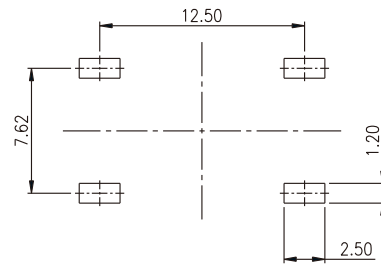
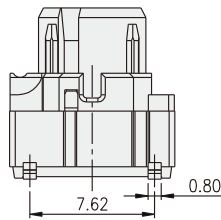
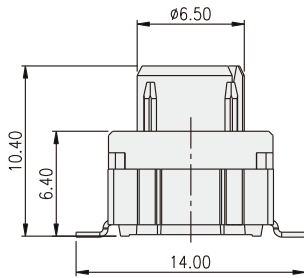
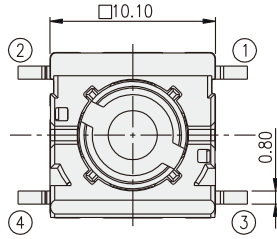


TACT SWITCH  
**TL( )-B344 SERIES**

10x10  
**High Reliability**



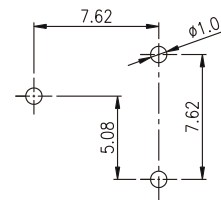
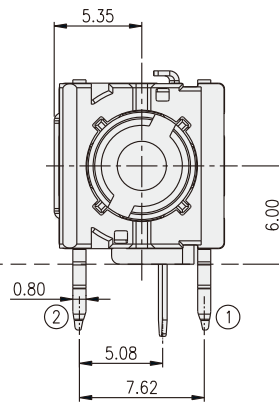
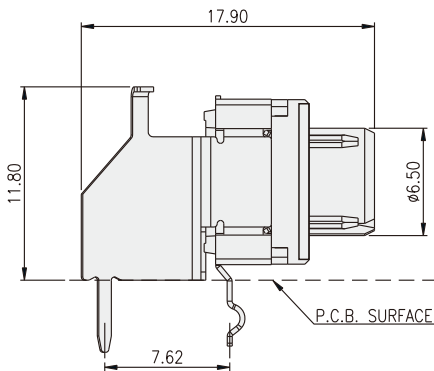
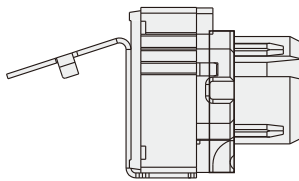
**TLM-B344K**



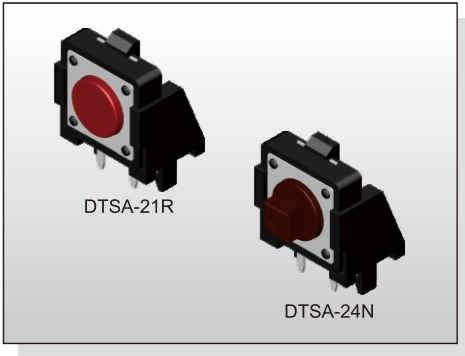
P.C.B. LAYOUT

TACT SWITCH

**TLA-B344K**



P.C.B. LAYOUT



**FEATURES**

- ※High reliable metal contacts
- ※Vertical operation available
- ※Cap options

**APPLICATION**

- ※Audio, OA equipment
- ※Instrumentation
- ※Industrial

**SPECIFICATION**

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160±50gf, Brown(N) 260±50gf, Red(R) 320±80gf, Salmon(S) 520±130gf, Yellow(Y)
Travel	0.35mm
Operating Life	Phosphor Bronze Dome 100,000 cycles for 520/320/260gf 200,000 cycles for 160gf
	Stainless Steel Dome 300,000 cycles for 520/320gf 500,000 cycles for 260gf 1,000,000 cycles for 160gf
Operating Temp.	-25°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

**HOW TO ORDER**

DTSA - 2 □ □ - □ - V

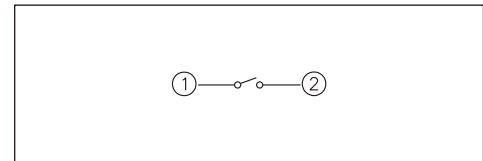
Dimension H:  
1=3.65mm  
4=6.45(SQ.)x3.8mm  
5=7.85mm

□=Phosphor Bronze Dome  
S=Stainless Steel Dome

Operating Force:  
N=Brown, 160gf  
R=Red, 260gf  
S=Salmon, 320gf  
Y=Yellow, 520gf

RoHS & Lead Free Solderable

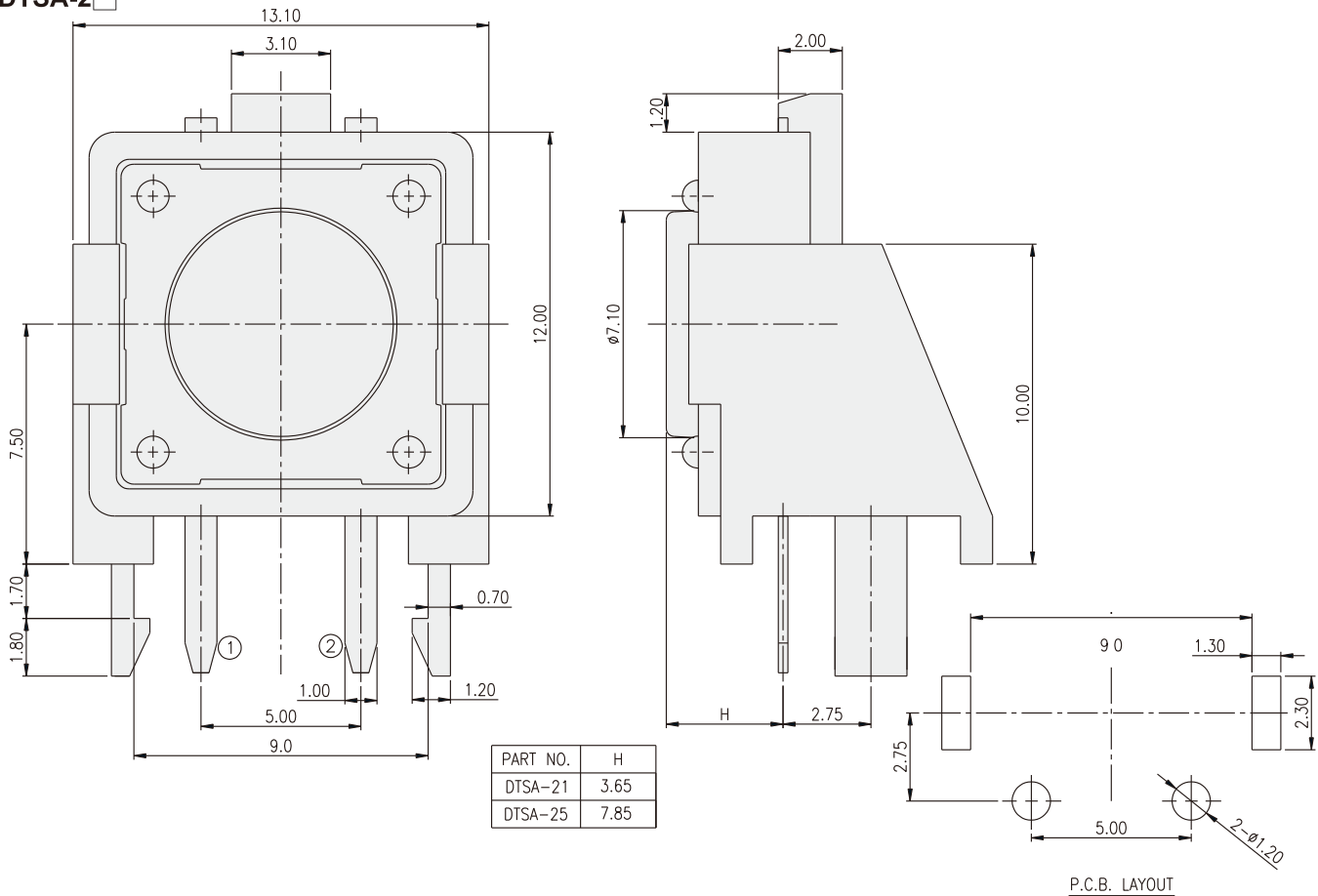
**CIRCUIT**



**PACKAGE**

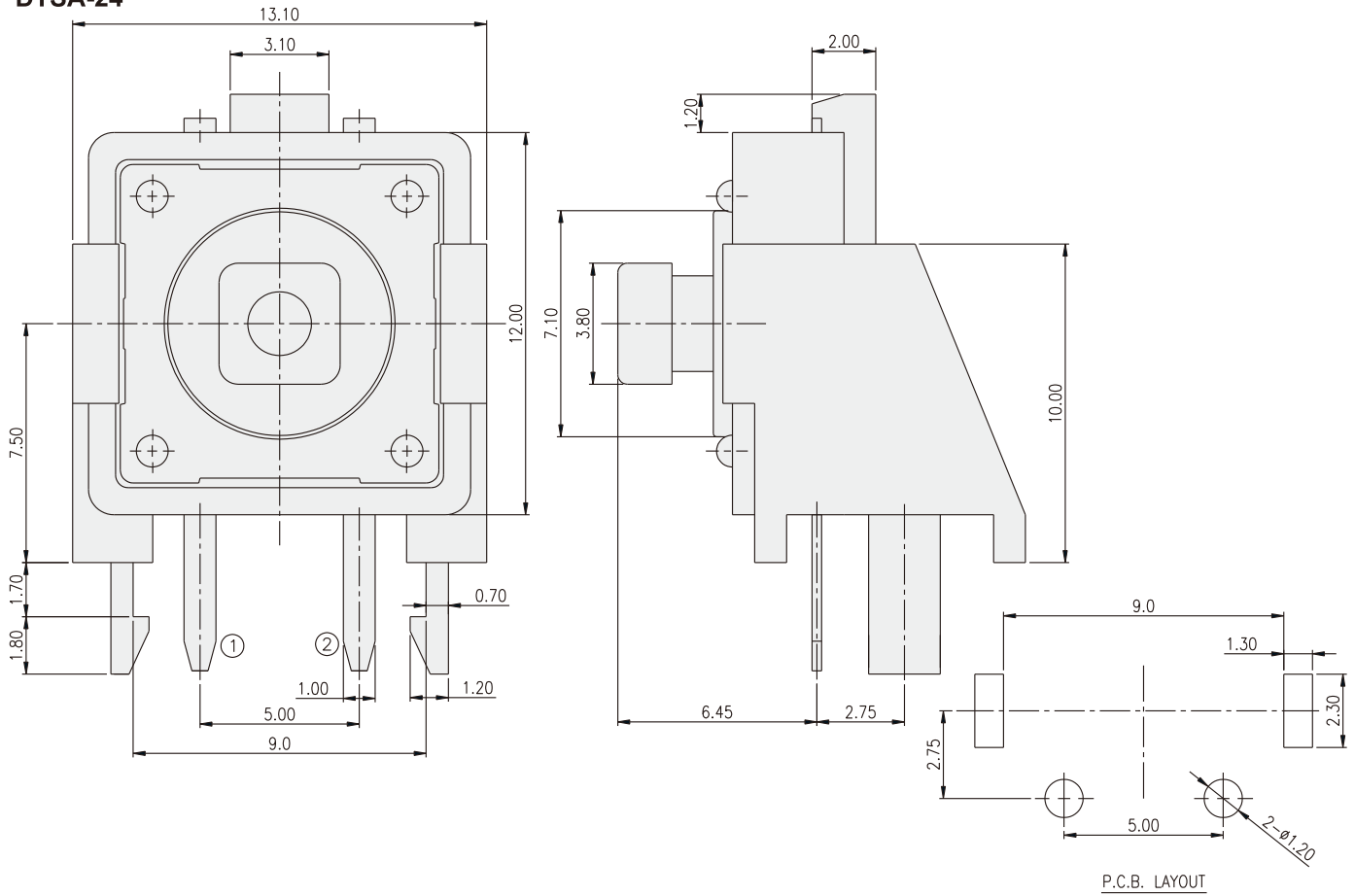
<Bag>  
250 pcs

**DTSA-2** □



TACT SWITCH

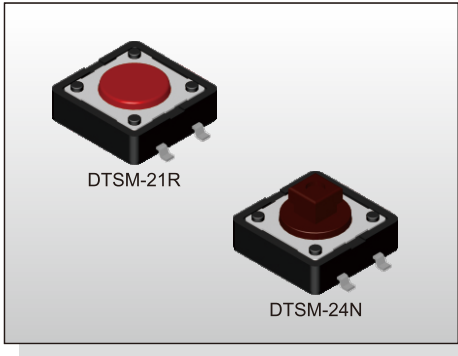
**DTSA-24**



TACT SWITCH

# TACT SWITCH DTSM-2 SERIES

12x12  
Surface Mounting Type



## FEATURES

- ※High reliable metal contacts
- ※Reflow solderable
- ※Cap options

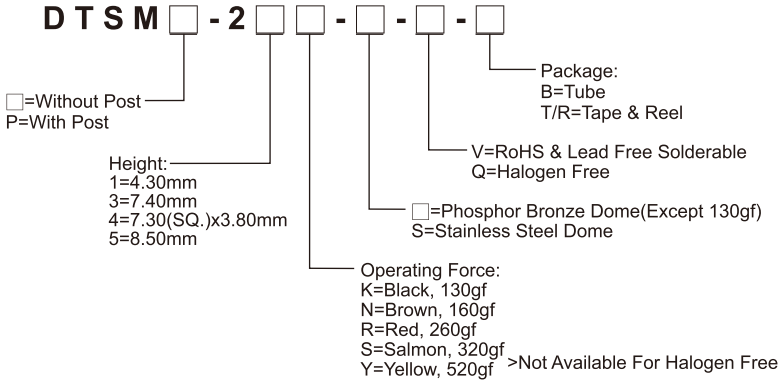
## APPLICATION

- ※Audio, OA equipment
- ※Instrumentation
- ※Industrial

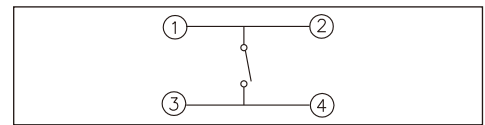
## SPECIFICATION

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	130±50gf, Black(K) 160±50gf, Brown(N) 260±50gf, Red(R) 320±80gf, Salmon(S) 520±130gf, Yellow(Y)
Travel	0.35mm
Operating Life	Phosphor Bronze Dome 100,000 cycles for 520/320/260gf 200,000 cycles for 160gf Stainless Steel Dome 300,000 cycles for 520/320gf 500,000 cycles for 260gf 1,000,000 cycles for 160gf 10,000,000 cycles for 130gf
Operating Temp.	-25°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

## HOW TO ORDER



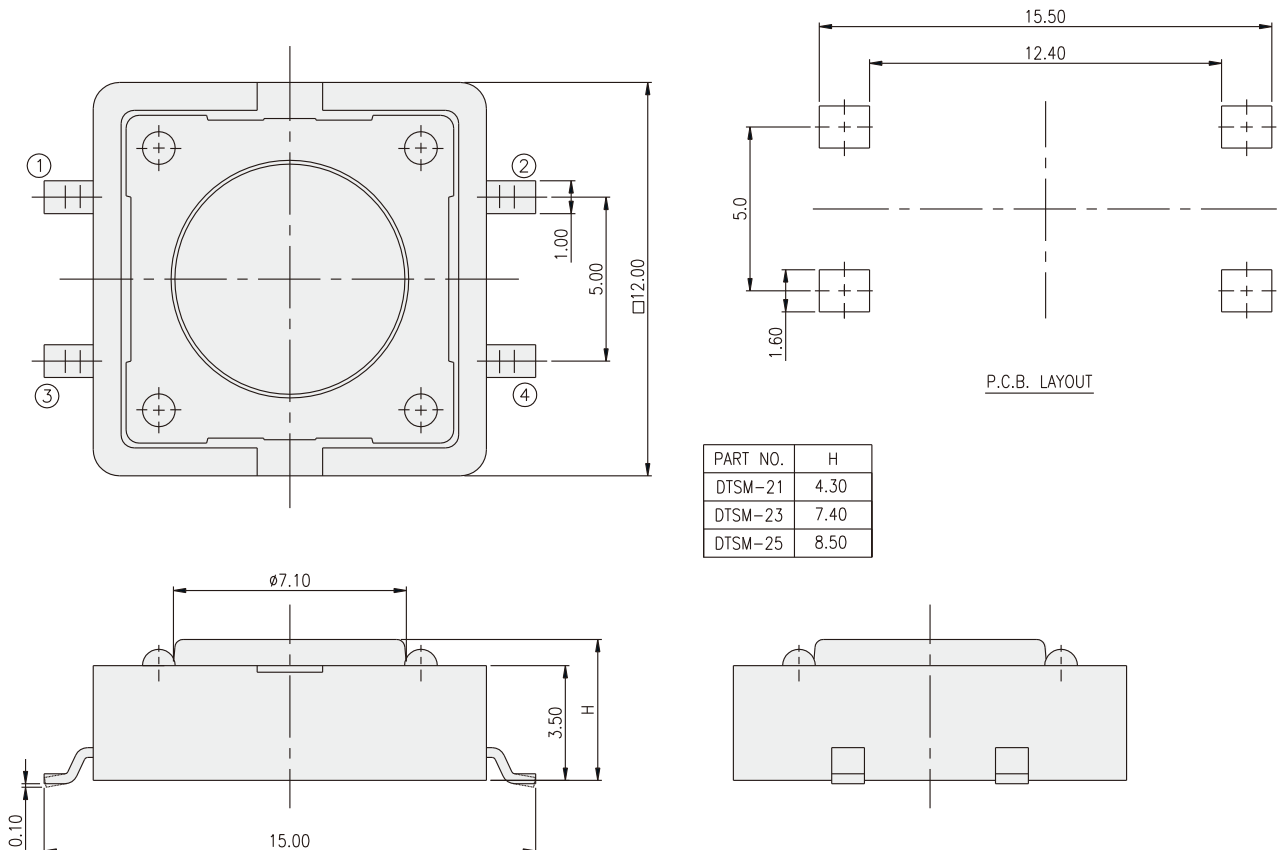
## CIRCUIT



## PACKAGE

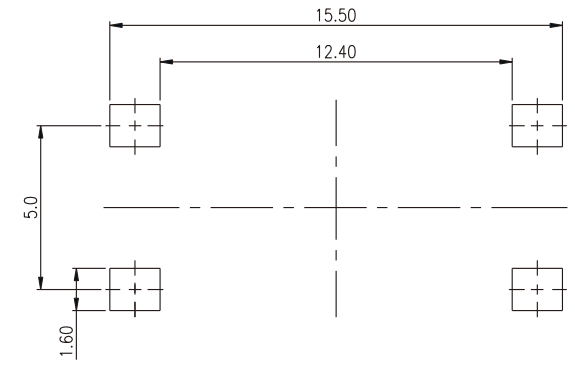
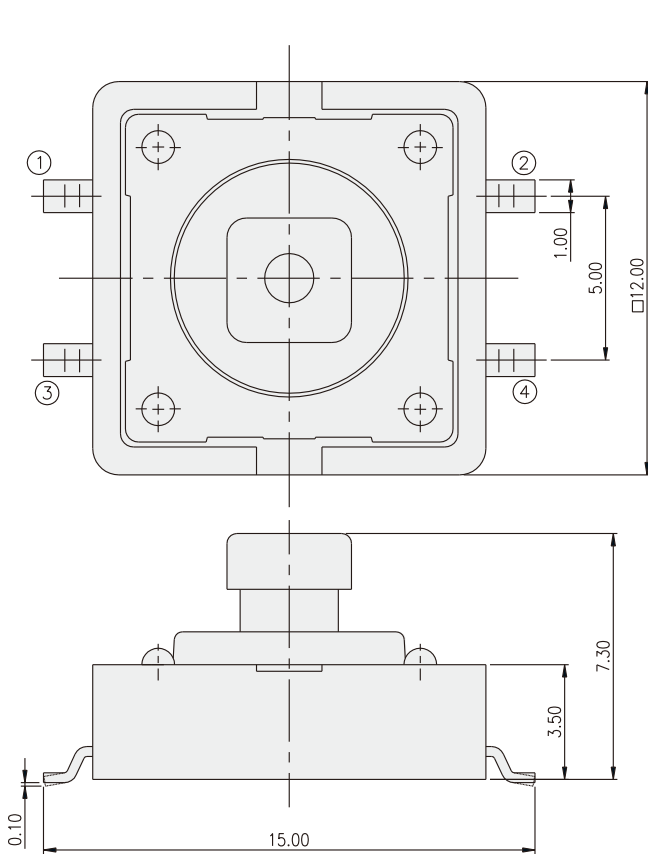
<b>&lt;Tube&gt;</b> DTSM-2: 40 pcs DTSM-21: 700 pcs DTSM(P)-23, 24: 500 pcs DTSM(P)-25: 400 pcs	<b>&lt;Bag&gt;</b> DTSMP-21: 500 pcs
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## DTSM-2

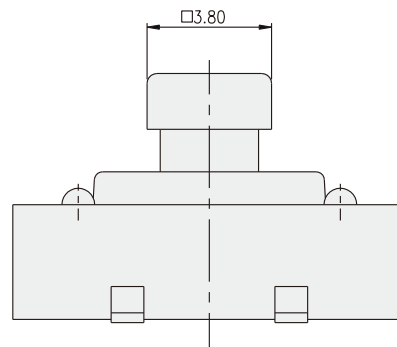




DTSM-24

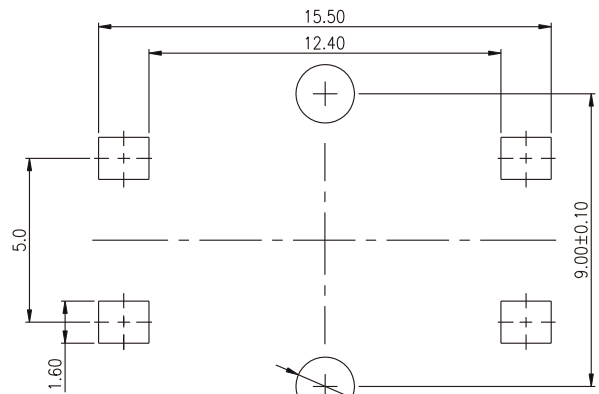
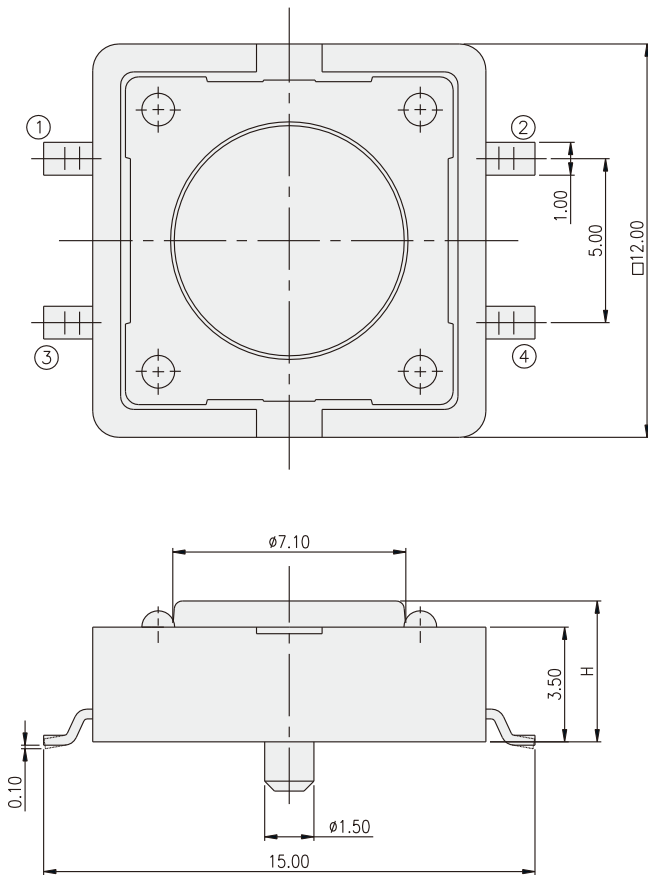


P.C.B. LAYOUT



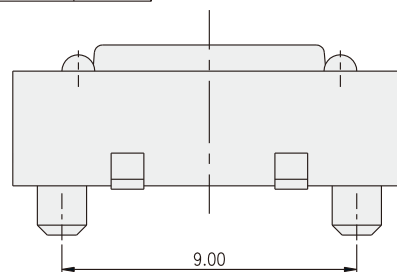
TACT SWITCH

DTSM-2



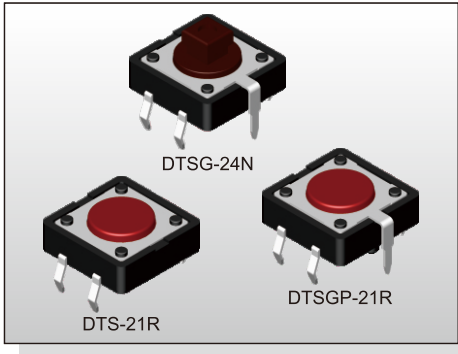
P.C.B. LAYOUT

PART NO.	H
DTSM-21	4.30
DTSM-23	7.40
DTSM-25	8.50



# TACT SWITCH DTS(G)(P)-2 SERIES

12x12 Through Hole  
With Ground Terminal Type



## FEATURES

- ※ Snap in type with ground pin
- ※ Guide bosses available
- ※ Cap options

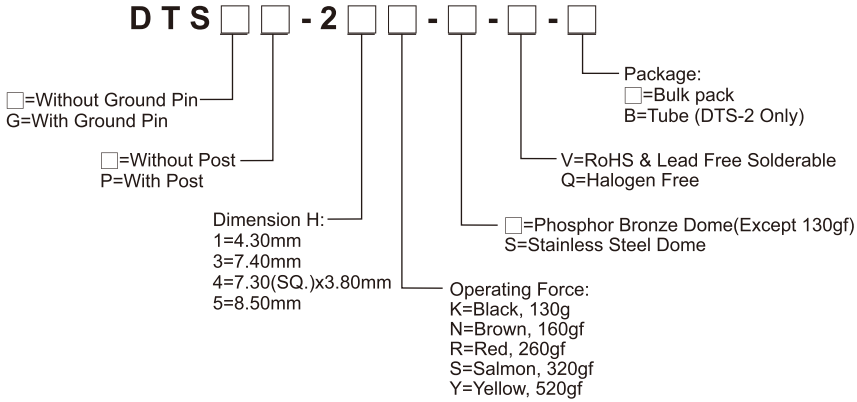
## APPLICATION

- ※ Audio, OA equipment
- ※ Instrumentation
- ※ Industrial

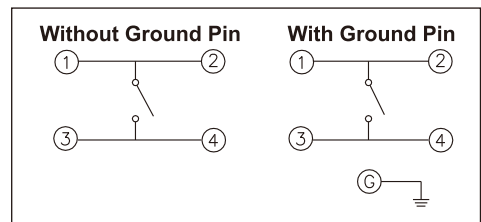
## SPECIFICATION

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	130±50gf, Black(K) 160±50gf, Brown(N) 260±50gf, Red(R) 320±80gf, Salmon(S) 520±130gf, Yellow(Y)
Travel	0.35mm
Operating Life	Phosphor Bronze Dome 100,000 cycles for 520/320/260gf 200,000 cycles for 160gf
	Stainless Steel Dome 300,000 cycles for 520/320gf 500,000 cycles for 260gf 1,000,000 cycles for 160gf 10,000,000 cycles for 130gf
Operating Temp.	-25°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

## HOW TO ORDER



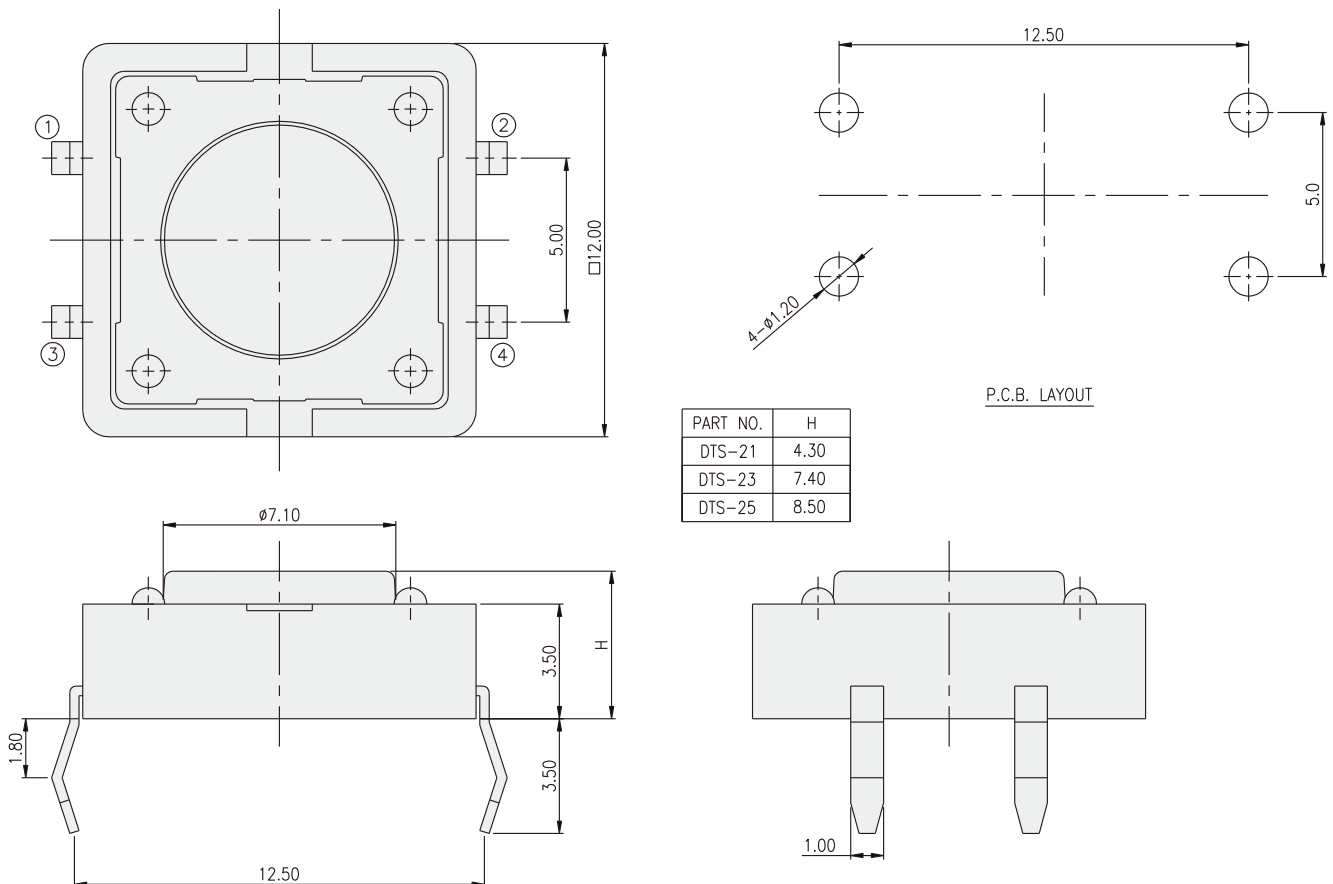
## CIRCUIT



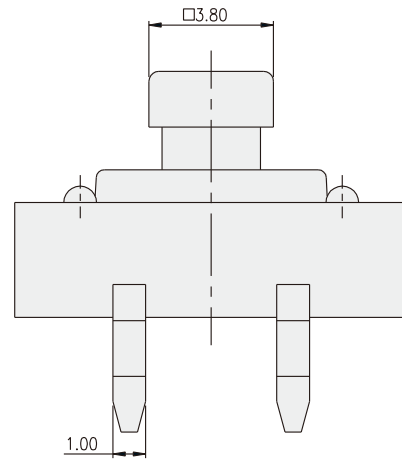
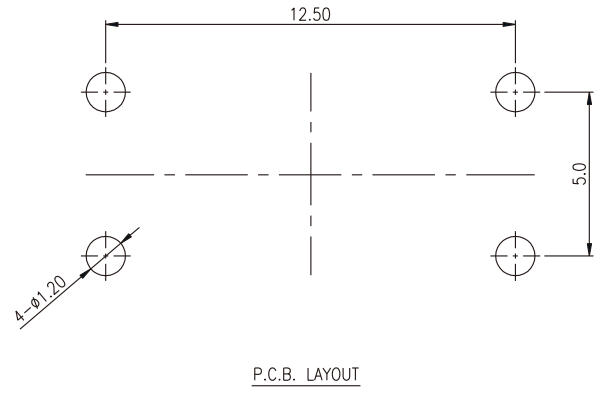
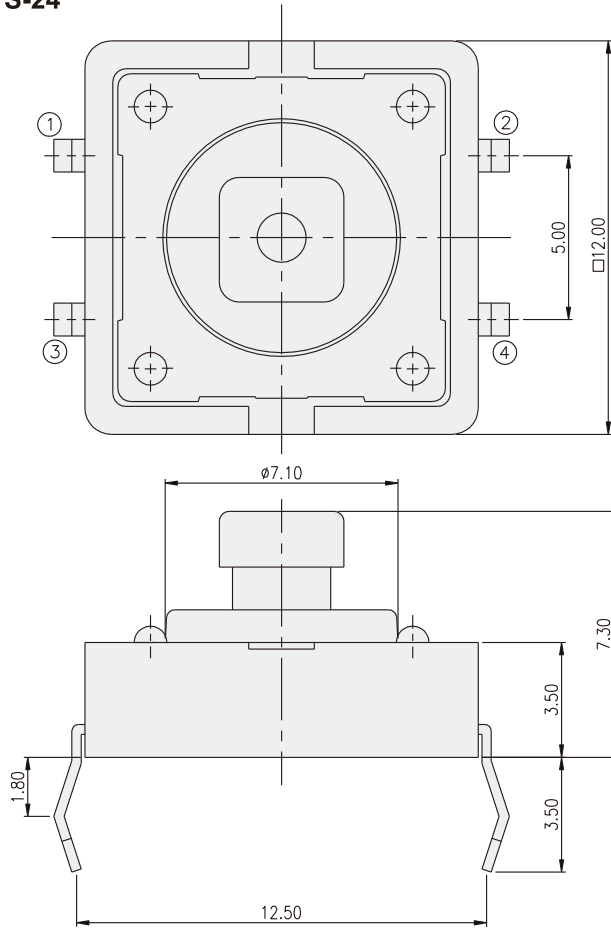
## PACKAGE

<Bag>  
500 pcs  
<Tube>  
DTS-2: 40 pcs

## DTS-2

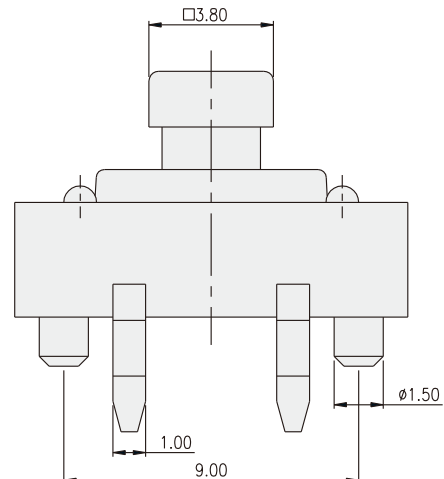
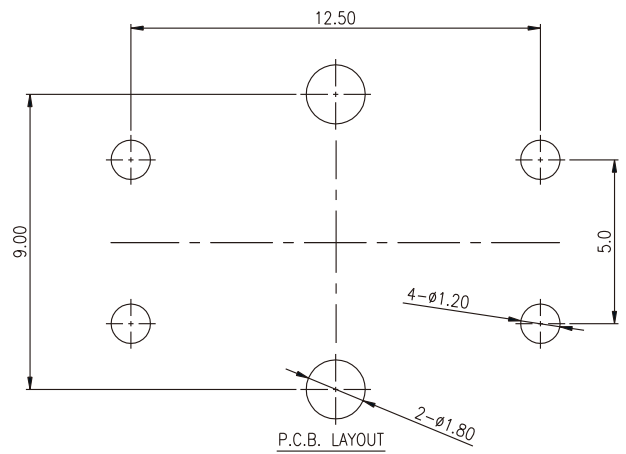
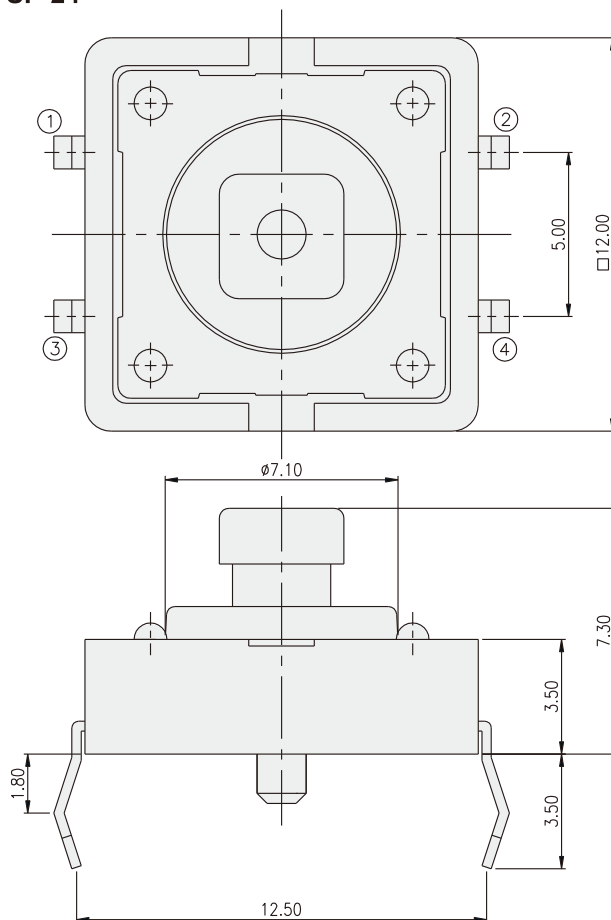


**DTS-24**

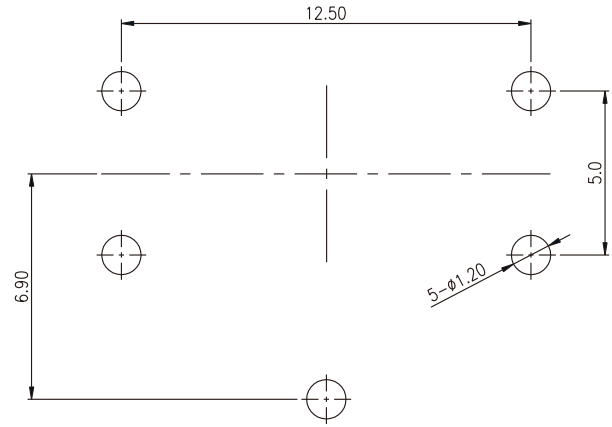
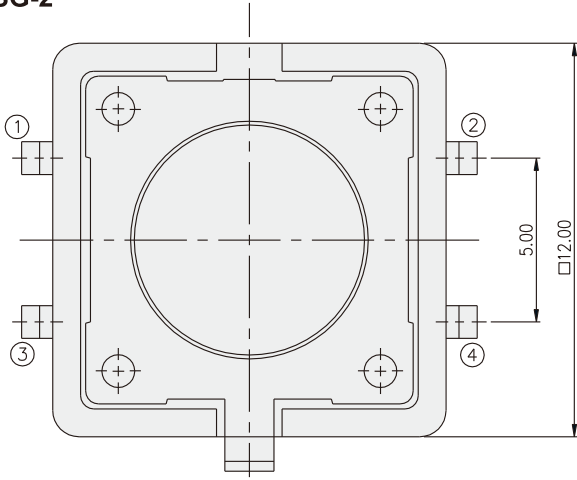


TACT SWITCH

**DTSP-24**

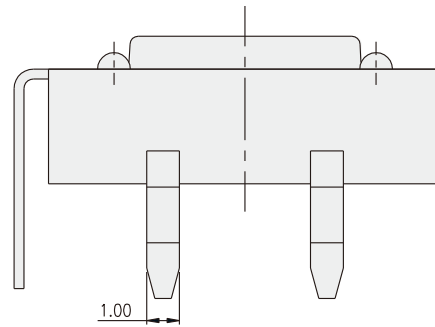
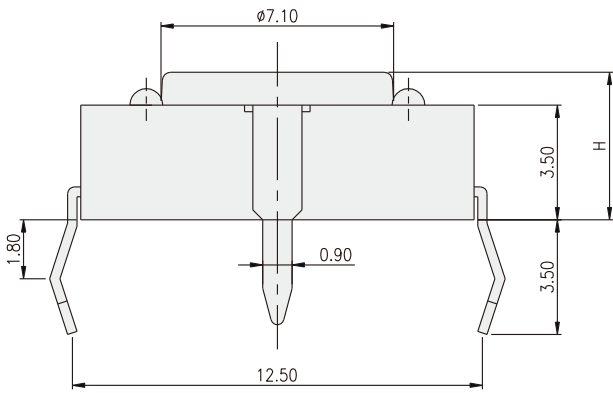


**DTSG-2**

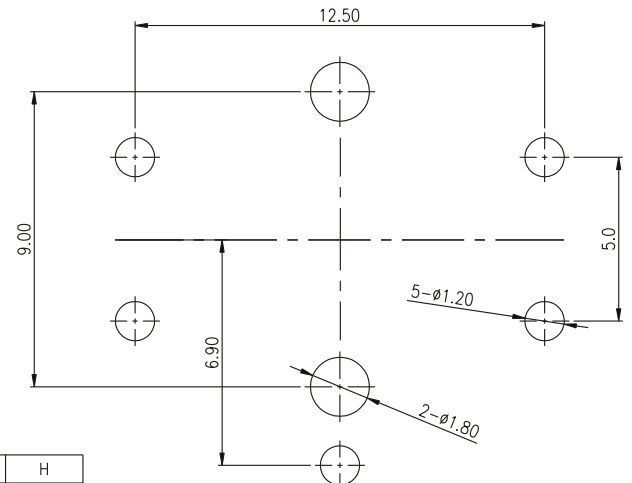
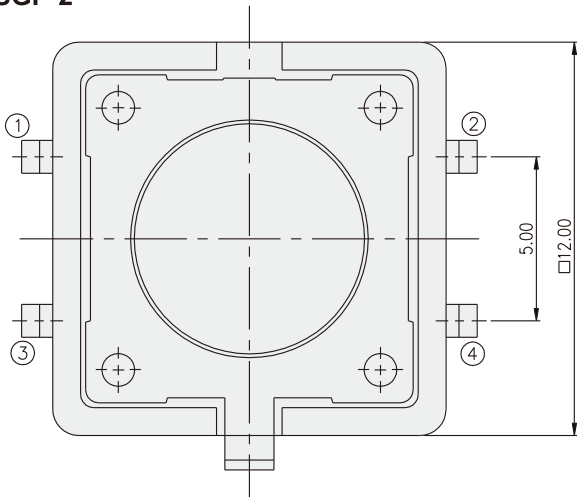


PART NO.	H
DTSG-21	4.30
DTSG-23	7.40
DTSG-25	8.50

P.C.B. LAYOUT

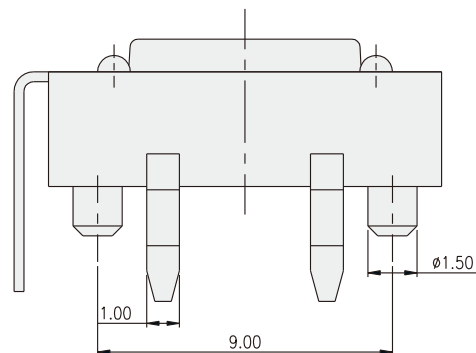
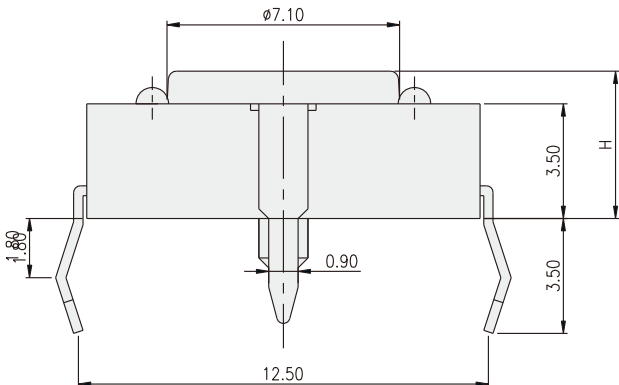


**DTSGP-2**



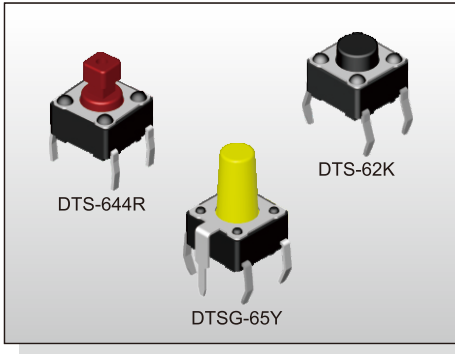
PART NO.	H
DTSGP-21	4.30
DTSGP-23	7.40
DTSGP-25	8.50

P.C.B. LAYOUT



# TACT SWITCH DTS(G)-6 SERIES

## 6x6 Through Hole & Ground Terminal Type



### FEATURES

- ※ Compact size 6x6mm
- ※ Sharp tactile feeling
- ※ Cap options

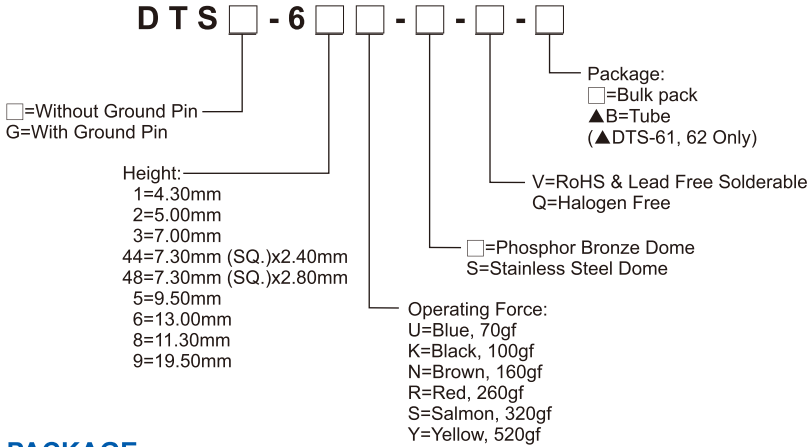
### APPLICATION

- ※ Audio, OA equipment
- ※ Instrumentation
- ※ Industrial

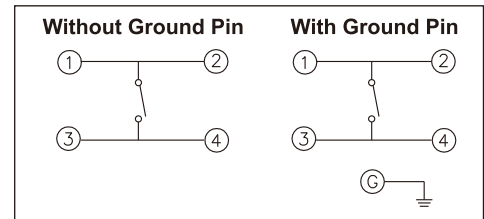
### SPECIFICATION

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	70±30gf, Blue(U) 100±50gf, Black(K) 160±50gf, Brown(N) 260±50gf, Red(R) 320±80gf, Salmon(S) 520±130gf, Yellow(Y)
Travel	0.25mm
Operating Life	Phosphor Bronze Dome 50,000 cycles for 520/320gf 100,000 cycles for 260gf 200,000 cycles for 160/100/70gf
	Stainless Steel Dome 300,000 cycles for 520/320gf 500,000 cycles for 260gf 1,000,000 cycles for 160/100/70gf
Operating Temp.	-25°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

### HOW TO ORDER



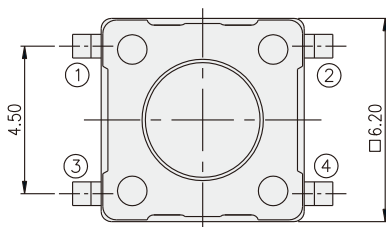
### CIRCUIT



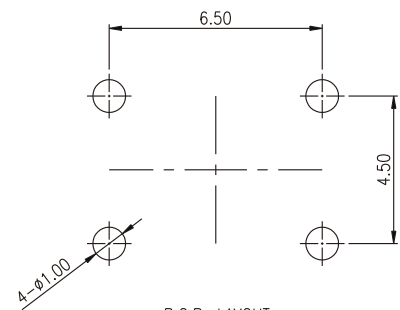
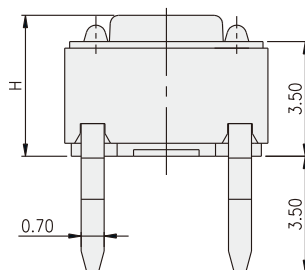
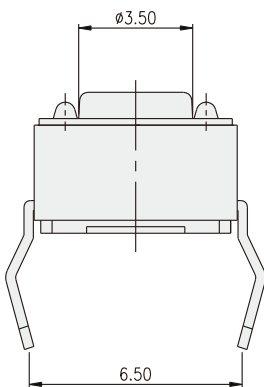
### PACKAGE

<Bag>  
1000 pcs  
<Tub>  
DTS-61/62: 75 pcs

### DTS-6

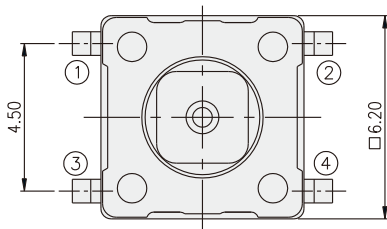


PART NO.	H
DTS-61	4.30
DTS-62	5.00
DTS-63	7.00
DTS-65	9.50
DTS-66	13.00
DTS-68	11.30
DTS-69	19.50

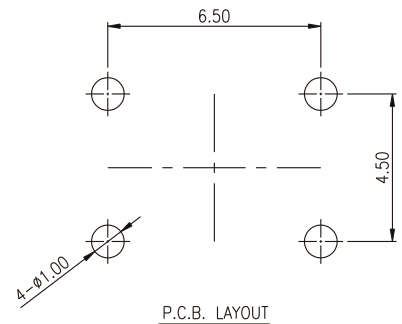
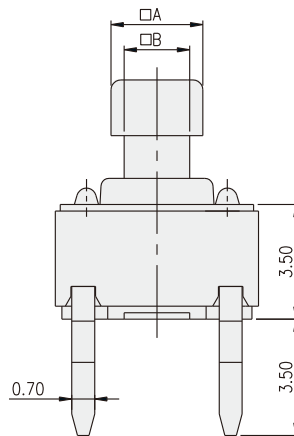
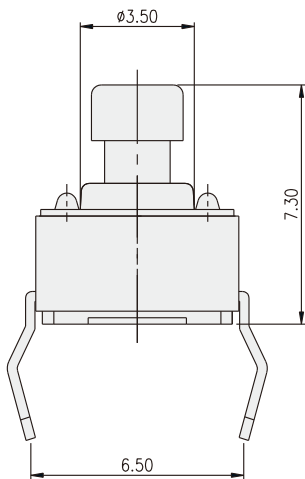


P.C.B. LAYOUT

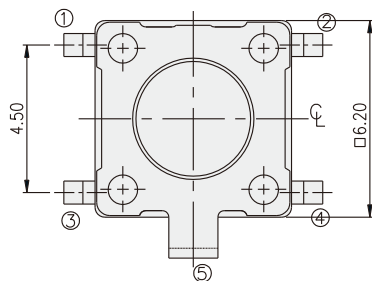
**DTS-644(8)**



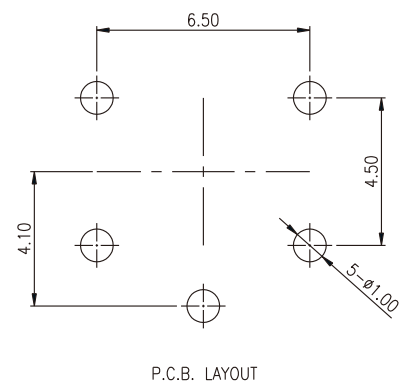
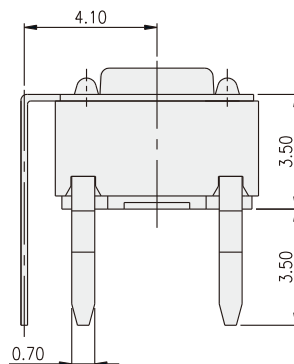
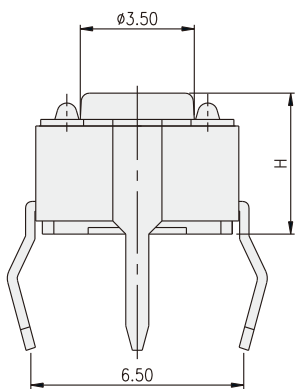
PART NO.	□A	□B
DTS-644	2.40	1.60
DTS-648	2.80	2.00



**DTSG-6**

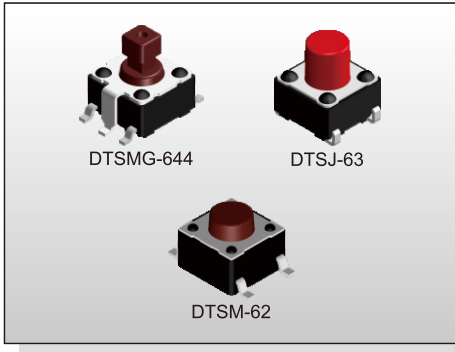


PART NO.	H
DTSG-61	4.30
DTSG-62	5.00
DTSG-63	7.00
DTSG-65	9.50
DTSG-66	13.00
DTSG-68	11.30
DTSG-69	19.50



# TACT SWITCH DTS(M)(J)-6 SERIES

## 6x6 Surface Mounting Type (Ground Terminal Optional)



### FEATURES

- ※6x6mm, surface mounting type
- ※Optional ground pin
- ※Reflow solderable

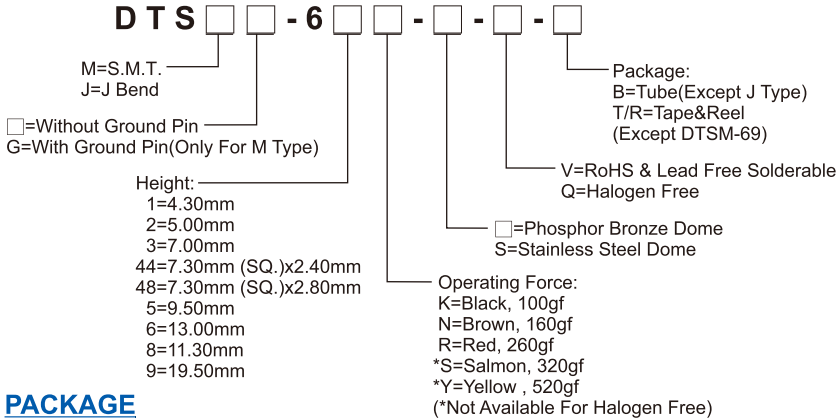
### APPLICATION

- ※Audio, OA equipment
- ※Instrumentation, Communication
- ※White goods

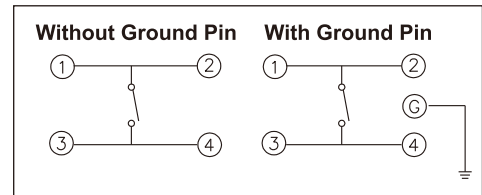
### SPECIFICATION

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	100±50gf, Black(K) 160±50gf, Brown(N) 260±50gf, Red(R) 320±80gf, Salmon(S) 520±130gf, Yellow(Y)
Travel	0.25mm
Operating Life	Phosphor Bronze Dome 50,000 cycles for 520/320gf 100,000 cycles for 260gf 200,000 cycles for 160/100gf Stainless Steel Dome 300,000 cycles for 520/320gf 500,000 cycles for 260gf 1,000,000 cycles for 160/100gf
Operating Temp.	-25°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

### HOW TO ORDER



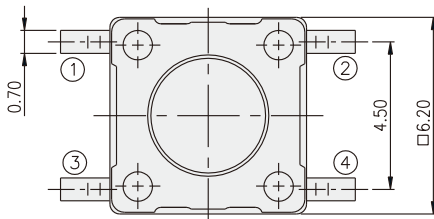
### CIRCUIT



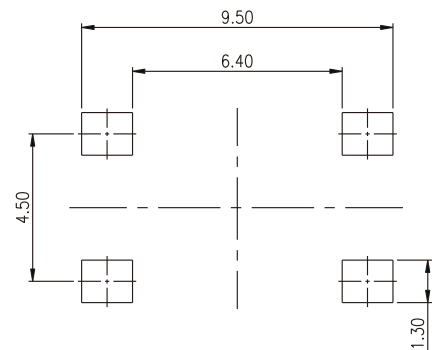
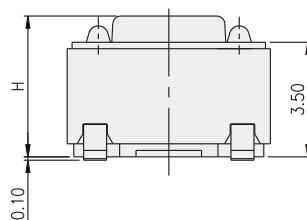
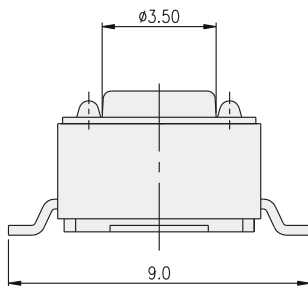
### PACKAGE

- <Tube>  
77 pcs
- <Tape & Reel>  
DTSM(G)(J)-61 / DTSMG-62:1000 pcs  
DTS(M)(J)-62:900 pcs      DTS(M)(G)(T)-63, 64:700 pcs  
DTSM(G)-65:380 pcs      DTSJ-65:400 pcs

### DTSM-6

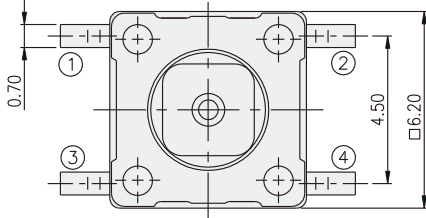


PART NO.	H
DTSM-61	4.30
DTSM-62	5.00
DTSM-63	7.00
DTSM-65	9.50
DTSM-66	13.00
DTSM-68	11.30
DTSM-69	19.50

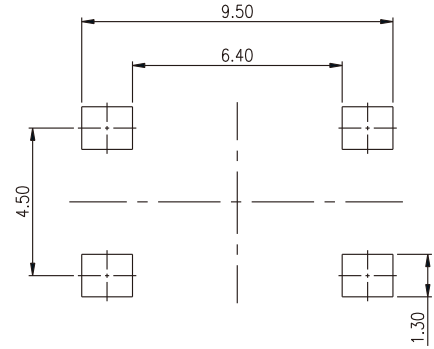
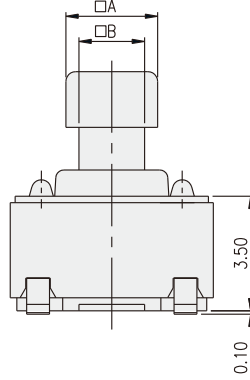
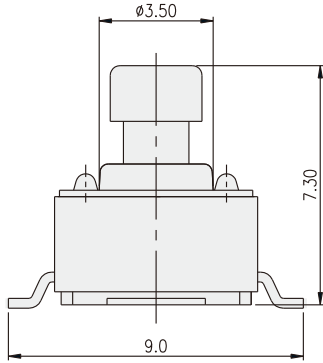


P.C.B. LAYOUT

**DTSM-644(8)**



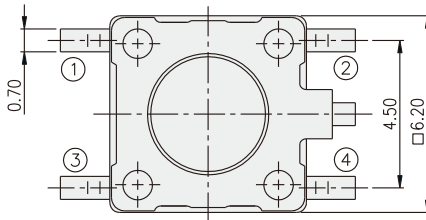
PART NO.	□A	□B
DTSM-644	2.40	1.60
DTSM-648	2.80	2.00



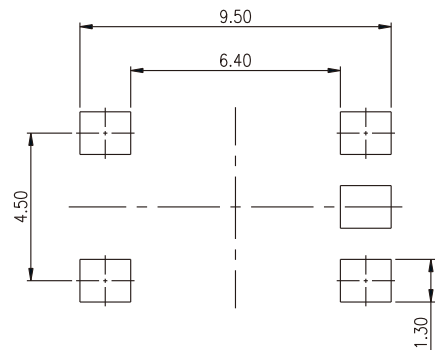
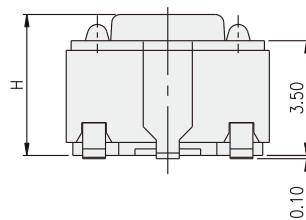
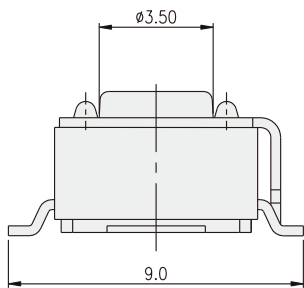
P.C.B. LAYOUT

TACT SWITCH

**DTSMG-6**



PART NO.	H
DTSMG-61	4.30
DTSMG-62	5.00
DTSMG-63	7.00
DTSMG-65	9.50
DTSMG-66	13.00
DTSMG-68	11.30
DTSMG-69	19.50



P.C.B. LAYOUT

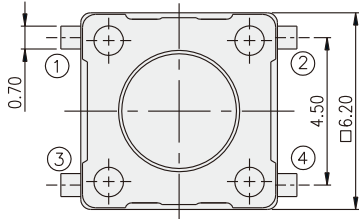


TACT SWITCH  
**DTS(M)(J)-6 SERIES**

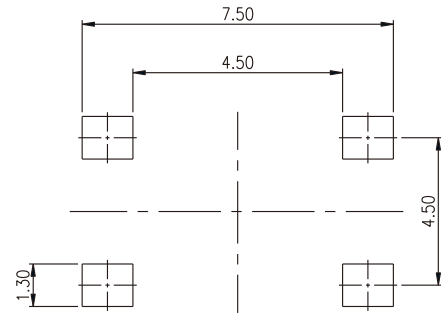
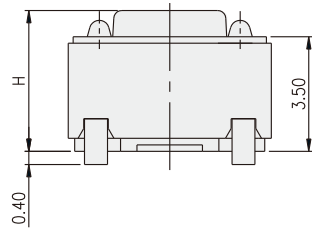
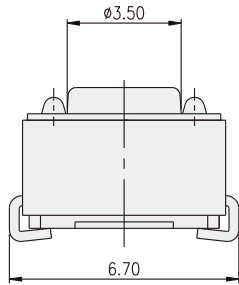
6x6 Surface Mounting Type  
 (Ground Terminal Optional)



DTSJ-6



PART NO.	H
DTSJ-61	4.30
DTSJ-62	5.00
DTSJ-63	7.00
DTSJ-65	9.50
DTSJ-66	13.00
DTSJ-68	11.30
DTSJ-69	19.50

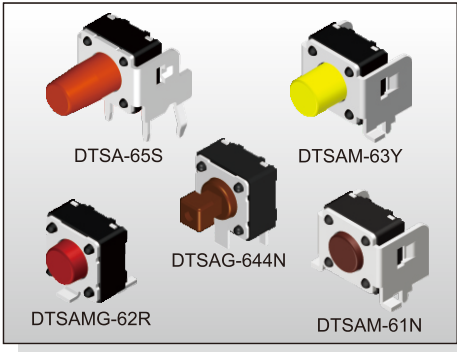


P.C.B. LAYOUT

TACT SWITCH

# TACT SWITCH DTSA-6 SERIES

## 6x6 Right Angle & Ground Terminal Type



### FEATURES

- ※ Variety of actuator lengths
- ※ Optional ground pin
- ※ Cap options

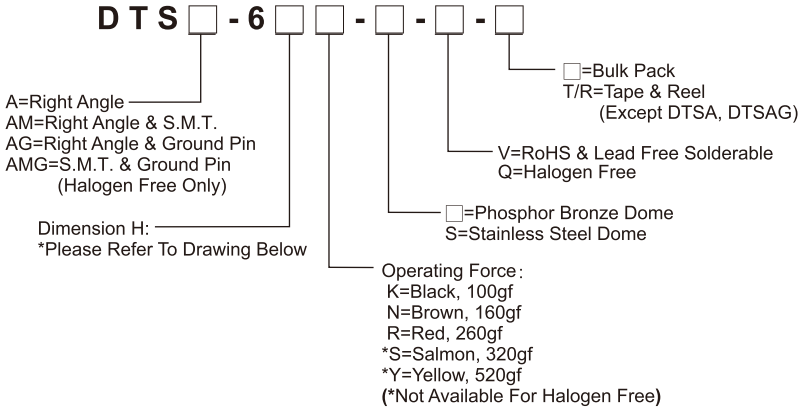
### APPLICATION

- ※ Audio, OA equipment
- ※ Instrumentation
- ※ Setup box

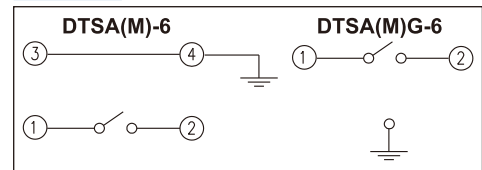
### SPECIFICATION

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	100±50gf, Black(K) 160±50gf, Brown(N) 260±50gf, Red(R) 320±80gf, Salmon(S) 520±130gf, Yellow(Y)
Travel	0.25mm
Operating Life	Phosphor Bronze Dome 50,000 cycles for 520/320gf 100,000 cycles for 260gf 200,000 cycles for 160/100gf Stainless Steel Dome 300,000 cycles for 520/320gf 500,000 cycles for 260gf 1,000,000 cycles for 160/100gf
Operating Temp.	-25°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

### HOW TO ORDER



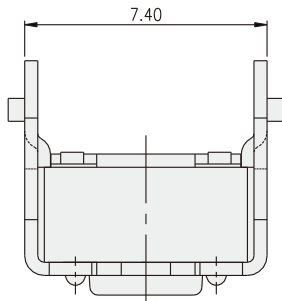
### CIRCUIT



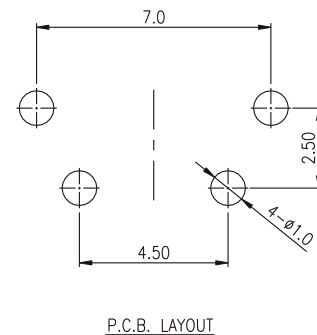
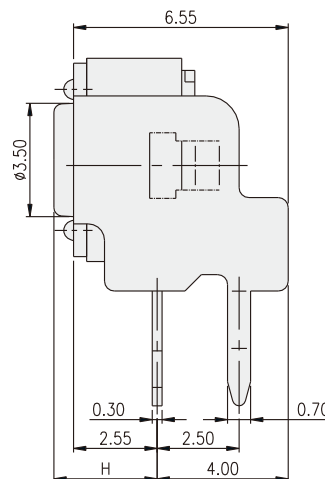
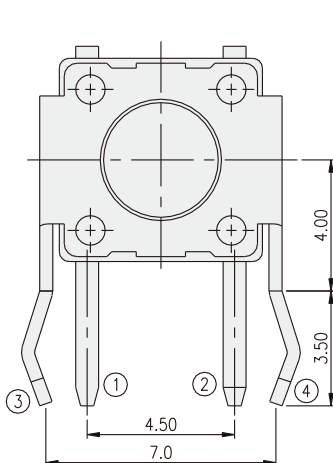
### PACKAGE

- <Bag>  
DTSA(G)-6: 500 pcs  
<Tape & Reel>  
DTSA-6: 500 pcs  
DTSA-61, 62: 500 pcs  
DTSA-63, 64, 65: 380 pcs

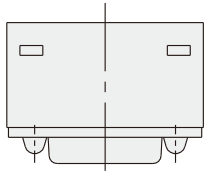
### DTSA-6



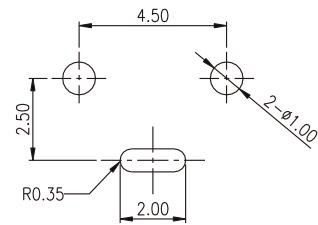
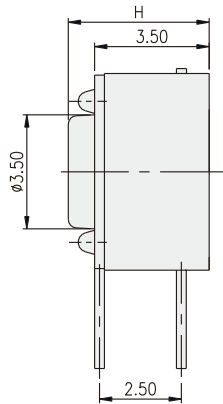
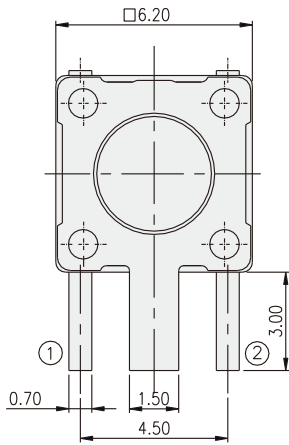
PART NO.	H
DTSA-61	3.15
DTSA-62	3.85
DTSA-63	5.85
DTSA-644	6.15(SQ.2.40)
DTSA-648	6.15(SQ.2.80)
DTSA-65	8.35
DTSA-66	11.85



DTSAG-6



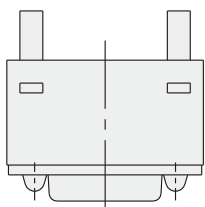
PART NO.	H
DTSAG-61	4.30
DTSAG-62	5.00
DTSAG-63	7.00
DTSAG-644	7.30(SQ.2.40)
DTSAG-648	7.30(SQ.2.80)
DTSAG-65	9.50
DTSAG-66	13.00



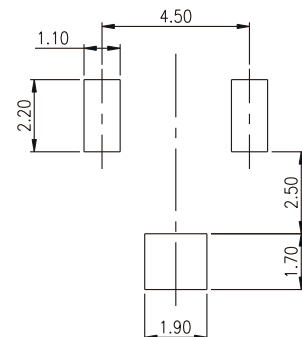
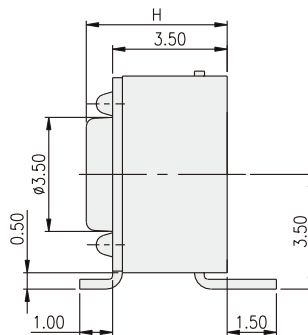
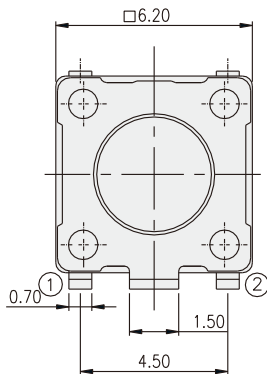
P.C.B. LAYOUT

TACT SWITCH

DTSAMG-6

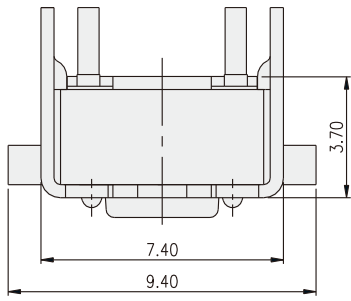


PART NO.	H
DTSAMG-61	4.30
DTSAMG-62	5.00
DTSAMG-63	7.00
DTSAMG-644	7.30(SQ.2.40)
DTSAMG-648	7.30(SQ.2.80)
DTSAMG-65	9.50
DTSAMG-66	13.00

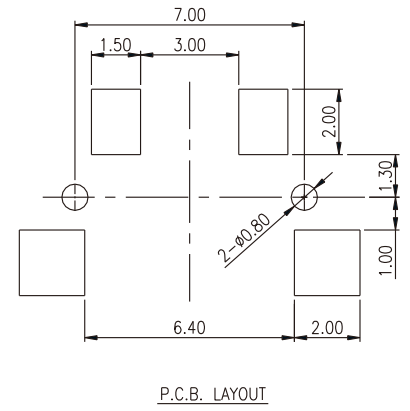
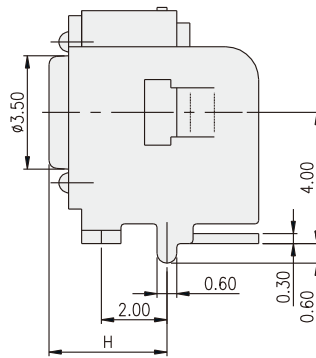
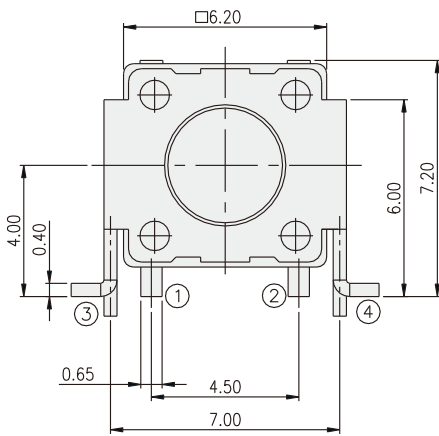


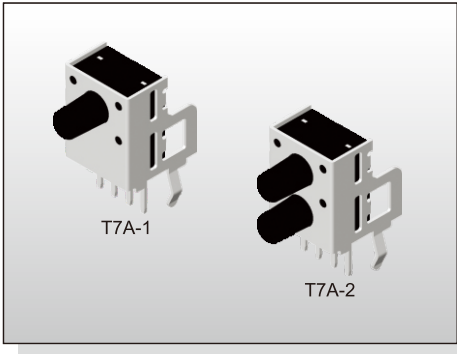
P.C.B. LAYOUT

DTSAM-6



PART NO.	H
DTSAM-61	3.60
DTSAM-62	4.30
DTSAM-63	6.30
DTSAM-644	7.30(SQ.2.40)
DTSAM-648	7.30(SQ.2.80)
DTSAM-65	8.80





**FEATURES**

- ※Double switch
- ※Two Circuit

**APPLICATION**

- ※Audio, OA equipment
- ※Instrumentation
- ※Setup box

**SPECIFICATION**

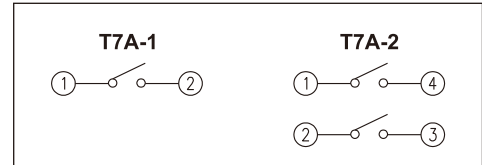
Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	180±50gf
Travel	0.20mm
Operating Life	100,000 cycles
Operating Temp.	-20°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

**HOW TO ORDER**

**T7A-□14KQP**

- 1=Single Stem
- 2=Double Stem
- Stem High: 3.80mm
- Package: Bulk Pack
- Halogen Free
- Stem Color: Black
- Operating Force: 180gf

**CIRCUIT**

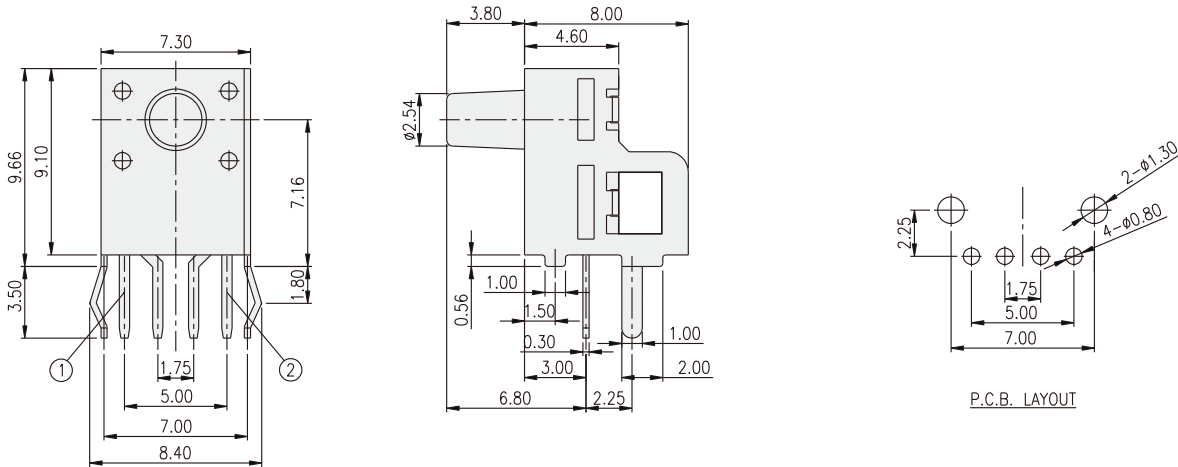


**PACKAGE**

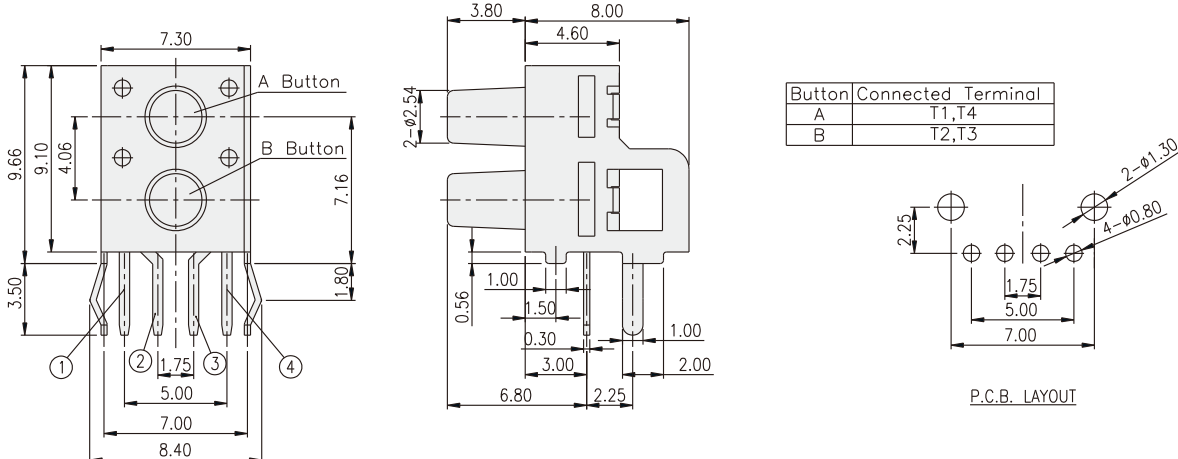
<Bag>  
400 pcs

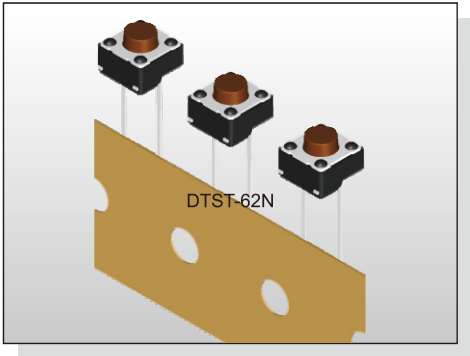
TACT SWITCH

**T7A-1**



**T7A-2**





**FEATURES**

- ※Radial taping type
- ※Variety of actuator lengths
- ※Allow automatic insertion onto PCB.

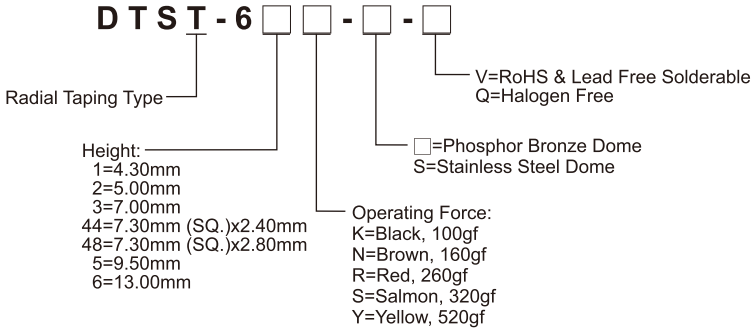
**APPLICATION**

- ※White goods , OA equipment
- ※Audio, DVD player, TV
- ※Instrumentation

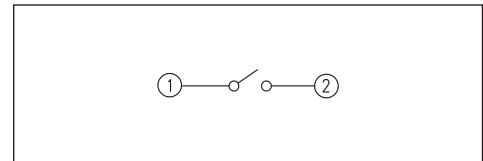
**SPECIFICATION**

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	100±50gf, Black(K) 160±50gf, Brown(N) 260±50gf, Red(R) 320±80gf, Salmon(S) 520±130gf, Yellow(Y)
Travel	0.25mm
Operating Life	Phosphor Bronze Dome 50,000 cycles for 520/320gf 100,000 cycles for 260gf 200,000 cycles for 160/100gf Stainless Steel Dome 300,000 cycles for 520/320gf 500,000 cycles for 260gf 1,000,000 cycles for 160/100gf
Operating Temp.	-25°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

**HOW TO ORDER**



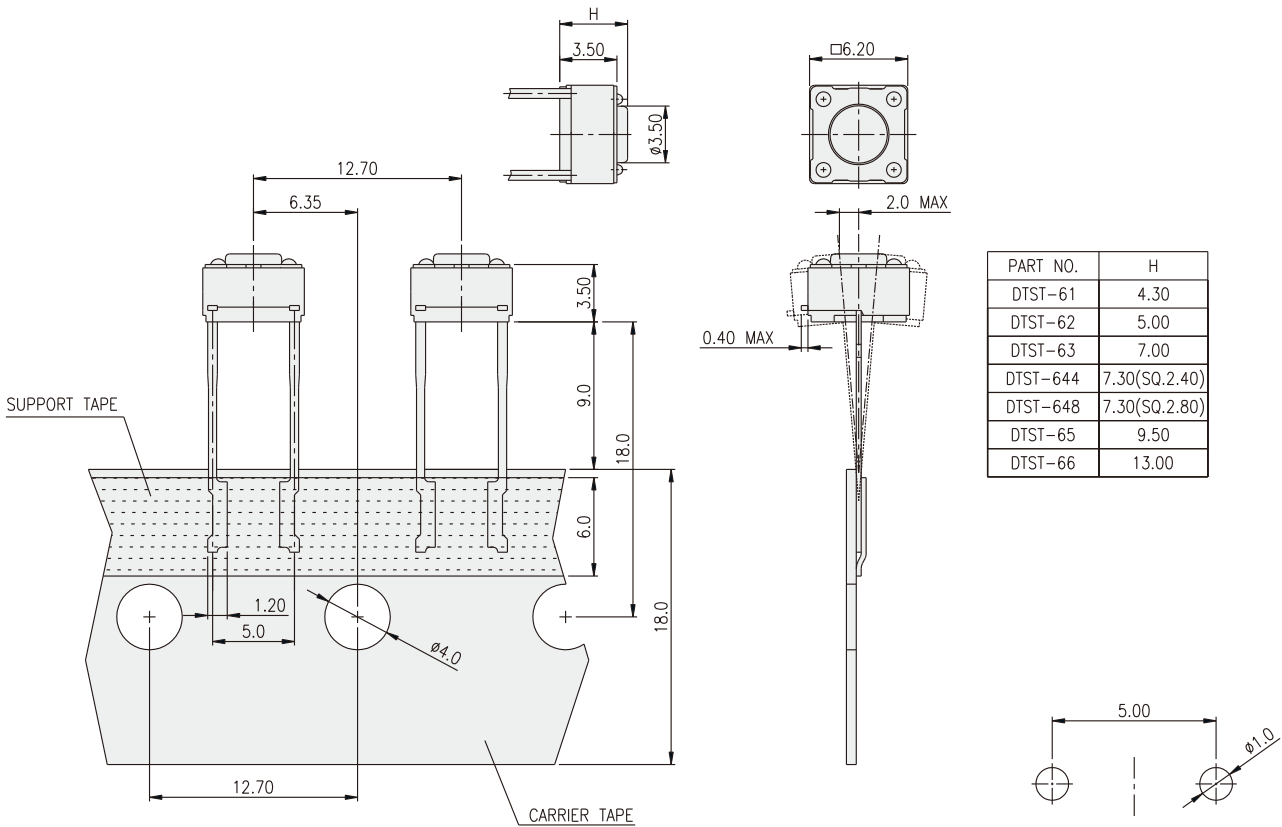
**CIRCUIT**



**PACKAGE**

<Box>  
900 pcs

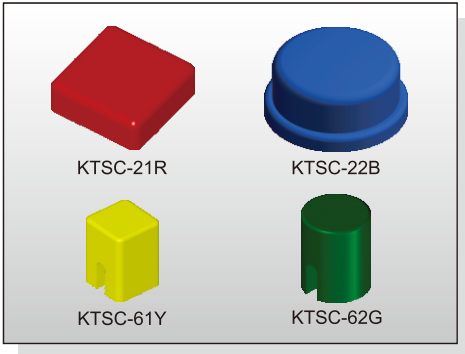
**DTST-6**



P.C.B. LAYOUT

TACT SWITCH  
**KTSC-(6)(2) SERIES**

Cap for 6x6 / 12x12  
 Tact Switch



**HOW TO ORDER**

KTSC - [ ] [ ] [ ]

Prod. Size: <Tactile Switch>  
 2=12X12mm (Can be applied on DTS□-24)  
 6=6x6mm (Can be applied on DTS□-644)

Cap Type:  
 1=Square  
 2=Round

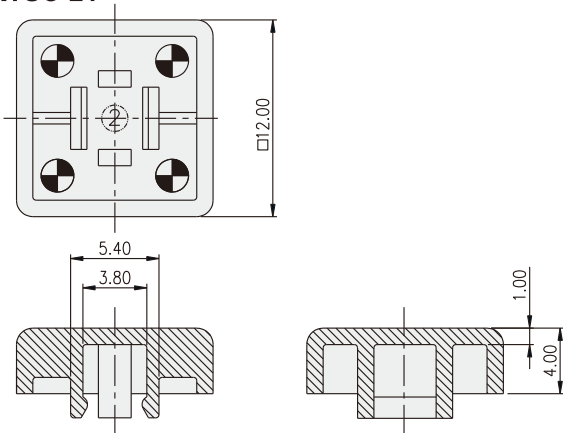
Cap color:  
 Y=Yellow  
 B=Blue  
 R=Red  
 I=Ivory  
 K=Black  
 G=Green  
 S=Salmon  
 Ge=Gray

**PACKAGE**

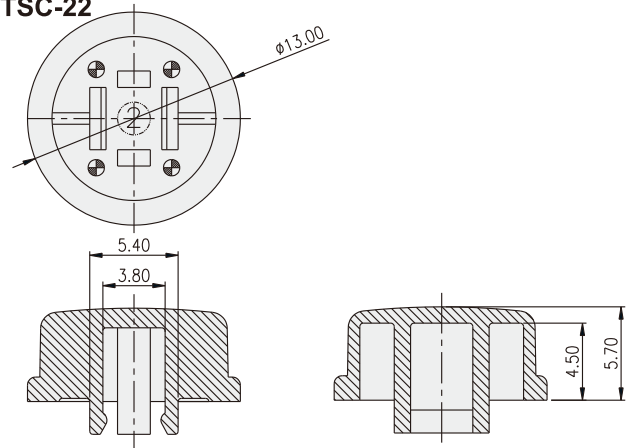
<Bag>  
 KTSC-2: 500 pcs  
 KTSC-6: 1500 pcs

TACT SWITCH

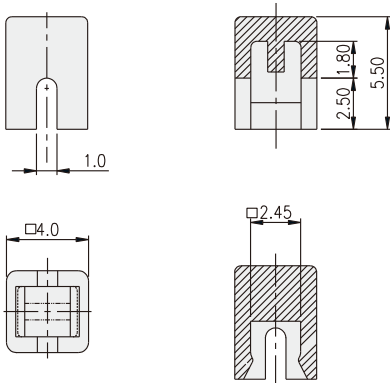
**KTSC-21**



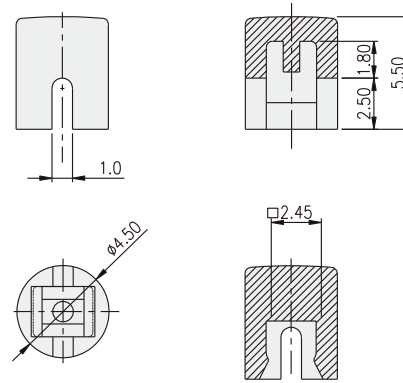
**KTSC-22**



**KTSC-61**

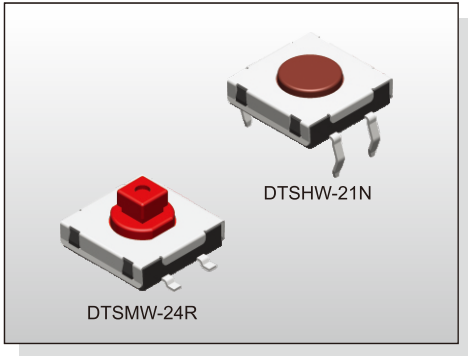


**KTSC-62**



# TACT SWITCH DTS( )W-2 SERIES

## 12x12 SMT & Through Hole Washable Type



### FEATURES

- ※ Sealed
- ※ Through hole & SMT type
- ※ 1 million operating life cycle

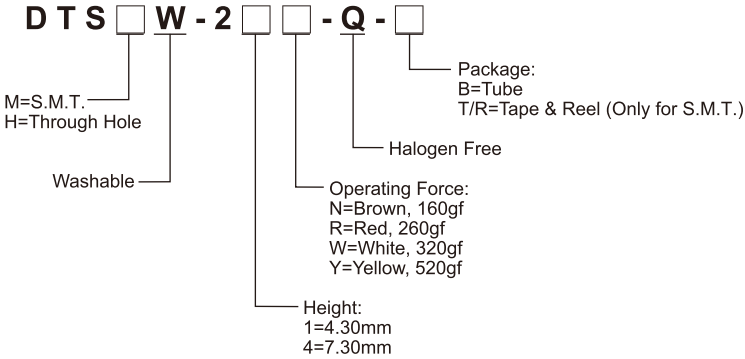
### APPLICATION

- ※ Audio, OA equipment
- ※ Instrumentation
- ※ Industrial

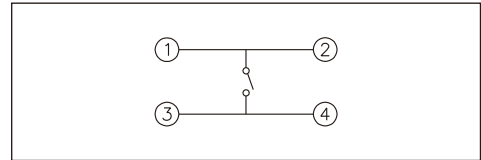
### SPECIFICATION

Contact Rating	50mA, 24V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 250V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160±50gf, Brown(N) 260±50gf, Red(R) 320±80gf, Salmon(S) 520±130gf, Yellow(Y)
Travel	0.4mm
Operating Life	300,000 cycles for 520/320gf 1,000,000 cycles for 260/160gf
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

### HOW TO ORDER



### CIRCUIT

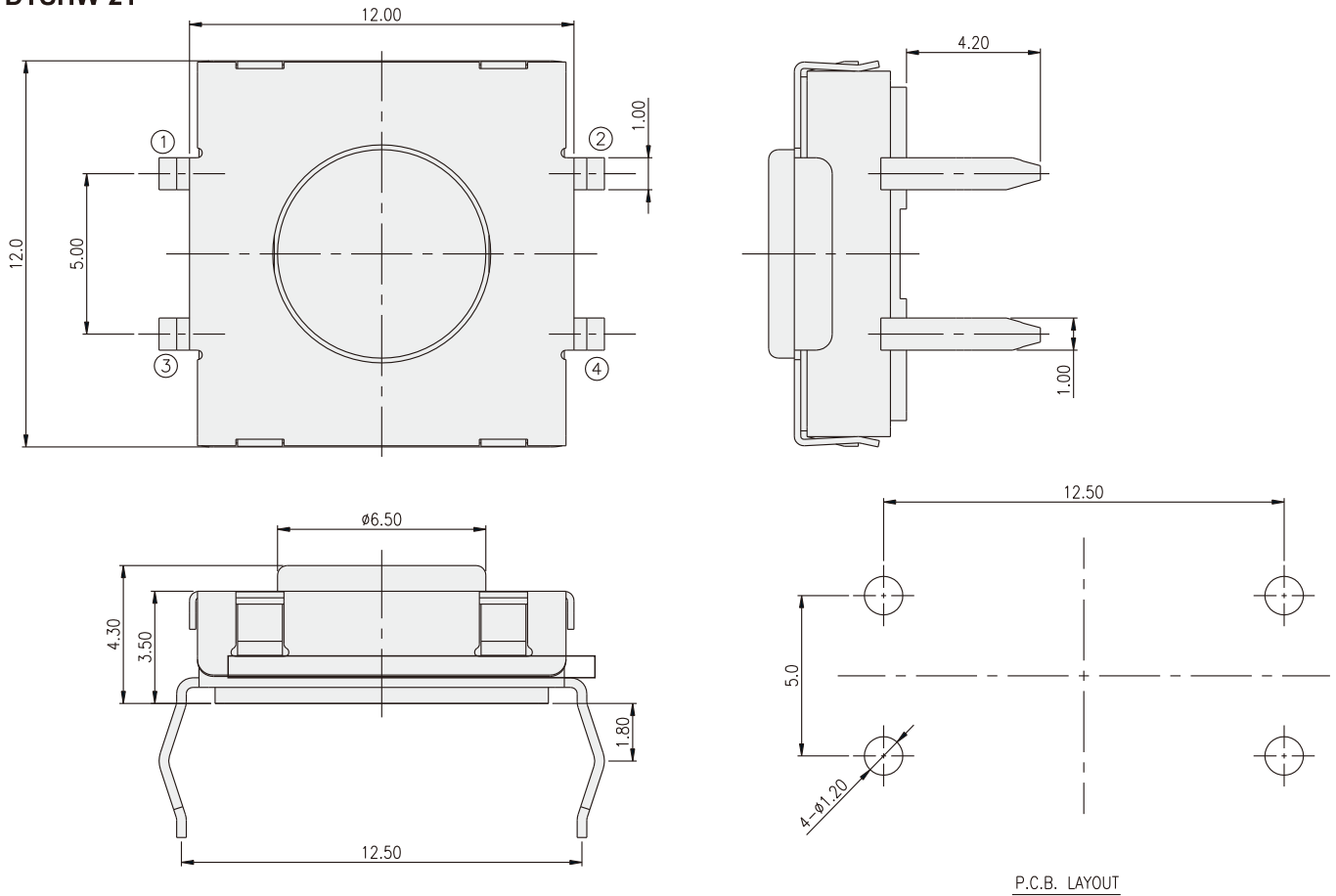


### PACKAGE

- <Tube>  
39 pcs
- <Tape & Reel>  
DTSMW-21: 700 pcs  
DTSMW-24: 500 pcs

TACT SWITCH

### DTSHW-21





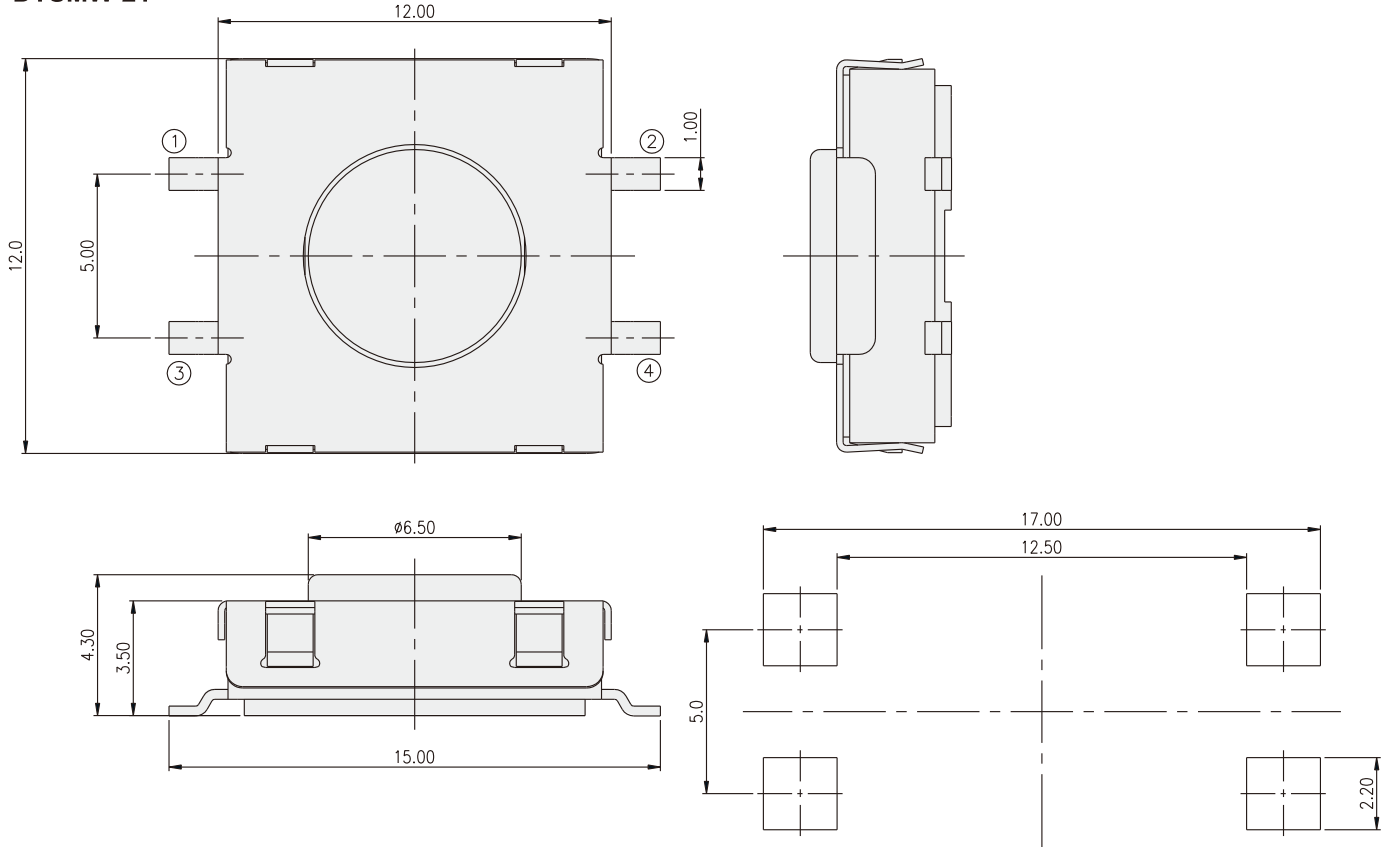
TACT SWITCH  
**DTS( )W-2** SERIES

12x12 SMT & Through Hole  
 Washable Type



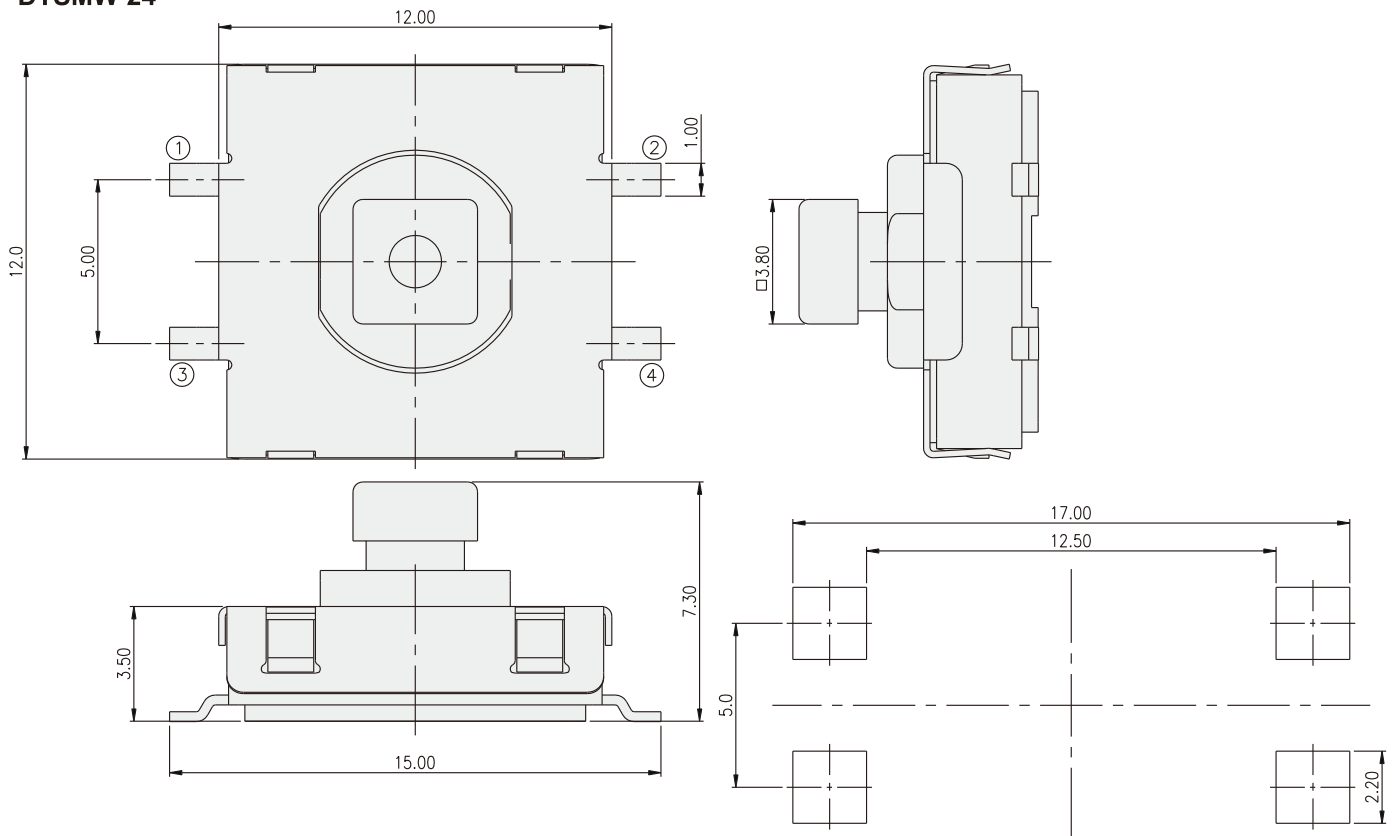
TACT SWITCH

**DTSMW-21**



P.C.B. LAYOUT

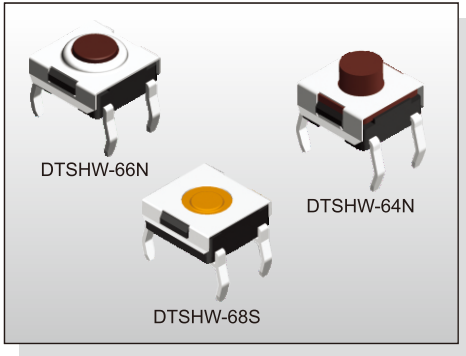
**DTSMW-24**



P.C.B. LAYOUT

# TACT SWITCH DTSHW-6 SERIES

6x6 Through Hole  
Washable Type



## FEATURES

- ※Sealed
- ※Snap in type
- ※Dust proof with high reliability

## APPLICATION

- ※Audio, OA equipment
- ※Instrumentation, Communication
- ※White goods

## SPECIFICATION

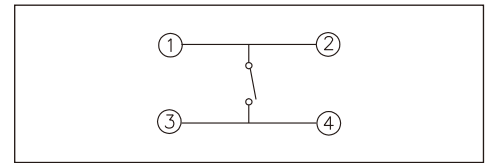
Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160±50gf, Brown(N) 66/677 160±50gf, Silver(S) 68 180±50gf, Brown(N) 69/67/65/64 260±70gf, Red(R) 69/67/66/65/64 360±90gf, Transparent(T) 69/67/65/677
Travel	0.25mm 68S/66N/66R/677 0.45mm(69/67N,R)(65/64N,R,T) 0.6mm 69/67T
Operating Life	100,000 cycles min. for 66/68/677 500,000 cycles min. for 69/67/65/64
Operating Temp.	-25°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

## HOW TO ORDER

**DTSHW-6** □ □ - □ - **B**

- Through Hole
- Washable
- Package: Tube
- V=RoHS & Lead Free Solderable
- Q=Halogen Free
- Operating Force:
  - N=Brown, 160gf(66N, 677N)
  - 180gf(69N, 67N, 65N, 64N)
  - S=Silver, 160gf(68S)
  - R=Red, 260gf(69R, 67R, 66R, 65R, 64R)
  - T=Transparent, 360gf(69T, 67T, 65T, 677T)
- Dimension H:
  - 4=4.50mm (N, R)
  - 5=3.50mm (N, R, T)
  - 6=3.10mm (N, R)
  - 7=5.20mm (N, R, T)
  - 77=7.30mm (N, T)
  - 8=2.30mm (S)
  - 9=3.80mm (N, R, T)

## CIRCUIT

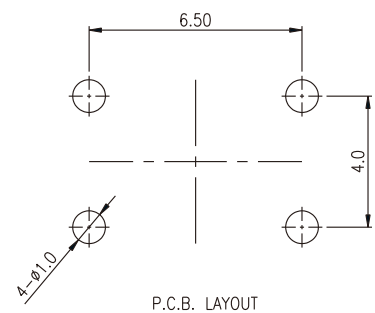
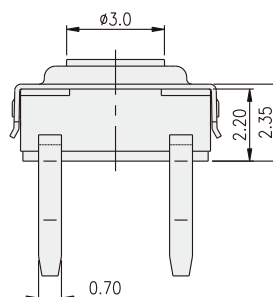
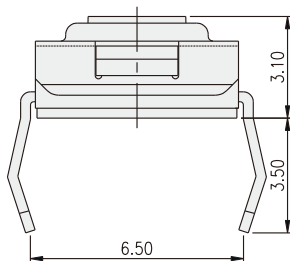
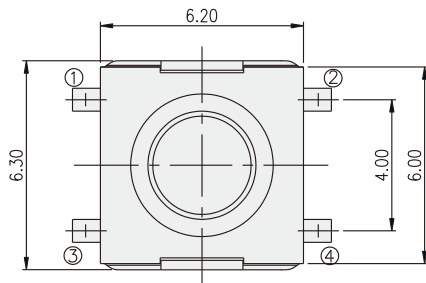


## PACKAGE

<Tube>  
75 pcs

TACT SWITCH

## DTSHW-66

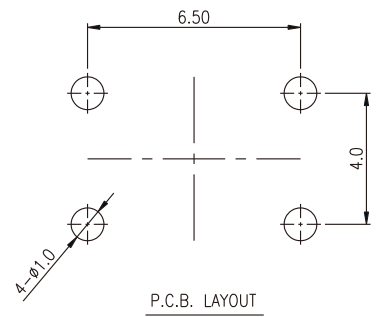
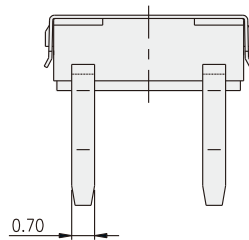
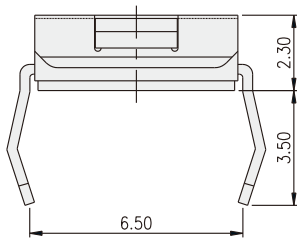
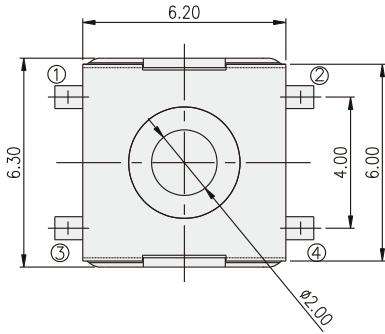


TACT SWITCH  
**DTSHW-6 SERIES**

6x6 Through Hole  
 Washable Type

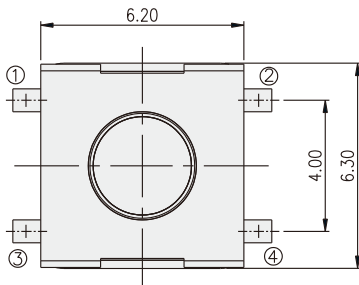


**DTSHW-68**

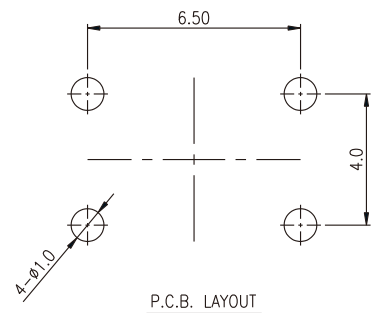
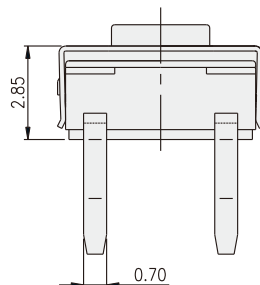
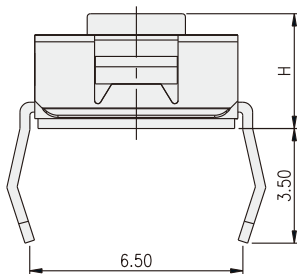


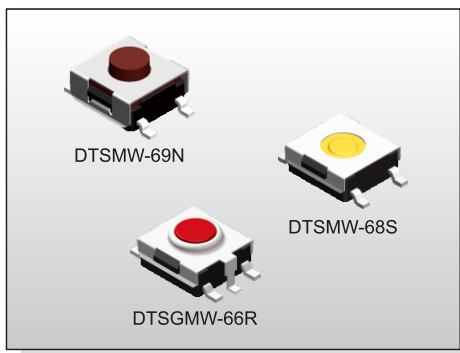
TACT SWITCH

**DTSHW-6** □



PART NO.	H
DTSHW-64	4.50
DTSHW-65	3.50
DTSHW-67	5.20
DTSHW-69	3.80
DTSHW-677	7.30





### FEATURES

- ※Sealed
- ※Reflow solderable
- ※Dust proof with high reliability

### APPLICATION

- ※Audio, OA equipment
- ※Instrumentation, Communication
- ※White goods

### SPECIFICATION

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160±50gf, Brown(N) 66/677 160±50gf, Silver(S) 68 180±50gf, Brown(N) 69/67/65/64 260±70gf, Red(R) 69/67/66/65/64 360±90gf, Transparent(T) 69/67/65/677
Travel	0.25mm 68S/66N/66R/677 0.45mm (69/67N,R)/(65/64N,R,T) 0.6mm 69/67T
Operating Life	100,000 cycles min. for 68/66/677 500,000 cycles min. for 69/67/65/64
Operating Temp.	-25°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

### HOW TO ORDER

D T S [ ] W - 6 [ ] [ ] - [ ] - [ ]

M=S.M.T.  
GM=S.M.T. & With Ground Pin  
(66 Only)

Washable

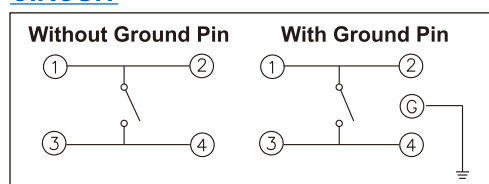
Package:  
B=Tube  
T/R=Tape & Reel

V=RoHS & Lead Free Solderable  
Q=Halogen Free

Operating Force:  
N=Brown, 160gf(66N, 677N)  
                                180gf(69N, 67N, 65N, 64N)  
S=Silver, 160gf(68S)  
R=Red, 260gf(69R, 67R, 66R, 65R, 64R)  
T=Transparent, 360gf(69T, 67T, 65T, 677T)

Dimension H:  
4=4.50mm (N, R)  
5=3.50mm (N, R, T)  
6=3.10mm (N, R)  
7=5.20mm (N, R, T)  
77=7.30mm (N, T)  
8=2.30mm (S)  
9=3.80mm (N, R, T)

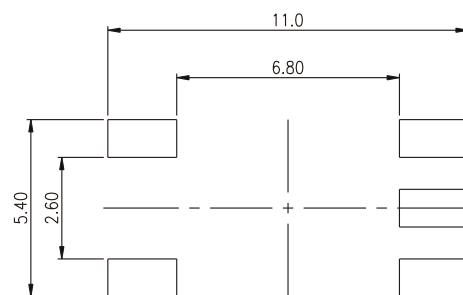
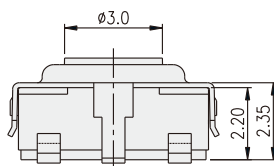
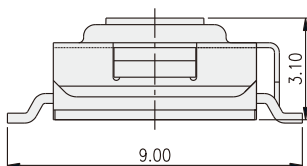
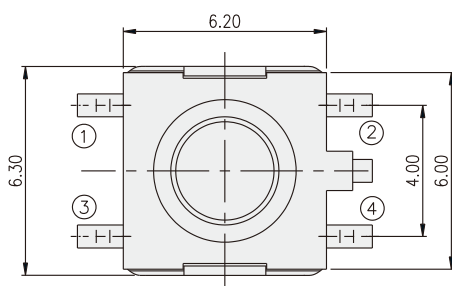
### CIRCUIT



### PACKAGE

- <Tube>  
75 pcs
- <Tape & Reel>  
DTSGMW-66: 2000 pcs  
DTSMW-68, 66: 2000 pcs  
DTSMW-69, 65: 1900 pcs  
DTSMW-67, 64: 900 pcs  
DTSMW-677: 650 pcs

### DTSGMW-66



P.C.B. LAYOUT

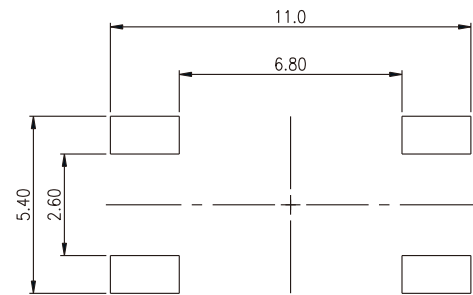
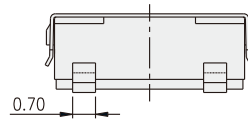
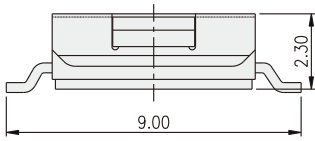
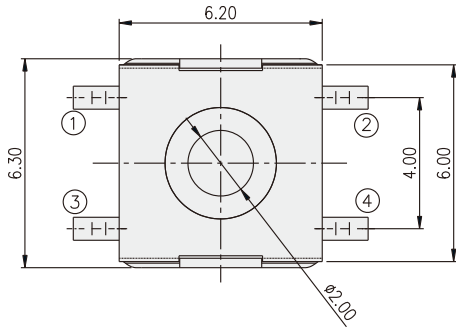
TACT SWITCH

TACT SWITCH  
**DTS(G)MW-6 SERIES**

6x6 Gull-Wing SMT  
 Washable Type



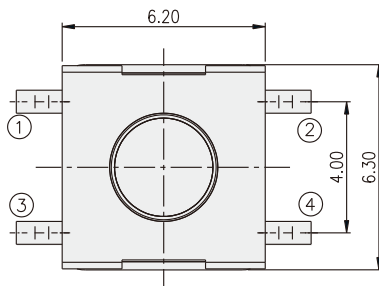
**DTSMW-68**



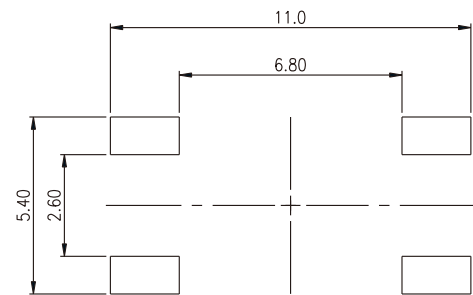
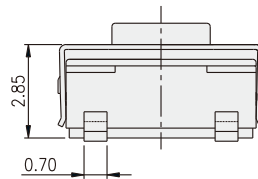
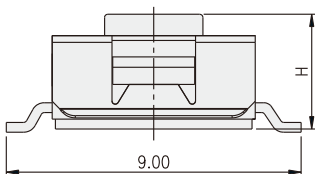
P.C.B. LAYOUT

TACT SWITCH

**DTSMW-6** □



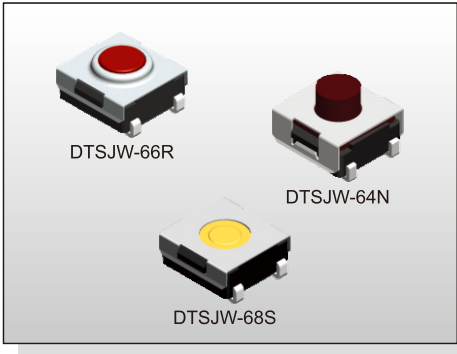
PART NO.	H
DTSMW-64	4.50
DTSMW-65	3.50
DTSMW-67	5.20
DTSMW-69	3.80
DTSMW-677	7.30



P.C.B. LAYOUT

# TACT SWITCH DTSJW-6 SERIES

6x6 J SMT  
Washable Type



## FEATURES

- ※Sealed
- ※Reflow solderable
- ※Dust proof with high reliability

## APPLICATION

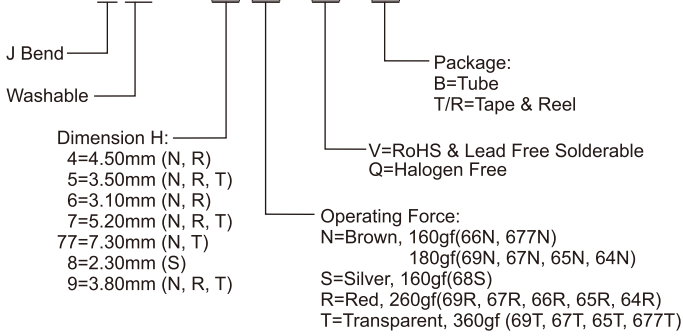
- ※Audio, OA equipment
- ※Instrumentation, Communication
- ※White goods

## SPECIFICATION

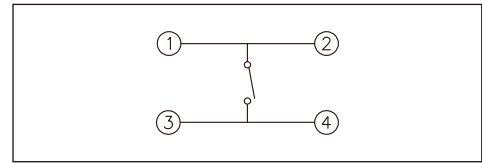
Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160±50gf, Brown(N) 66/677 160±50gf, Silver(S) 68 180±50gf, Brown(N) 69/67/65/64 260±70gf, Red(R) 69/67/66/65/64 360±90gf, Transparent(T) 69/67/65/677
Travel	0.25mm 68S/66N/66R/677 0.45mm (69/67N,R)/(65/64N,R,T) 0.6mm 69/67T
Operating Life	100,000 cycles min. for 68/66/677 500,000 cycles min. for 69/67/65/64
Operating Temp.	-25°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

## HOW TO ORDER

D T S J W - 6



## CIRCUIT



## PACKAGE

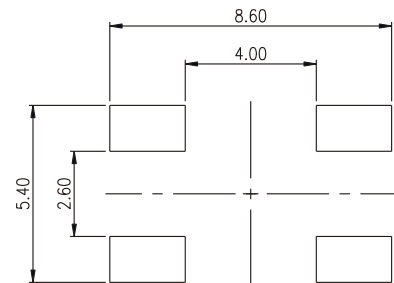
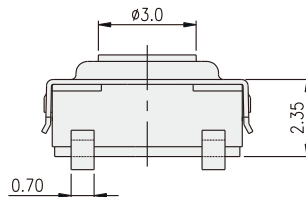
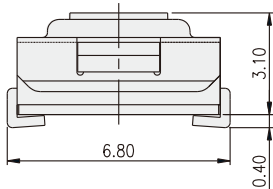
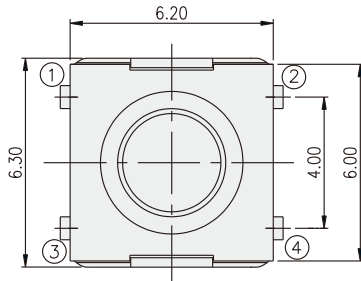
<Tube>

75 pcs

<Tape & Reel>

- DTSJW-64, 67: 900 pcs
- DTSJW-65, 69: 1800 pcs
- DTSJW-66: 1900 pcs
- DTSJW-68: 2000 pcs
- DTSJW-677: 650 pcs

## DTSJW-66



P.C.B. LAYOUT

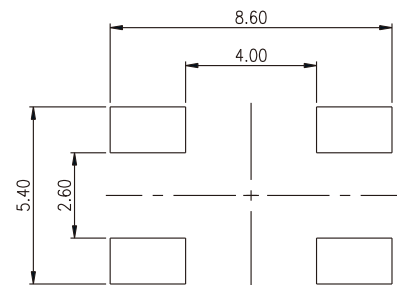
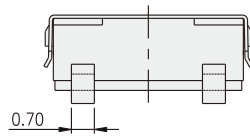
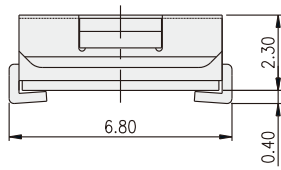
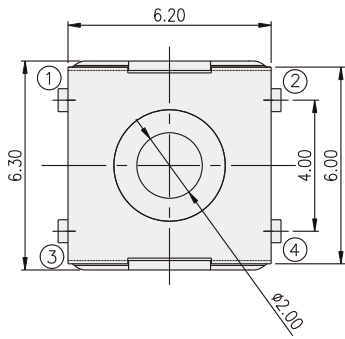
TACT SWITCH

TACT SWITCH  
**DTSJW-6** SERIES

6x6 J SMT  
 Washable Type



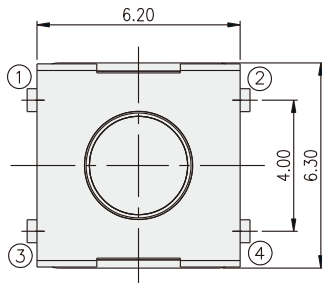
DTSJW-68



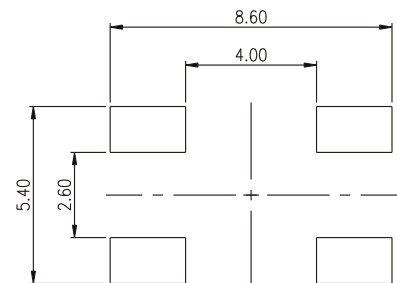
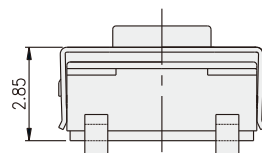
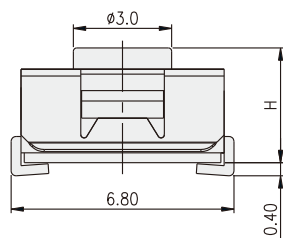
P.C.B. LAYOUT

TACT SWITCH

DTSJW-6□



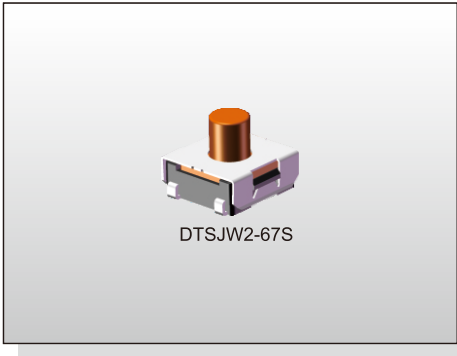
PART NO.	H
DTSJW-64	4.50
DTSJW-65	3.50
DTSJW-67	5.20
DTSJW-69	3.80
DTSJW-677	7.30



P.C.B. LAYOUT

TACT SWITCH  
**DTSJW( )-6 SERIES**

6x6 J SMT  
 Washable Type



**FEATURES**

- ※Sealed
- ※Gold contact available
- ※Dust proof with high reliability

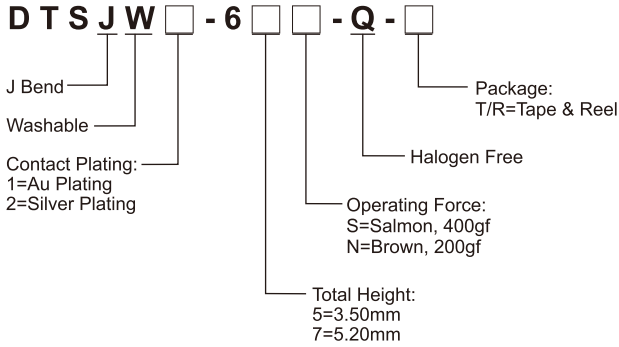
**APPLICATION**

- ※Audio, OA equipment
- ※Instrumentation, Communication
- ※White goods

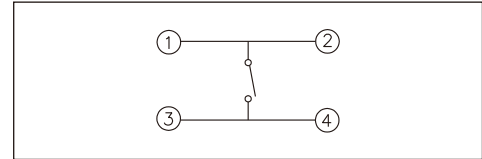
**SPECIFICATION**

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	200±50gf, 400±100gf
Travel	0.4/0.6mm
Operating Life	300, 000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**



**CIRCUIT**

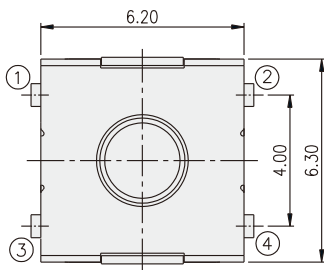


**PACKAGE**

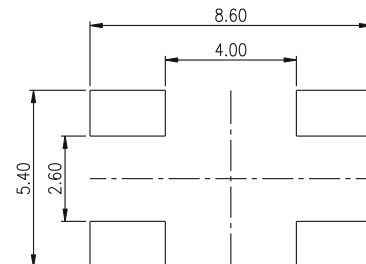
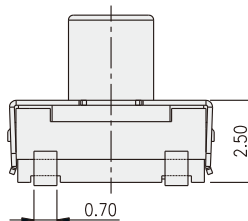
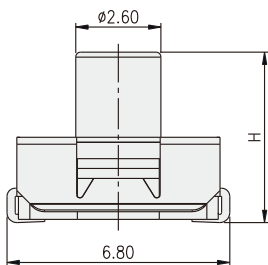
<Tape & Reel>  
 DTSJW□-65: 1900 pcs  
 DTSJW□-67: 900 pcs

TACT SWITCH

**DTSJW□-6**



PART NO.	H
DTSJW□-65	3.50
DTSJW□-67	5.20



P.C.B. LAYOUT



# TACT SWITCH DTSYHL-6 SERIES

6x6 Through Hole Type  
(Pitch 4.0mm)



## FEATURES

- ※Low profile with 2.5-3.5mm height
- ※Snap-in type
- ※Sharp click feeling

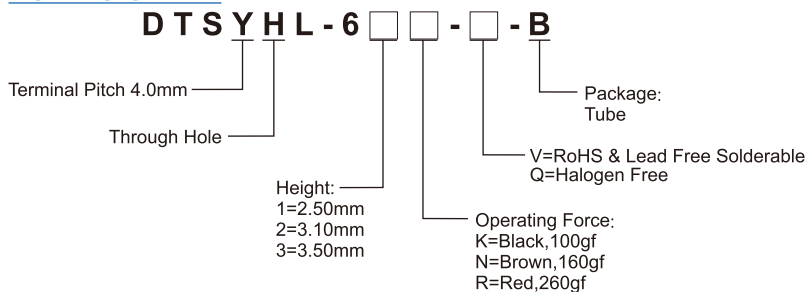
## APPLICATION

- ※Audio, OA equipment
- ※Instrumentation
- ※Industrial

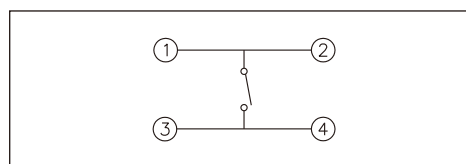
## SPECIFICATION

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	100±50gf, Black(K) 160±50gf, Brown(N) 260±50gf, Red(R)
Travel	0.25mm
Operating Life	100,000 cycles for 260gf 1,000,000 cycles for 160, 100gf
Operating Temp.	-25°C ~ +70°C
Storage Temp.	-40°C ~ +70°C

## HOW TO ORDER



## CIRCUIT

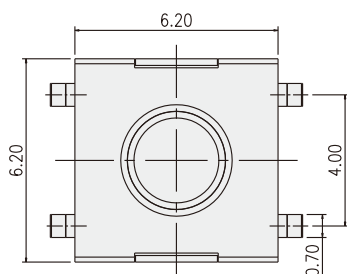


## PACKAGE

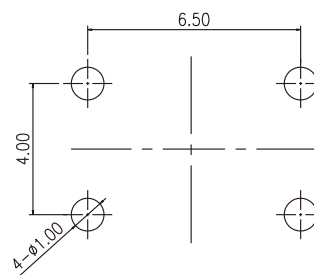
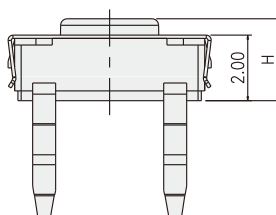
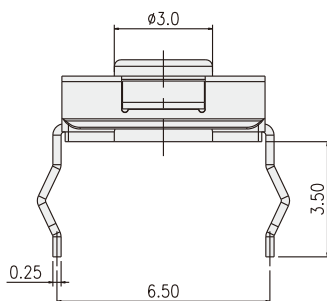
<Tube>  
75 pcs

TACT SWITCH

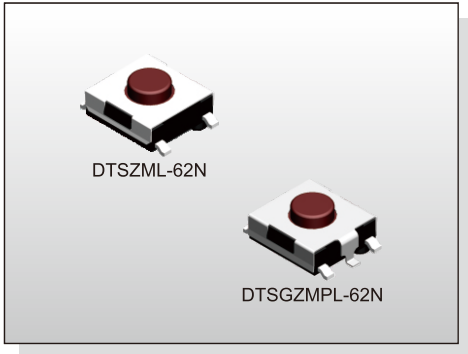
## DTSYHL-6



PART NO.	H
DTSYHL-61	2.50
DTSYHL-62	3.10
DTSYHL-63	3.50



P.C.B. LAYOUT



**FEATURES**

- ※ Thinner type with 2.5-5.25mm height
- ※ Ground terminal available
- ※ Reflow solderable

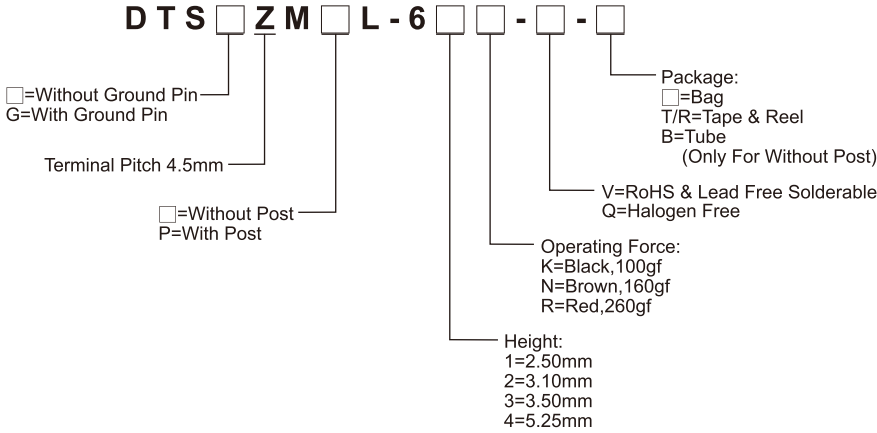
**APPLICATION**

- ※ Audio, OA equipment
- ※ Instrumentation
- ※ Consumer electronics

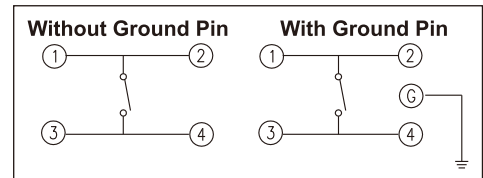
**SPECIFICATION**

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	100±50gf, Black(K) 160±50gf, Brown(N) 260±50gf, Red(R)
Travel	0.25mm
Operating Life	100,000 cycles for 260gf 1,000,000 cycles for 160, 100gf
Operating Temp.	-25°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

**HOW TO ORDER**



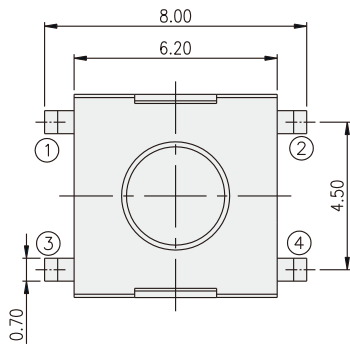
**CIRCUIT**



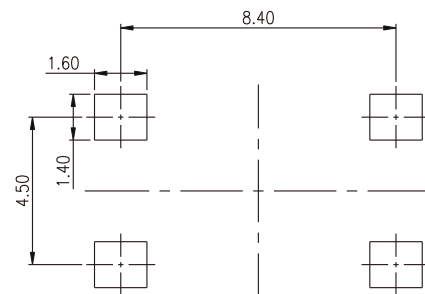
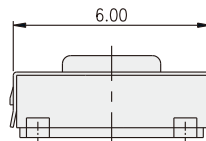
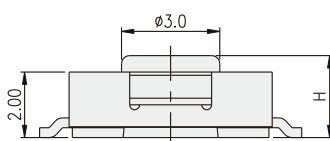
**PACKAGE**

- <Tube>  
 75 pcs
- <Tape & Reel>  
 DTS(G)ZML-61□: 2500 pcs  
 DTS(G)ZML-62□: 2500 pcs  
 DTS(G)ZMPL-61, 62: 1200 pcs  
 DTS(G)ZM(P)L-63: 1200 pcs  
 DTS(G)ZML(P)L-64: 900 pcs

**DTSZML-6**



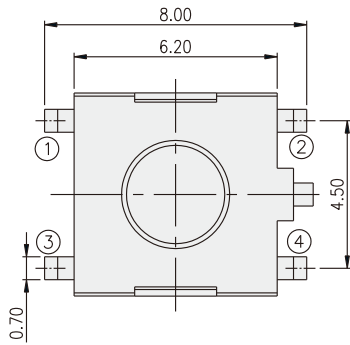
PART NO.	H
DTS□ZML-61	2.50
DTS□ZML-62	3.10
DTS□ZML-63	3.50
DTS□ZML-64	5.25



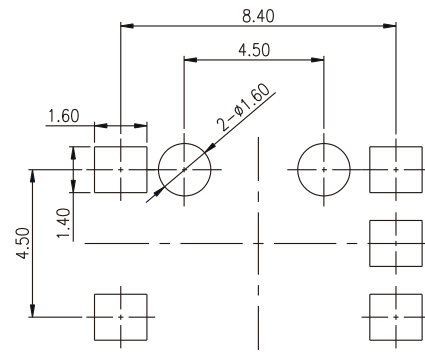
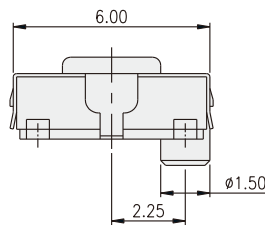
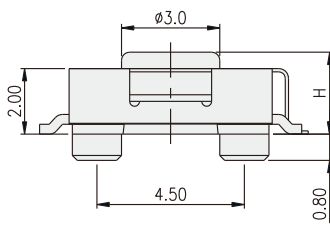
P.C.B. LAYOUT

TACT SWITCH

DTSGZMPL-6



PART NO.	H
DTS□ZMPL-61	2.50
DTS□ZMPL-62	3.10
DTS□ZMPL-63	3.50
DTS□ZMPL-64	5.25

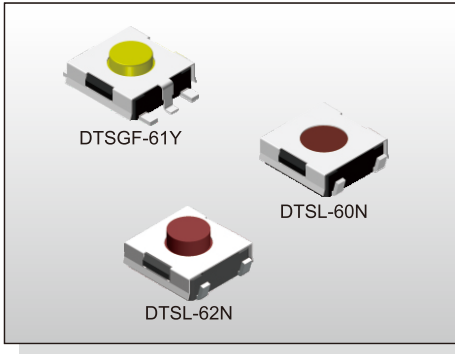


P.C.B. LAYOUT

TACT SWITCH

# TACT SWITCH DTS(G)(L)(F)-6 SERIES

6x6 Thinner Type With Ground Terminal  
(Pitch 4.0mm)



## FEATURES

- ※ Thinner type with 2.0-3.1mm height
- ※ Ground terminal available
- ※ Reflow solderable

## APPLICATION

- ※ Audio, OA equipment
- ※ Instrumentation
- ※ White goods

## SPECIFICATION

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	100±50gf, Black(K) 160±50gf, Brown(N) 200±50gf, Brown(N) 62 Only 260±50gf, Red(R) 320±80gf, White(S) 520±130gf, Yellow(Y)
Travel	0.25mm
Operating Life	300,000 cycles for 520/320gf 500,000 cycles for 260/200gf 1,000,000 cycles for 160/100gf
Operating Temp.	-25°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

## HOW TO ORDER

**D T S**   - **6**    -  -

=Without Ground Pin  
G=With Ground Pin

L=L S.M.T.  
F=F S.M.T.

Total Height:  
0=2.00mm  
1=2.50mm  
2=3.10mm

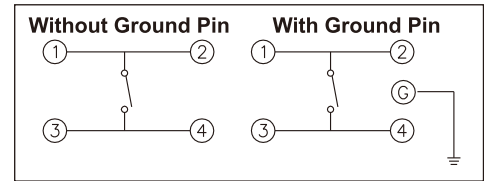
Operating Force:  
K=Black, 100gf  
N=Brown, 160gf  
R=Red, 260gf  
S=White, 320gf  
Y=Yellow, 520gf  
N=Brown, 200gf <Soft actuator 62 Only>

Package:  
B=Tube  
T/R=Tape & Reel

V=RoHS & Lead Free Solderable  
Q=Halogen Free

Actuator Type:  
=Soft <62> / Hard <60, 61>  
P=Hard <62 Only>

## CIRCUIT



## PACKAGE

<Tube>

75 pcs

<Tape & Reel>

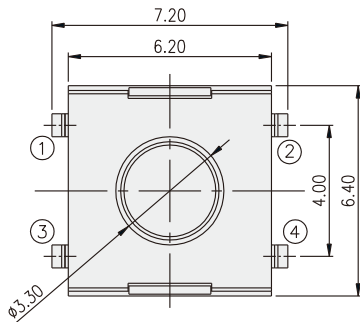
DTS(G)F-60  / DTSF-61 : 3000 pcs

DTS(G)L-60  / DTS(G)L-61 : 2700 pcs

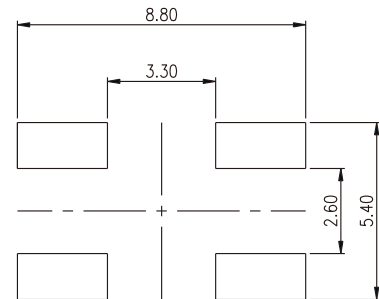
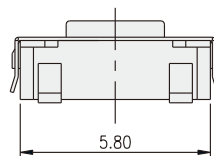
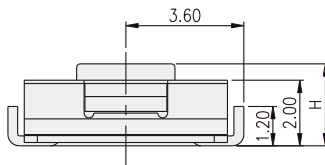
DTS(G)L-62  / DTS(G)F-62 : 2500 pcs

DTSGF-61 : 2500 pcs

## DTSL-6



PART NO.	H
DTSL-60	2.00
DTSL-61	2.50
DTSL-62	3.10



P.C.B. LAYOUT

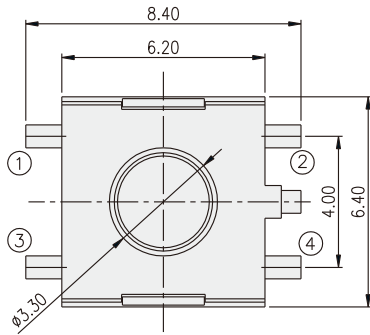
TACT SWITCH

TACT SWITCH  
**DTS(G)(L)(F)-6** SERIES

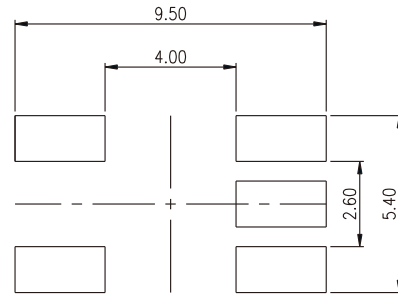
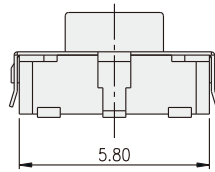
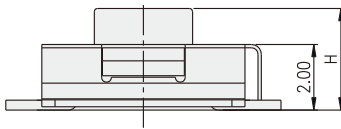
6x6 Thinner Type With Ground Terminal  
 (Pitch 4.0mm)



DTSGF-6

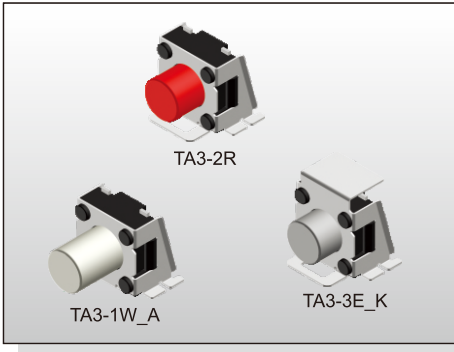


PART NO.	H
DTSGF-60	2.00
DTSGF-61	2.50
DTSGF-62	3.10



P.C.B. LAYOUT

TACT SWITCH



**FEATURES**

- ※Sealed type IP57
- ※Extended bracket available
- ※Easy to pick & place with top tab

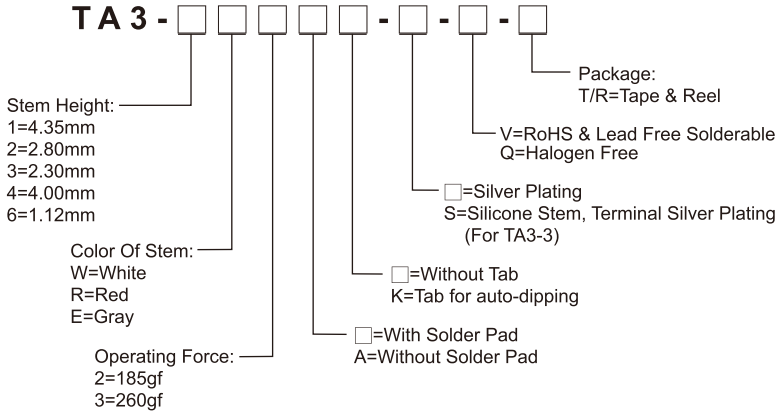
**APPLICATION**

- ※Data storage, Server
- ※Instrumentation
- ※Audio, OA equipment

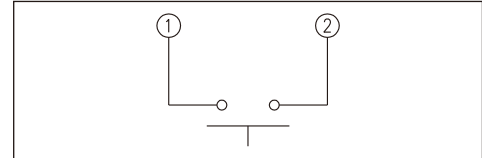
**SPECIFICATION**

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	10MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	185±50gf, 260±50gf
Travel	0.15mm
Operating Life	200, 000 cycles
Operating Temp.	-25°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

**HOW TO ORDER**



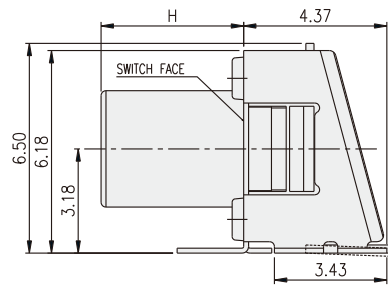
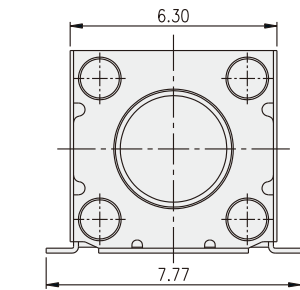
**CIRCUIT**



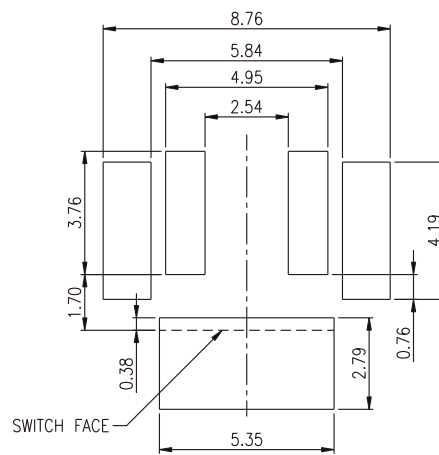
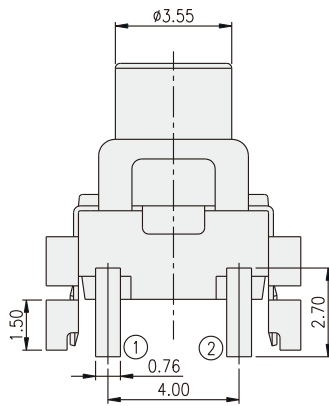
**PACKAGE**

<Tape & Reel>  
TA3: 600 pcs  
TA3-[ ]-[ ]-[ ]K: 550 pcs

**TA3**-[ ]-[ ]

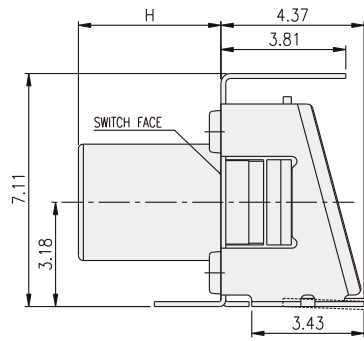
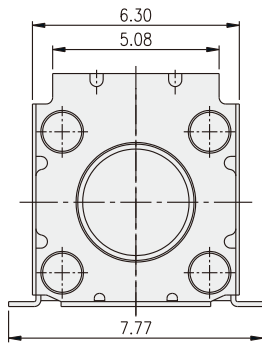


PART NO.	H
TA3-1[ ]	4.35
TA3-2[ ]	2.80
TA3-3[ ]	2.30
TA3-4[ ]	4.00
TA3-6[ ]	1.12

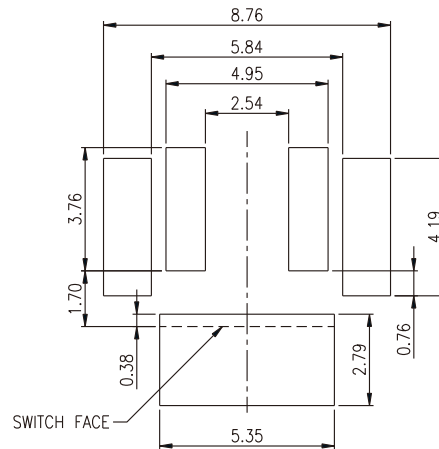
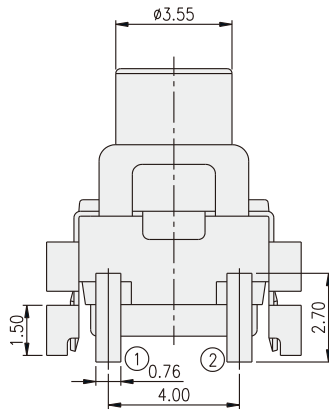


P.C.B. LAYOUT

TA3-□□K



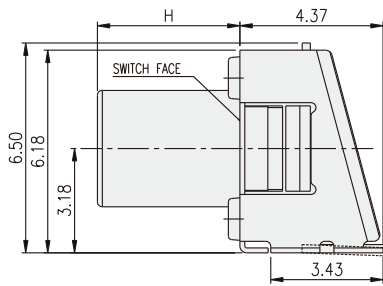
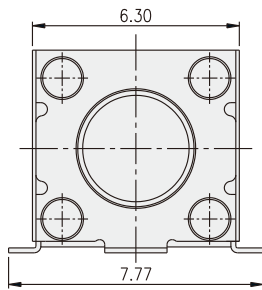
PART NO.	H
TA3-1□□K	4.35
TA3-2□□K	2.80
TA3-3□□K	2.30
TA3-4□□K	4.00
TA3-6□□K	1.12



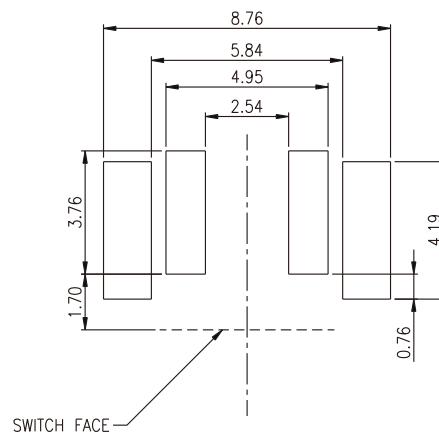
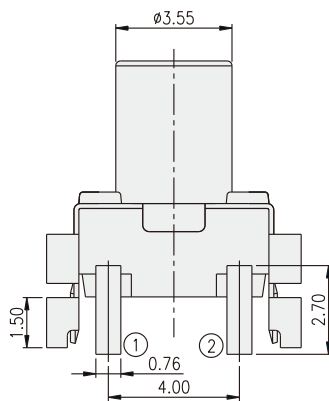
P.C.B. LAYOUT

TACT SWITCH

TA3-□□A



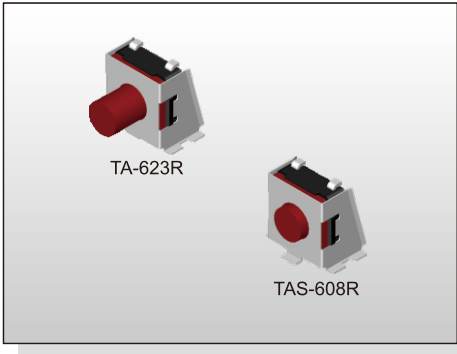
PART NO.	H
TA3-1□□A	4.35
TA3-2□□A	2.80
TA3-3□□A	2.30
TA3-4□□A	4.00
TA3-6□□A	1.12



P.C.B. LAYOUT

TACT SWITCH  
**TA-6** SERIES

6x6 SMT & Right Angle Type  
Soft Stem



**FEATURES**

- ※Right angle (SMT type)
- ※Support terminal available
- ※Reflow solderable

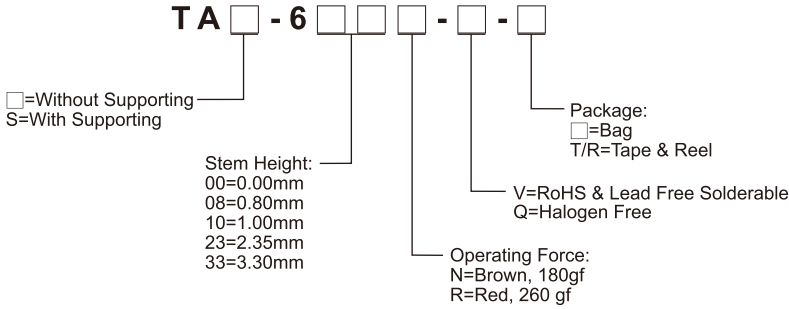
**APPLICATION**

- ※Audio, OA equipment
- ※Instrumentation
- ※Hair dryers

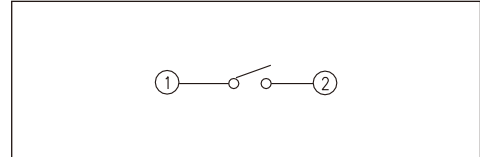
**SPECIFICATION**

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	180±50gf, Brown(N) 260±70gf, Red(R)
Travel	0.45mm
Operating Life	500,000 cycles
Operating Temp.	-25°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

**HOW TO ORDER**



**CIRCUIT**

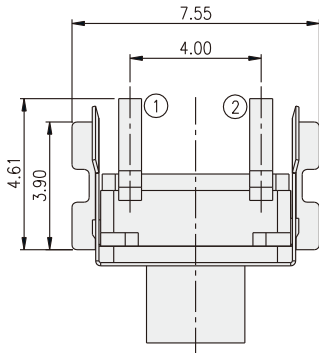


**PACKAGE**

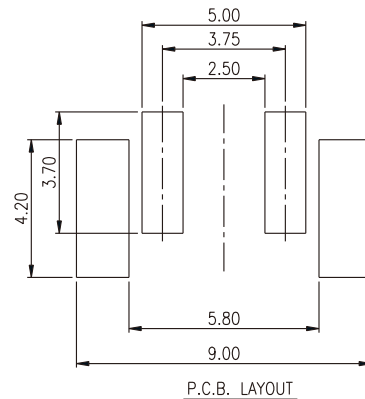
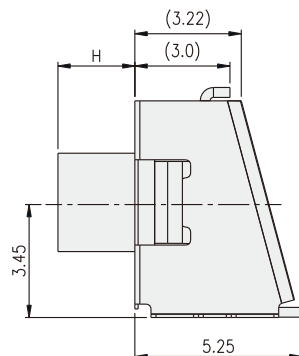
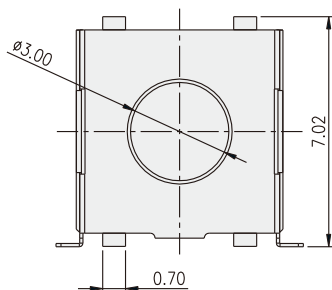
<Bag>  
500 pcs  
<Tape & Reel>  
TA(S)-600 / 608 / 610 / 623: 700 pcs  
TA(S)-633: 500 pcs

TACT SWITCH

**TA-6**

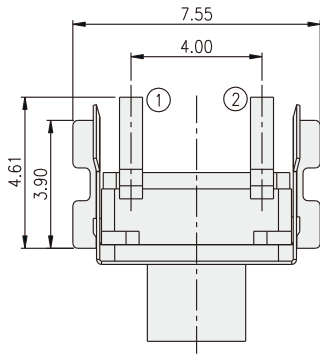


PART NO.	H
TA-600	0
TA-608	0.80
TA-610	1.00
TA-623	2.35
TA-633	3.30

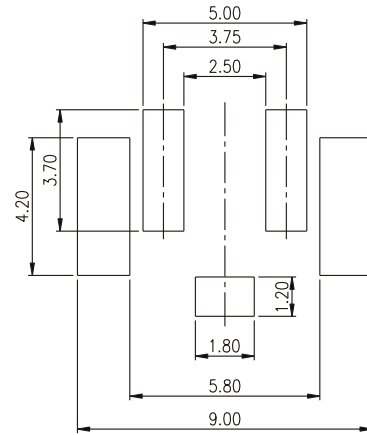
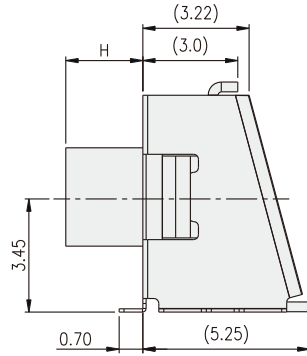
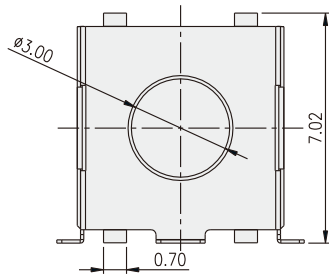




TAS-6



PART NO.	H
TAS-600	0
TAS-608	0.80
TAS-610	1.00
TAS-623	2.35
TAS-633	3.30



P.C.B. LAYOUT

TACT SWITCH  
**T1A SERIES**

**2.8\*1.9 J Terminal SMT Type  
(H=0.50mm)**



T1A

**FEATURES**

- ※ Compact-size 2.8\*1.9mm
- ※ Low profile with 0.50mm
- ※ Long operation cycles

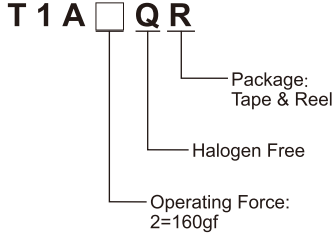
**APPLICATION**

- ※ Smart phone
- ※ Digital camera, Medical
- ※ Portable electronic device
- ※ 3C products

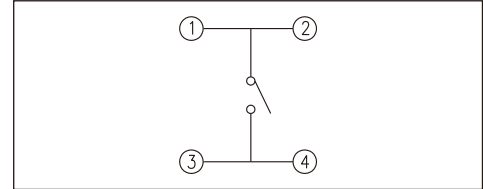
**SPECIFICATION**

Contact Rating	10uA, 1V DC to 50mA, 12V DC
Contact Resistance	500mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	100V AC/1 minute
Operating Force	160±50gf
Travel	0.13mm
Operating Life	300,000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**



**CIRCUIT**

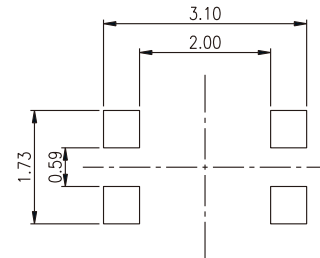
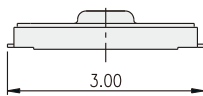
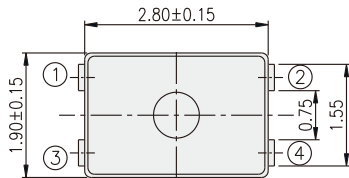


**PACKAGE**

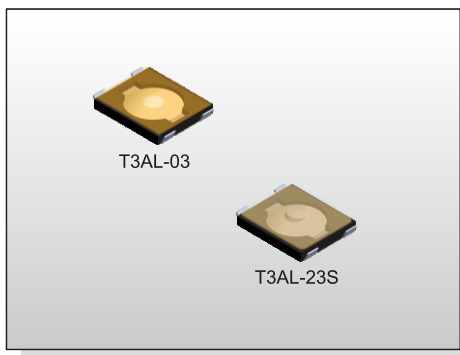
<Tape & Reel>  
16000 pcs

TACT SWITCH

**T1A**



P.C.B. LAYOUT



**FEATURES**

- ※ Compact-sized 2.6x3mm
- ※ Low profile with 0.45mm / 0.65mm

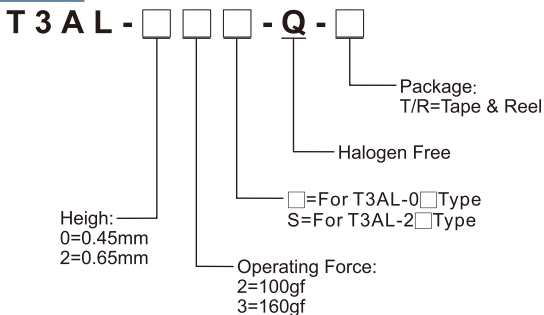
**APPLICATION**

- ※ Smart phone
- ※ Digital camera, Medical
- ※ Portable electronic device

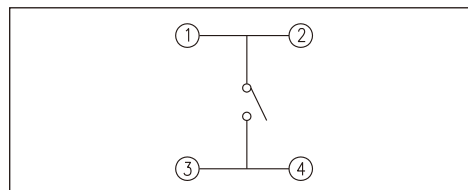
**SPECIFICATION**

Contact Rating	50mA, 12V DC
Contact Resistance	500mΩ max.
Insulation Resistance	50MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	100±50gf, 160±50gf
Travel	0.15mm
Operating Life	100,000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**



**CIRCUIT**

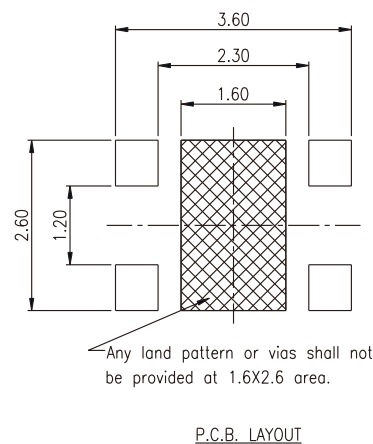
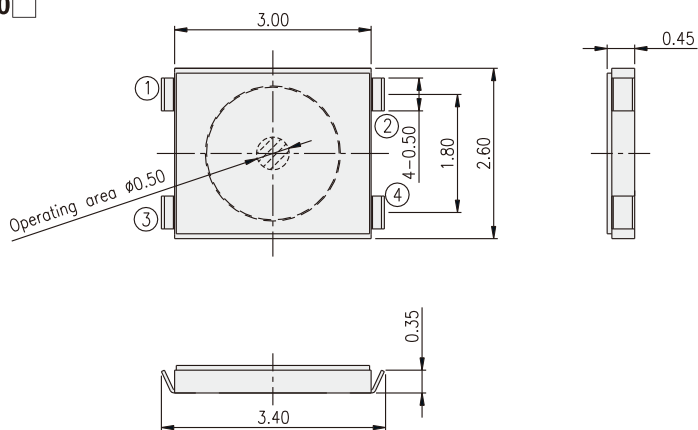


**PACKAGE**

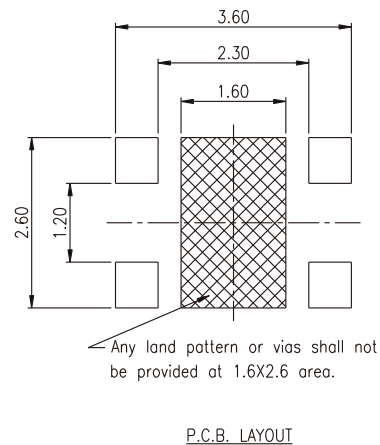
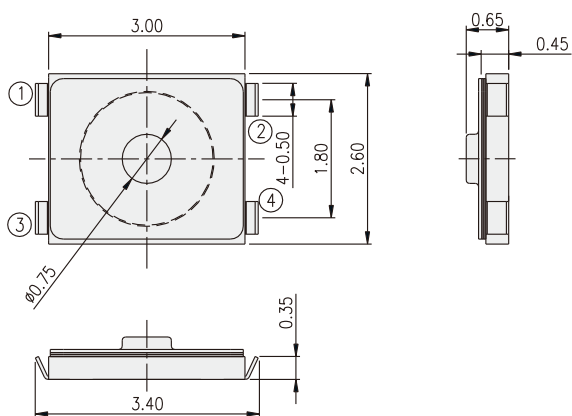
<Tape & Reel>  
8000 pcs

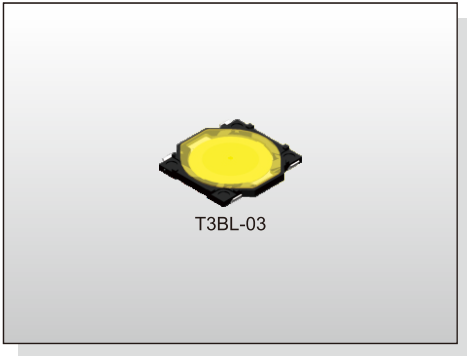
TACT SWITCH

**T3AL-0□**



**T3AL-2□S**





**FEATURES**

- ※ Compact-sized 3.7x3.7mm
- ※ Low profile of 0.35mm height
- ※ 500,000 life cycles operating

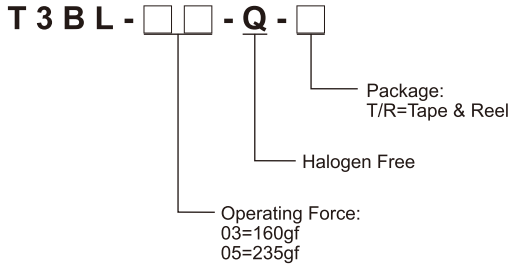
**APPLICATION**

- ※ Smart phone
- ※ Digital camera, Medical
- ※ Portable electronic device

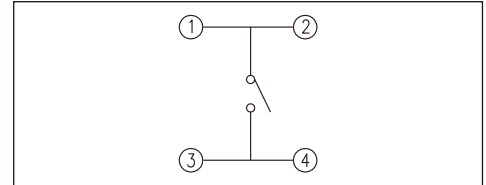
**SPECIFICATION**

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	100V AC/1 minute
Operating Force	160±50gf/235±60gf
Travel	0.15mm
Operating Life	50,000 cycles for 235gf 500,000 cycles for 160gf
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**



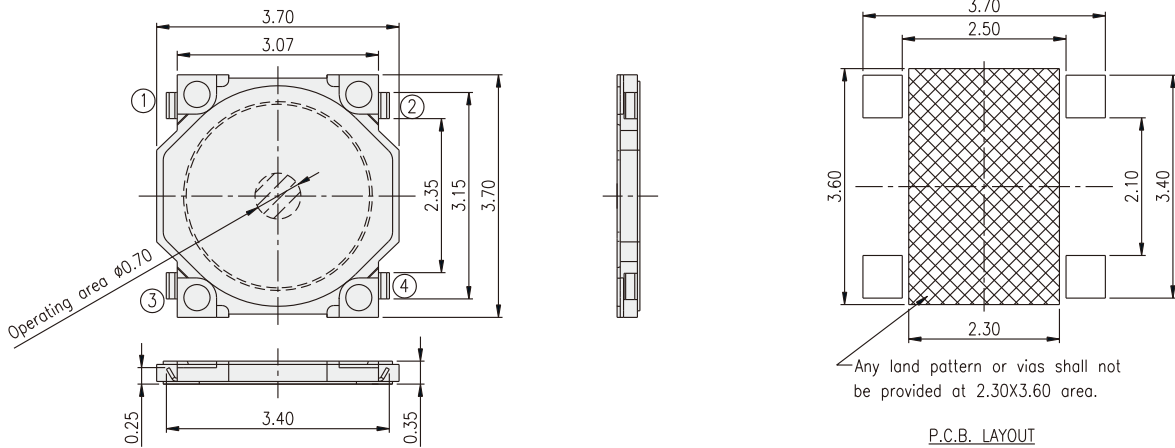
**CIRCUIT**

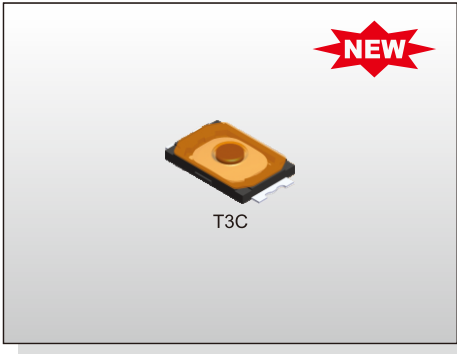


**PACKAGE**

<Tape & Reel>  
8000 pcs

**T3BL**





T3C

**FEATURES**

- ※ Compact-size 3.0\*2.0mm
- ※ Low profile with 0.60mm
- ※ Long operation cycles

**APPLICATION**

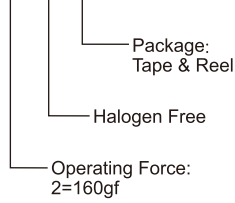
- ※ Smart phone
- ※ Digital camera, Medical
- ※ Portable electronic device
- ※ 3C products

**SPECIFICATION**

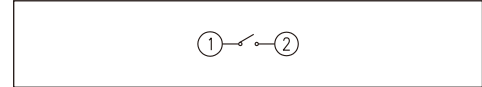
Contact Rating	10uA, 1V DC to 50mA, 12V DC
Contact Resistance	500mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	100V AC/1 minute
Operating Force	160±50gf
Travel	0.13mm
Operating Life	300,000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**

T 3 C □ Q R



**CIRCUIT**

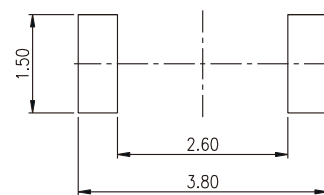
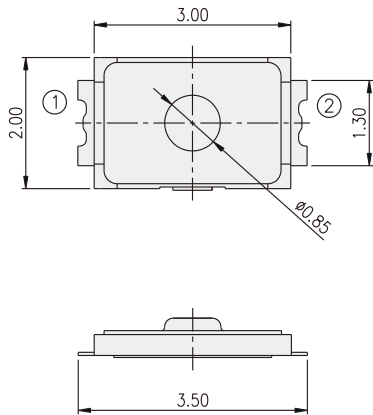


**PACKAGE**

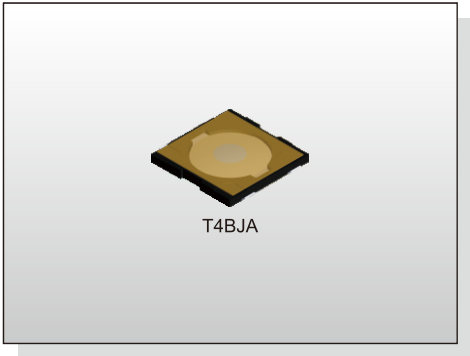
<Tape & Reel>  
8000 pcs

TACT SWITCH

**T3C**



P.C.B. LAYOUT



**FEATURES**

- ※ Compact-sized 4.8x4.8mm
- ※ Low profile of 0.55mm height
- ※ Long operating life

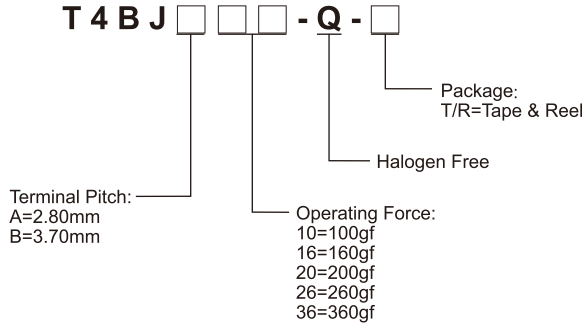
**APPLICATION**

- ※ Smart phone
- ※ Digital camera, Medical
- ※ Portable electronic device

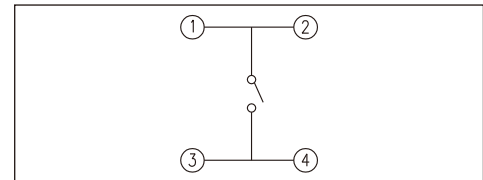
**SPECIFICATION**

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	100V AC/1 minute
Operating Force	100±50gf/160±50gf/200±50gf 260±50gf/360±60gf
Travel	0.2mm
Operating Life	200,000 cycles for 360gf 500,000 cycles for 260/200gf 1,000,000 cycles for 160/100gf
Operating Temp.	-30°C ~ +80°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**



**CIRCUIT**

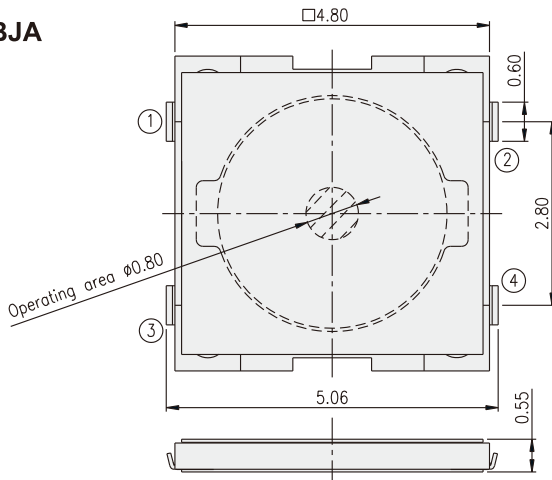


**PACKAGE**

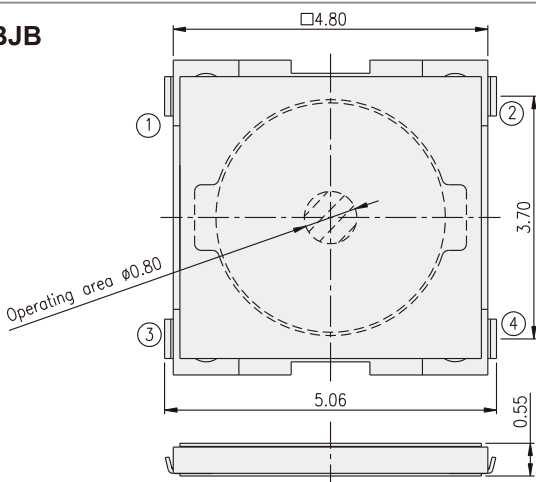
<Tape & Reel>  
8000 pcs

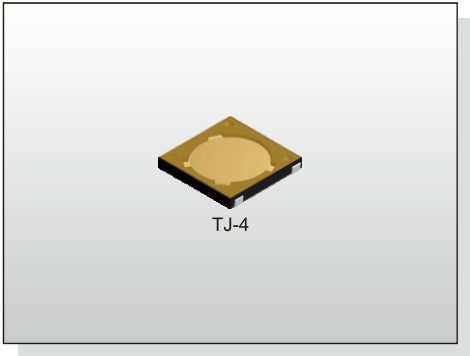
TACT SWITCH

**T4BJA**



**T4BJB**





TJ-4

**FEATURES**

- ※ Compact-sized 4.4x4.4mm
- ※ Low profile of 0.55mm height
- ※ Long operating life

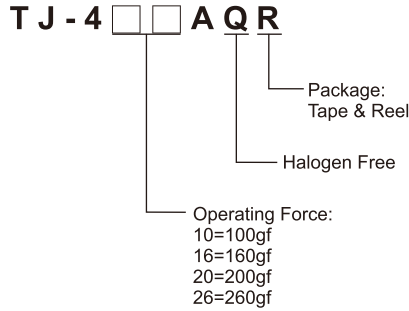
**APPLICATION**

- ※ Smart phone
- ※ Digital camera, Medical
- ※ Portable electronic device

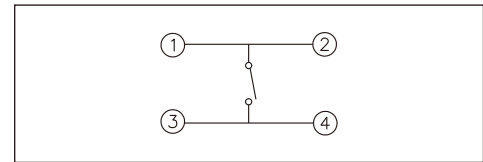
**SPECIFICATION**

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	300V AC/1 minute
Operating Force	100±50gf/160±50gf/200±50gf 260±50gf
Travel	0.2mm
Operating Life	500,000 cycles for 260/200gf 1,000,000 cycles for 160/100gf
Operating Temp.	-20°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

**HOW TO ORDER**



**CIRCUIT**

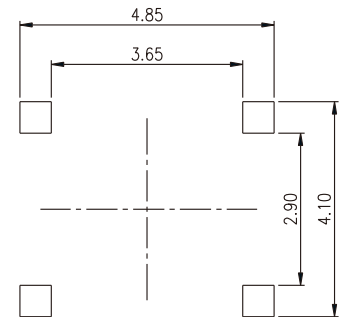
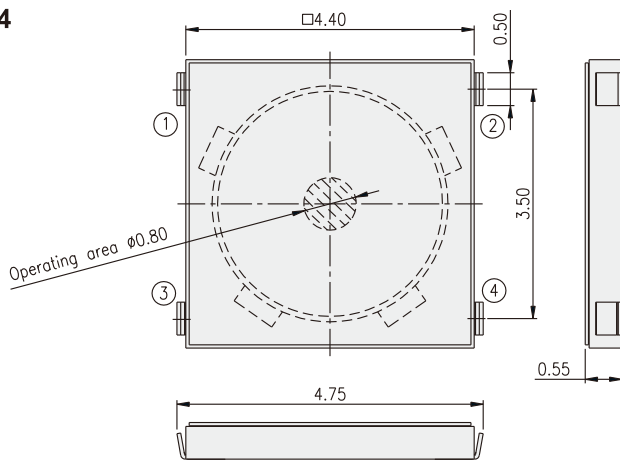


**PACKAGE**

<Tape & Reel>  
TJ-4: 8000 pcs

TACT SWITCH

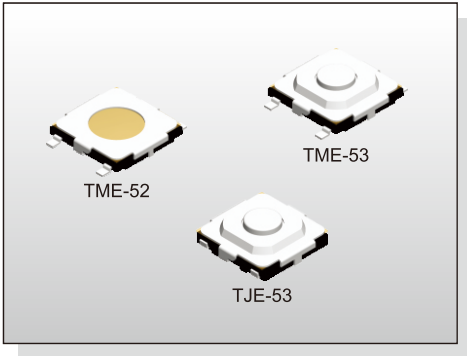
**TJ-4**



P.C.B. LAYOUT

TACT SWITCH  
**T(E-5) SERIES**

5.2x5.2 SMT & J SMT Type  
 (H: 0.8 / 1.5mm)



**FEATURES**

- ※ Compact-sized 5.2x5.2mm
- ※ Long operating life
- ※ With ground terminal

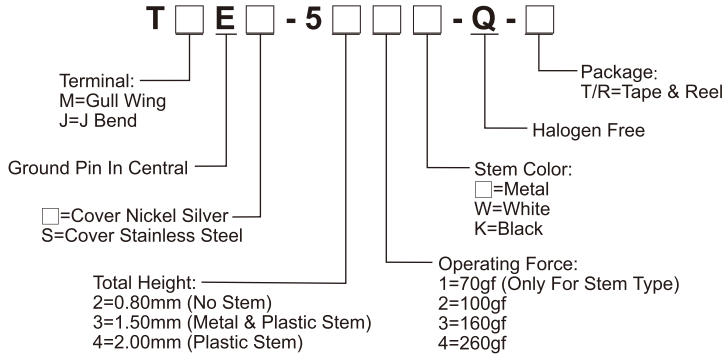
**APPLICATION**

- ※ Smart phone
- ※ Digital camera, Medical
- ※ Portable electronic device

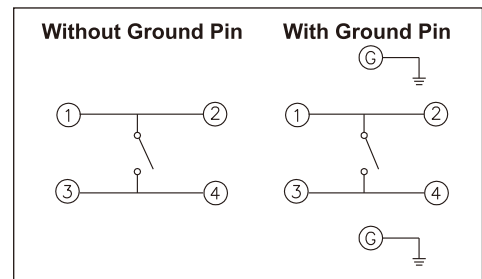
**SPECIFICATION**

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	70±50gf/100±50gf/160±50gf 260±50gf
Travel	0.25mm
Operating Life	200,000 cycles for 260gf 1,000,000 cycles for 160/100/70gf
Operating Temp.	-25°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

**HOW TO ORDER**



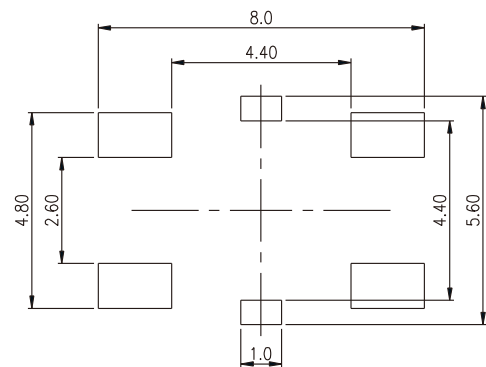
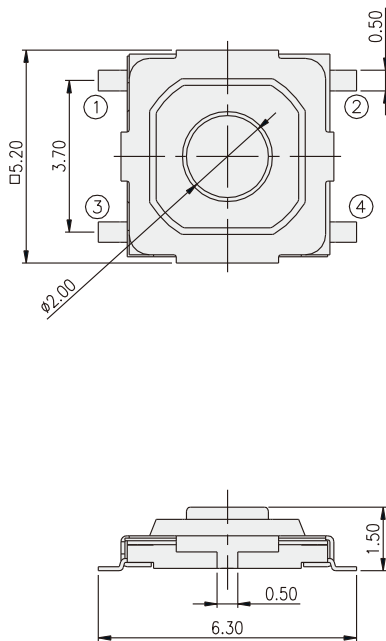
**CIRCUIT**



**PACKAGE**

<Tape & Reel>  
 T□E-52, 53=4000 pcs  
 T□E-54=3000 pcs

**TME-5**

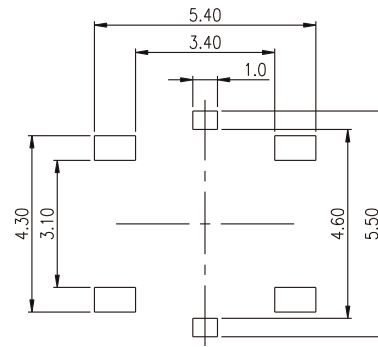
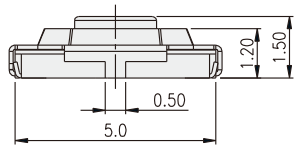
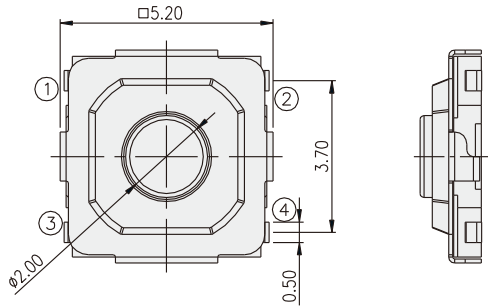


P.C.B. LAYOUT

TACT SWITCH



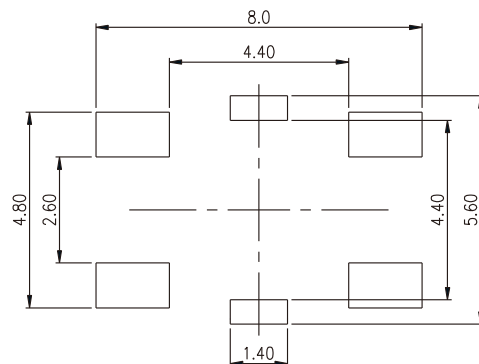
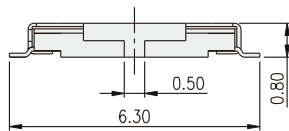
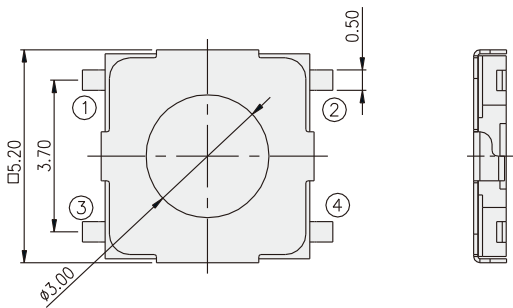
TJE-53



P.C.B. LAYOUT

TACT SWITCH

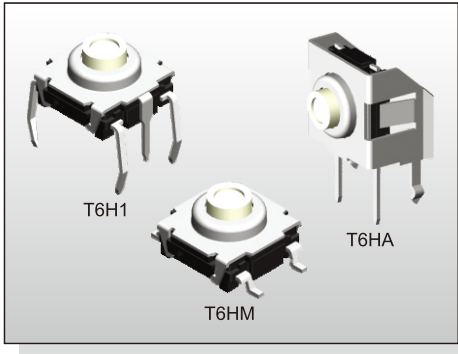
TME-52



P.C.B. LAYOUT

TACT SWITCH  
**T6H** SERIES

7.4x7.4 / 8.0x8.0  
Right Angle / Through Hole / SMT Type



**FEATURES**

- ✘ Support automatic insertion
- ✘ Vertical actuation
- ✘ Dust proof structure

**APPLICATION**

- ✘ Automotive
- ✘ Industrial
- ✘ Instrumentation

**SPECIFICATION**

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	130±50gf / 160±50gf 300±50gf / 500±100gf
Travel	0.5mm
Operating Life	200,000 cycles for 500gf 500,000 cycles for 300gf 1,000,000 cycles for 160/130gf
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**

T 6 H [ ] - [ ] [ ] [ ] Q [ ]

A=Right angle series  
H=Through holes  
M=S.M.T Type  
1=6x6 ground terminal type  
2=S.M.T ground terminal type

Package Style:  
R=Tape & Reel (S.M.T. Type Only)  
B=Tube

Halogen Free

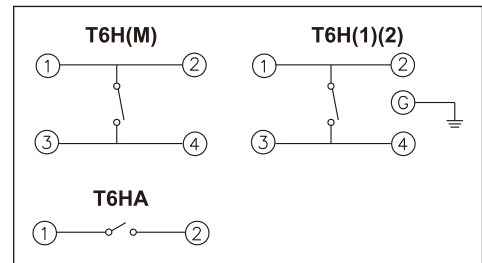
Contact Plating:  
G = Plating Ag  
A= Plating Au

Operating Force:  
2=130gf  
3=160gf  
5=300gf  
6=500gf

Total Height :

SMT/Through hole	Right angle
1=4.70mm	1=6.04mm
2=5.20mm	2=6.54mm
3=6.90mm	3=8.24mm
5=10.0mm	5=11.34mm

**CIRCUIT**

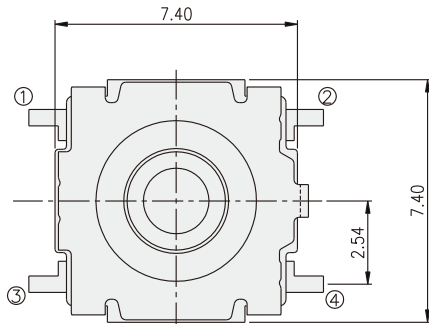


**PACKAGE**

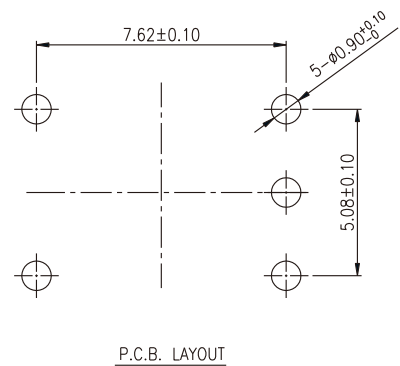
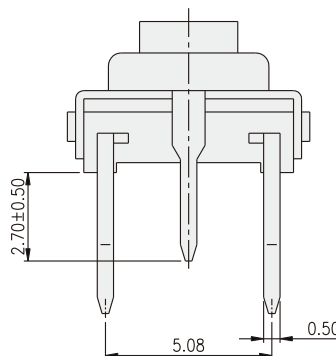
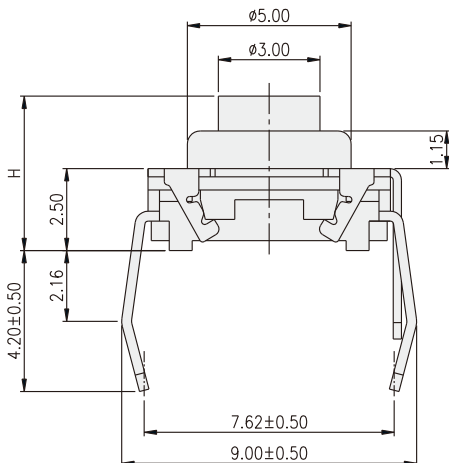
<Tube>  
T6HH, T6H1: 60 pcs  
T6HA: 52 pcs

<Tape & Reel>  
T6HM-(1)(2): 700 pcs  
T6HM-3: 500 pcs  
T6HM-5: 350 pcs

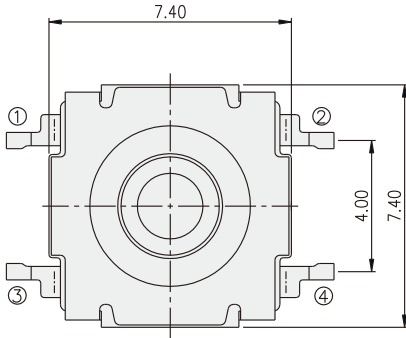
**T6H1**



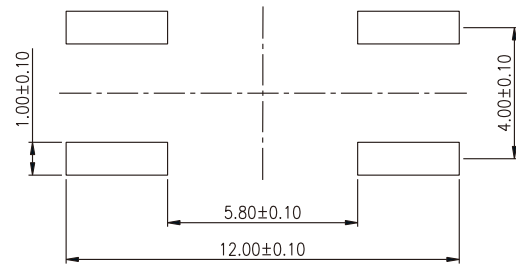
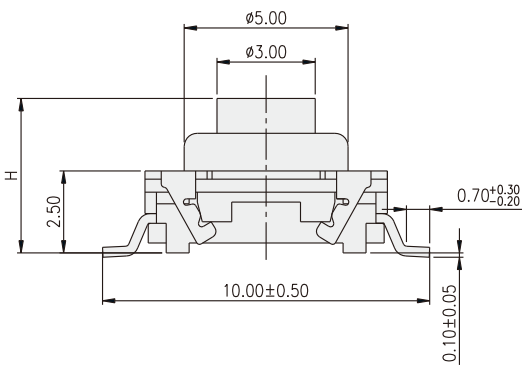
PART NO.	H
T6H1-1	4.70
T6H1-2	5.20
T6H1-3	6.90
T6H1-5	10.00



T6HM



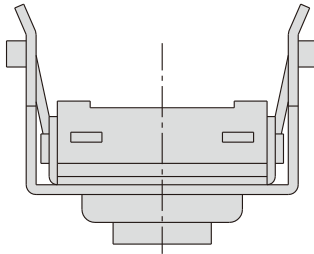
PART NO.	H
T6HM-1	4.70
T6HM-2	5.20
T6HM-3	6.90
T6HM-5	10.00



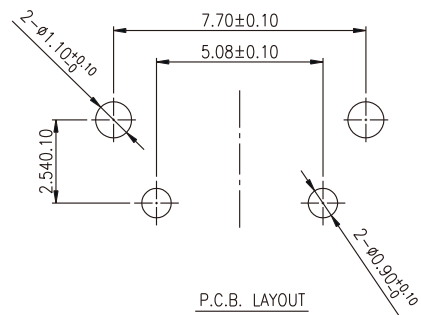
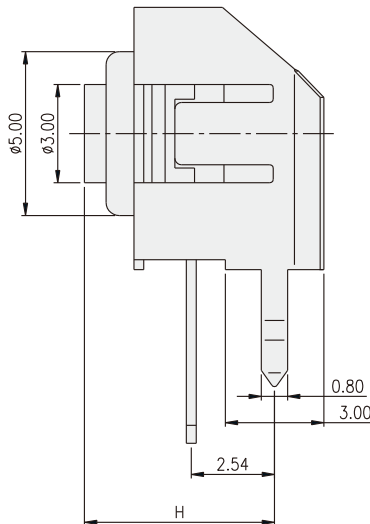
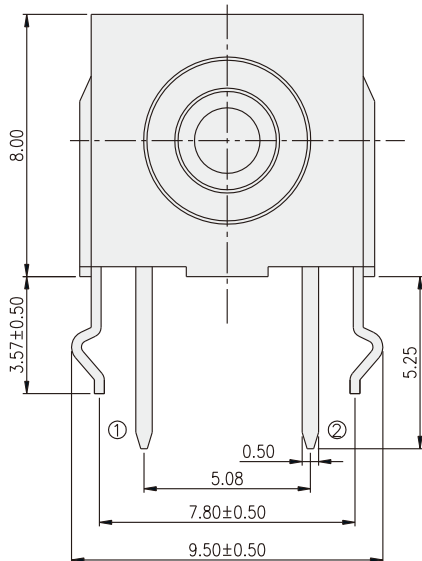
P.C.B. LAYOUT

TACT SWITCH

T6HA



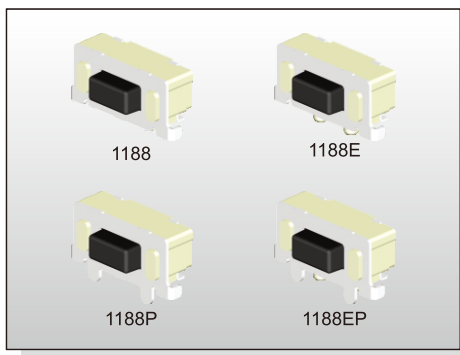
PART NO.	H
T6HA-1	6.04
T6HA-2	6.54
T6HA-3	8.24
T6HA-5	11.34



P.C.B. LAYOUT

# TACT SWITCH 1188 SERIES

3.5x7  
SMT & Side Push Type



## FEATURES

- ※Side actuated
- ※Support / Ground pins options
- ※High solder strength

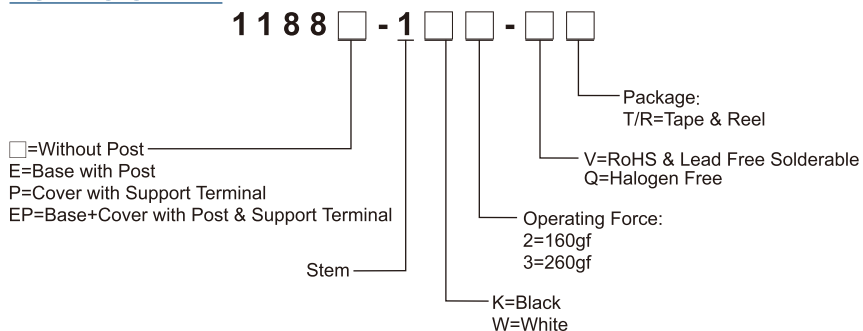
## APPLICATION

- ※Audio, OA equipment
- ※Instrumentation
- ※Remote control

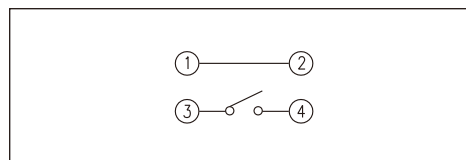
## SPECIFICATION

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160±50gf/260±50gf
Travel	0.25mm
Operating Life	30,000 cycles for 260gf 50,000 cycles for 160gf
Operating Temp.	-25°C ~ +70°C
Storage Temp.	-40°C ~ +80°C

## HOW TO ORDER



## CIRCUIT

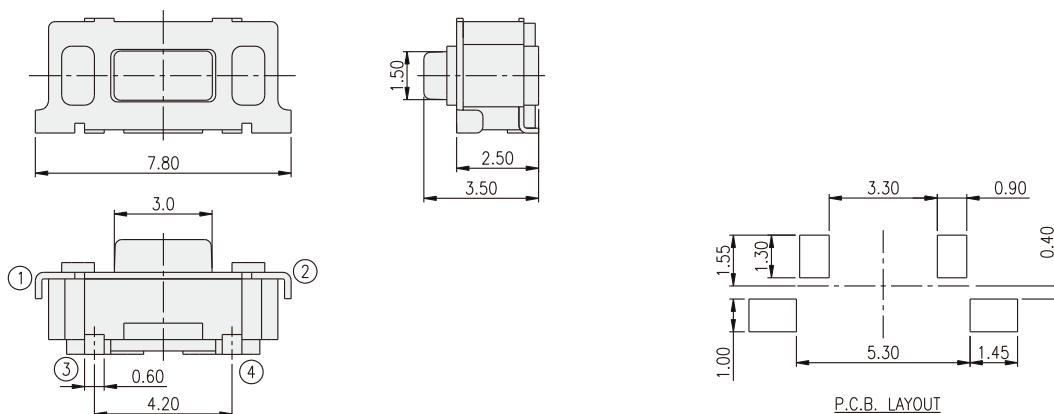


## PACKAGE

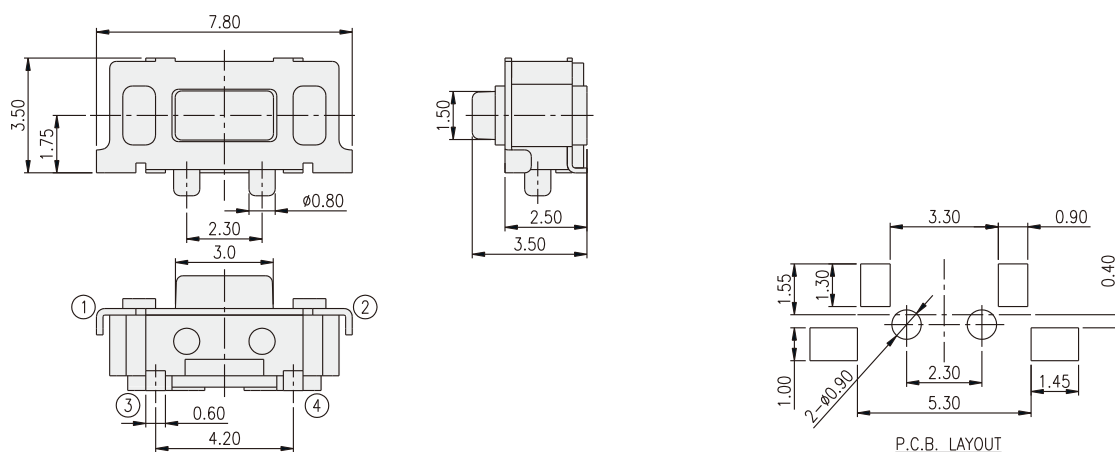
<Tape & Reel>  
1500 pcs

TACT SWITCH

## 1188



## 1188E

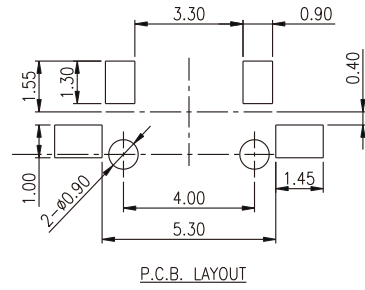
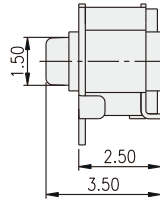
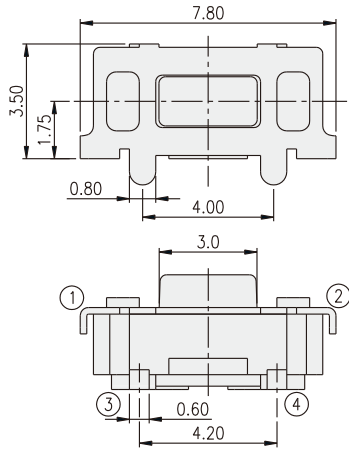


TACT SWITCH  
**1188** SERIES

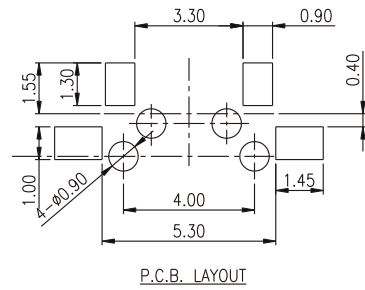
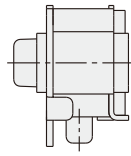
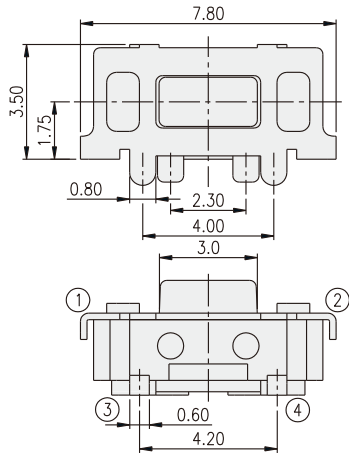
3.5x7  
 SMT & Side Push Type



**1188P**



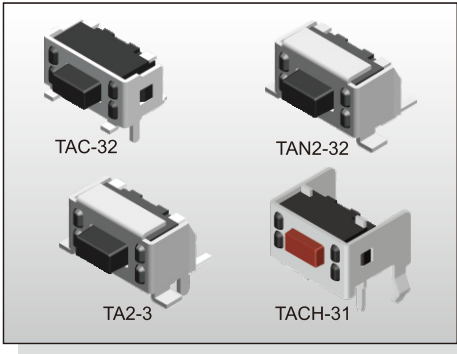
**1188EP**



TACT SWITCH

# TACT SWITCH TA(C)(2)-3 SERIES

3.95x7.3 / 4.65x7.0  
SMT & Side Push Type



## FEATURES

- ※Side actuated
- ※Support/Ground pin option
- ※High solder strength

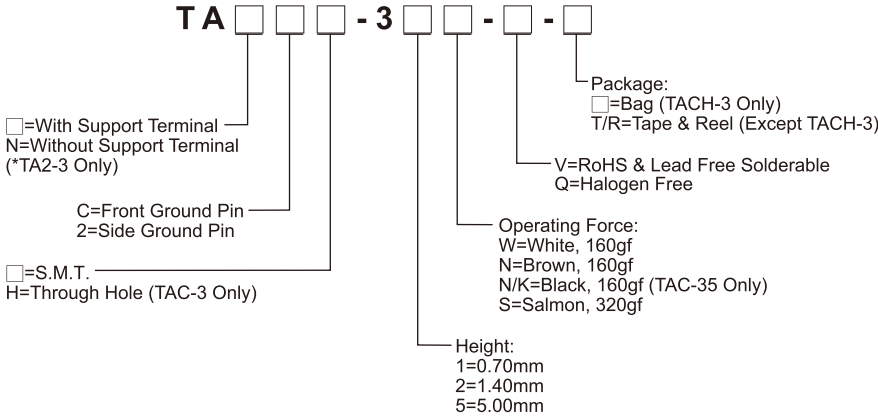
## APPLICATION

- ※Data storage, Server
- ※Instrumentation
- ※Audio, OA equipment

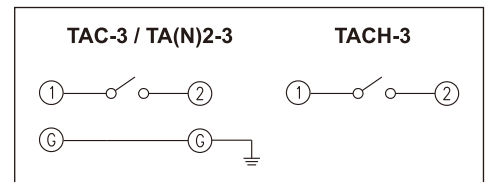
## SPECIFICATION

Contact Rating	50mA, 12V DC	
Contact Resistance	100mΩ max.	
Insulation Resistance	100MΩ min. 500V DC	
Dielectric Strength	250V AC/1 minute	
Operating Force	160±50gf, 260±50gf	TAC-3
	160±50gf, White(W)	TA2-3
	160±50gf, Brown(N)	
	320±50gf, Salmon(S)	
Travel	0.25mm	
Operating Life	50,000 cycles	
Operating Temp.	-25°C ~ +70°C	
Storage Temp.	-40°C ~ +80°C	

## HOW TO ORDER



## CIRCUIT

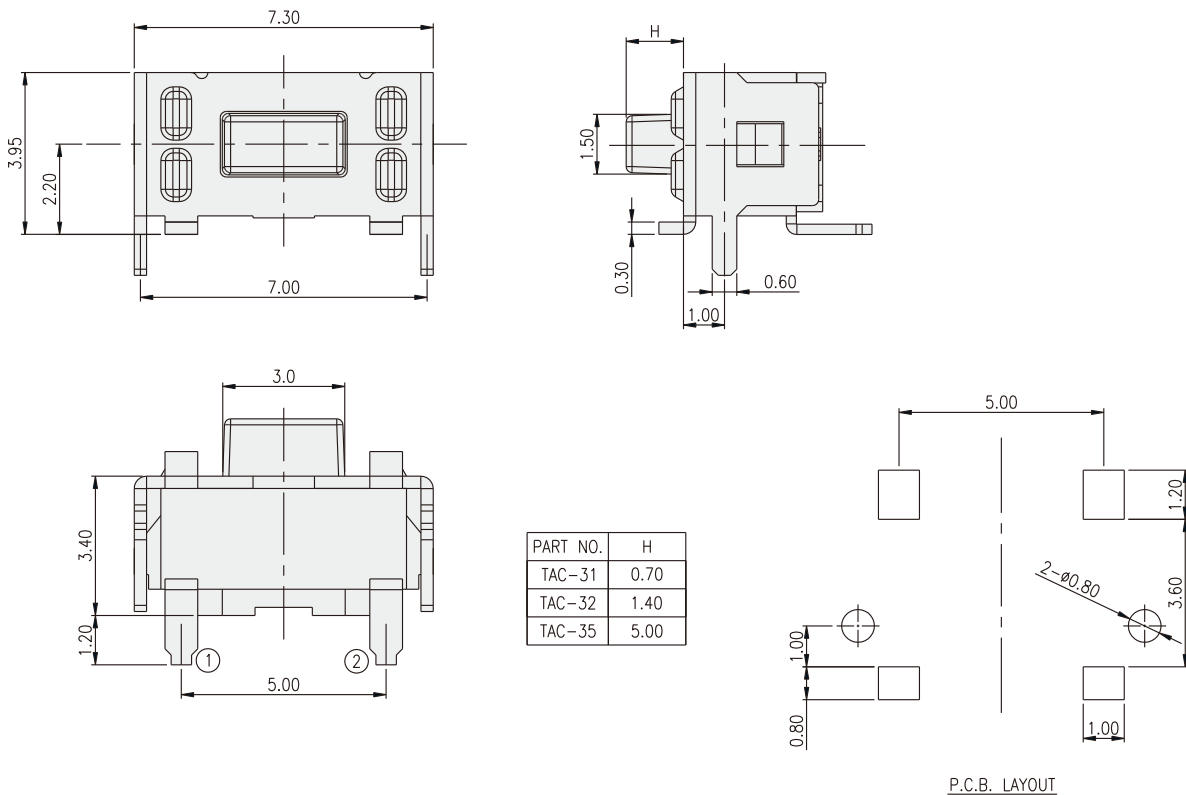


## PACKAGE

<Bag>  
500 pcs(TACH-3 Only)

<Tape & Reel>  
900 pcs

## TAC-3

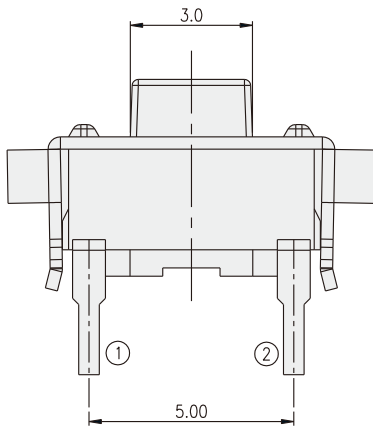
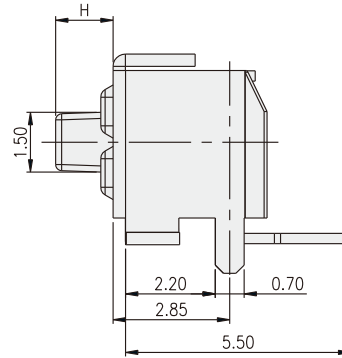
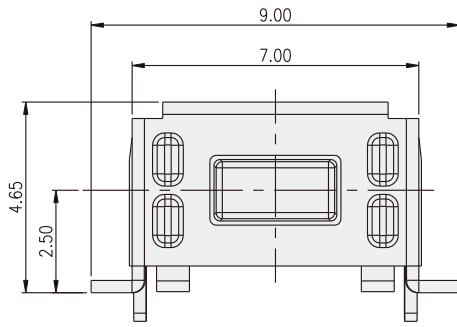


TACT SWITCH  
**TA(C)2-3** SERIES

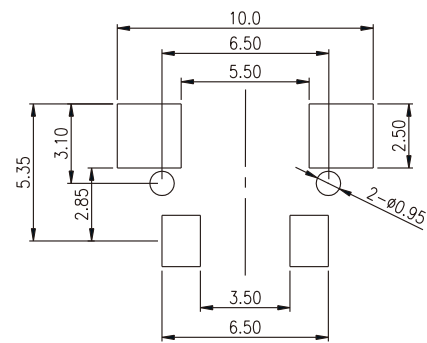
3.95x7.3 / 4.65x7.0  
 SMT & Side Push Type



TA2-3



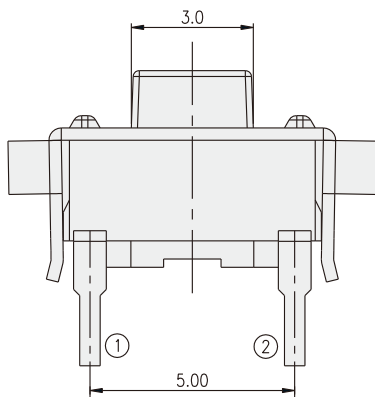
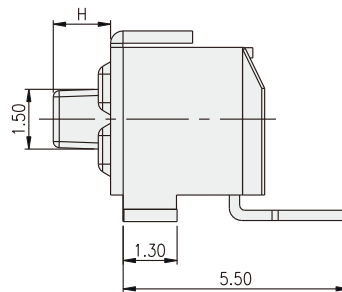
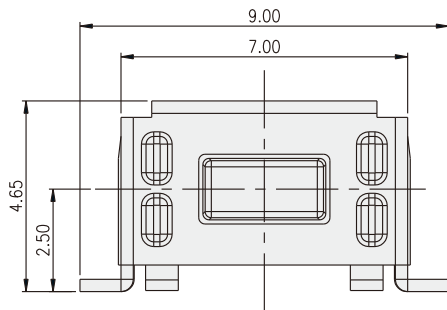
PART NO.	H
TA2-31	0.70
TA2-32	1.40
TA2-35	5.00



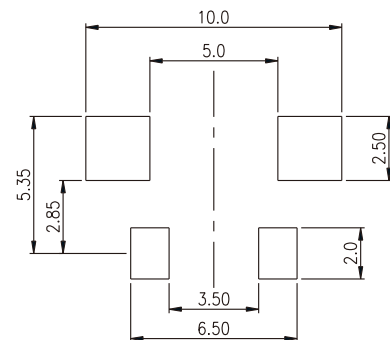
P.C.B. LAYOUT

TACT SWITCH

TAN2-3



PART NO.	H
TAN2-31	0.70
TAN2-32	1.40
TAN2-35	5.00



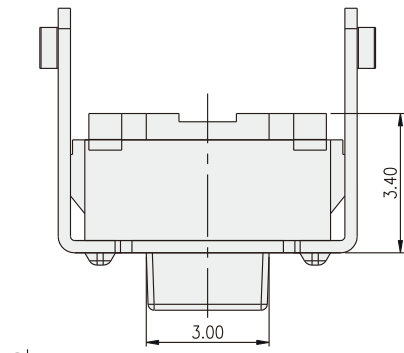
P.C.B. LAYOUT

TACT SWITCH  
**TA(C)(2)-3** SERIES

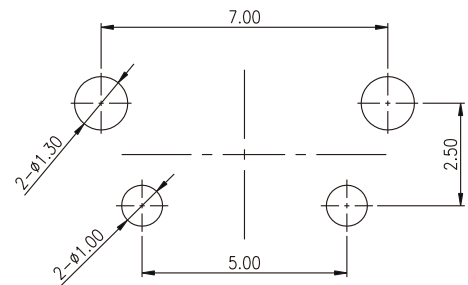
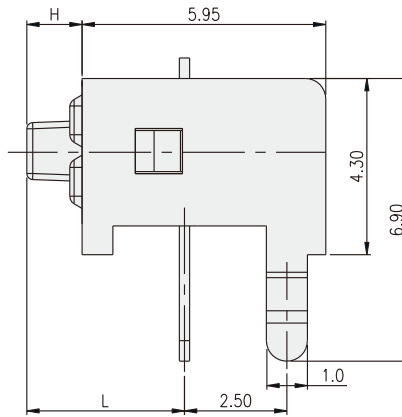
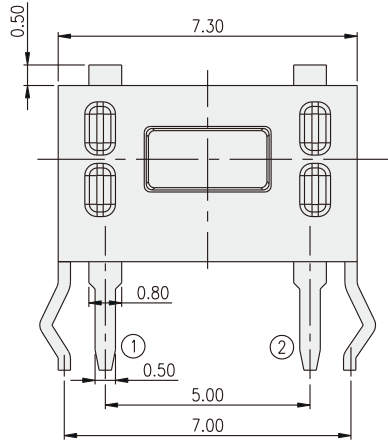
3.95x7.3 / 4.65x7.0  
 SMT & Side Push Type



TACH-3



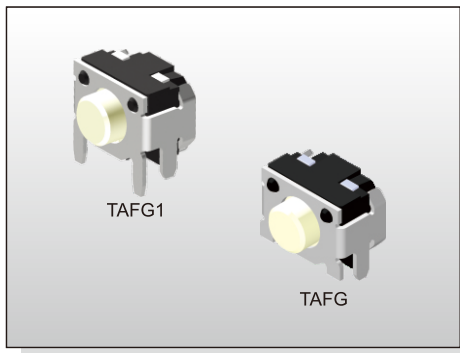
PART NO.	H	L
TACH-31	0.70	3.15
TACH-32	1.40	3.85
TACH-35	5.00	7.45



P.C.B. LAYOUT

TACT SWITCH





**FEATURES**

- ※Miniature 3.3x4.5mm side push type
- ※High solder strength
- ※Sharp click feeling

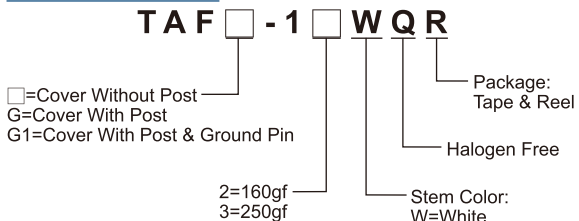
**APPLICATION**

- ※Smart phone
- ※Tablet
- ※Portable personal audio

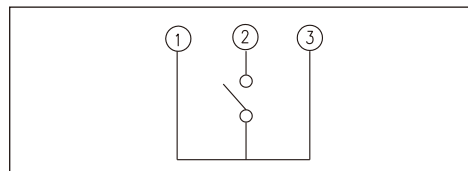
**SPECIFICATION**

Contact Rating	50mA, 12V DC
Contact Resistance	500mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160±50gf/250±50gf
Travel	0.2mm
Operating Life	100,000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**



**CIRCUIT**

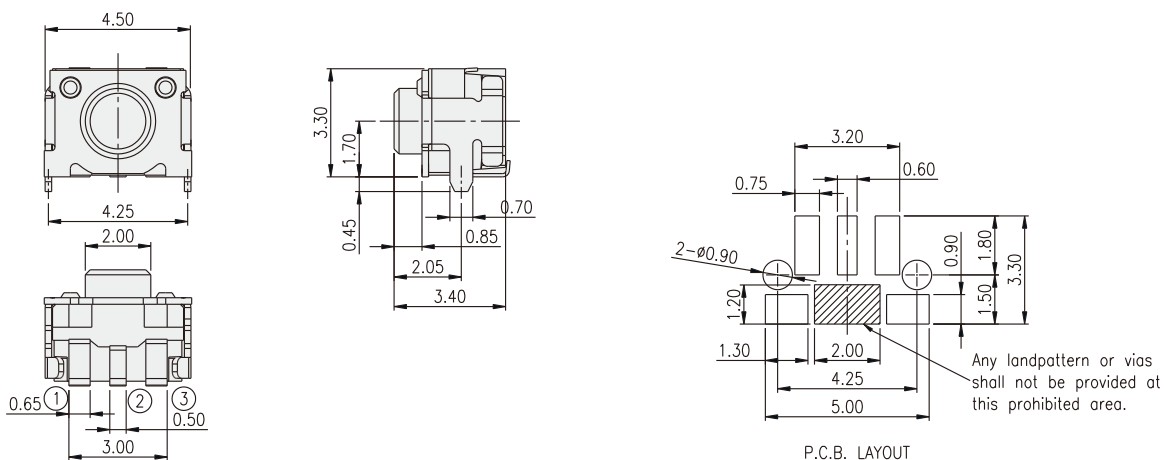


**PACKAGE**

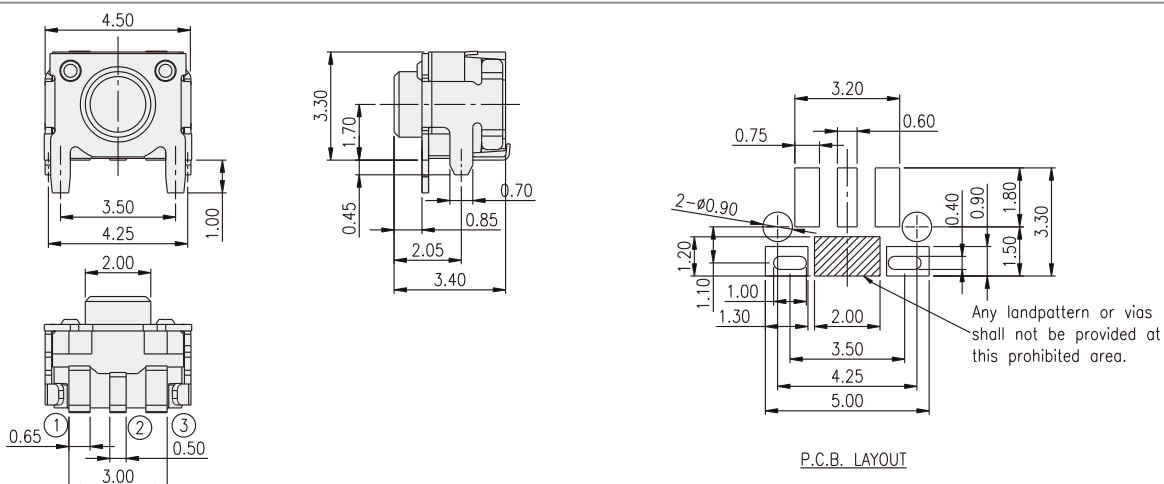
<Tape & Reel>  
TAF(G): 2000 pcs  
TAFG1: 1800 pcs

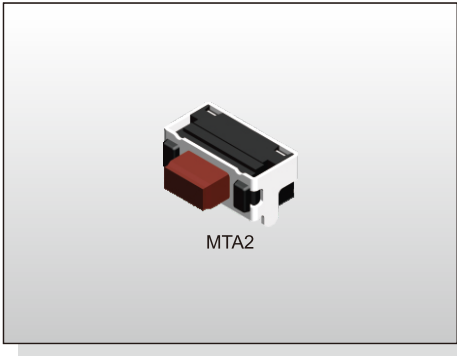
TACT SWITCH

**TAFG**



**TAFG1**





MTA2

**FEATURES**

- ※ Compact-sized 1.9x4.5mm
- ※ Side actuated
- ※ Sealed with dust proof structure

**APPLICATION**

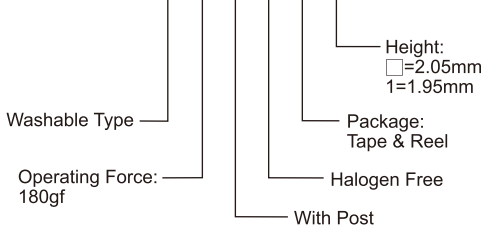
- ※ Smart phone
- ※ Digital camera, Medical
- ※ Portable electronic device

**SPECIFICATION**

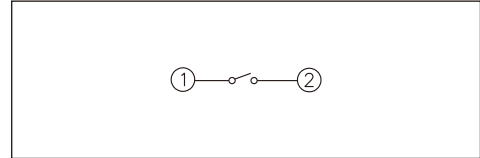
Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	180±50gf
Travel	0.20mm
Operating Life	100,000 cycles
Operating Temp.	-30°C ~ +80°C
Storage Temp.	-40°C ~ +90°C

**HOW TO ORDER**

**MTA2 - WNCQR** □



**CIRCUIT**

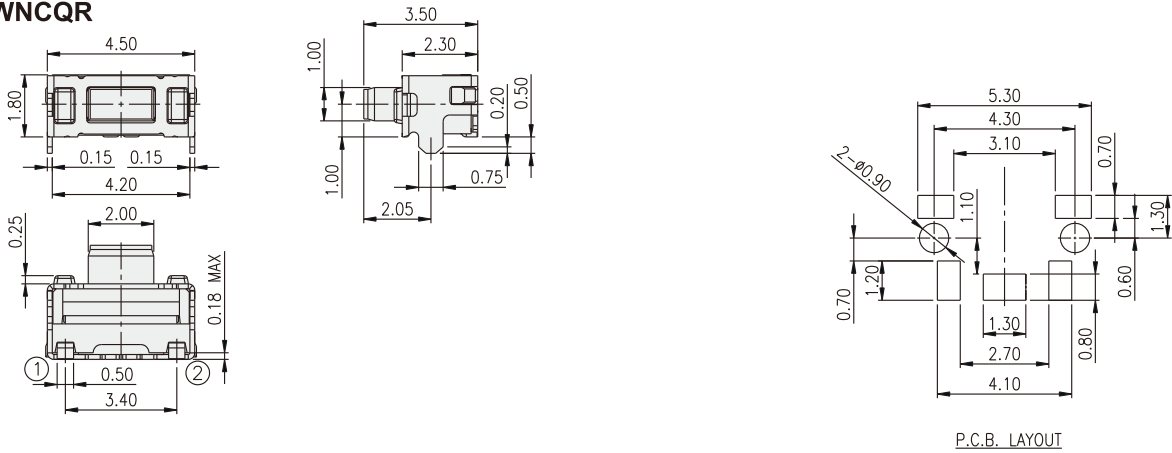


**PACKAGE**

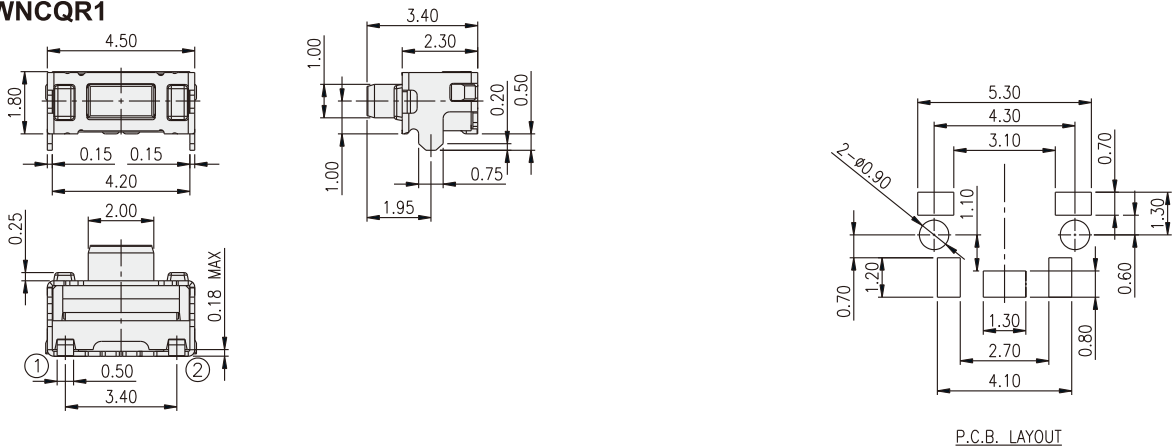
<Tape & Reel>  
3000 pcs

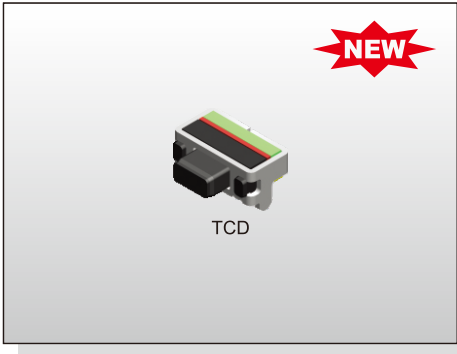
TACT SWITCH

**MTA2-WNCQR**



**MTA2-WNCQR1**





TCD

**FEATURES**

- ※ Compact-sized
- ※ Side actuated
- ※ Sealed with dust proof
- ※ PCB-base structure

**APPLICATION**

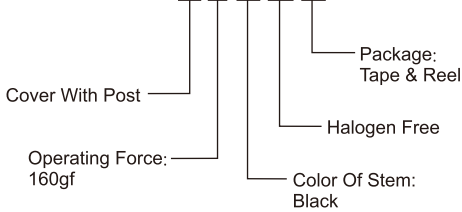
- ※ Smart phone
- ※ Digital Camera, Medical
- ※ Portable electronic device

**SPECIFICATION**

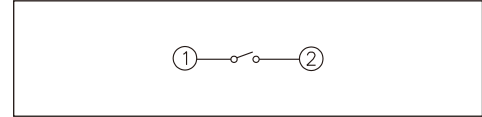
Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160±50gf
Travel	0.2mm
Operating Life	100,000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**

**T C D - C 2 K Q R**



**CIRCUIT**

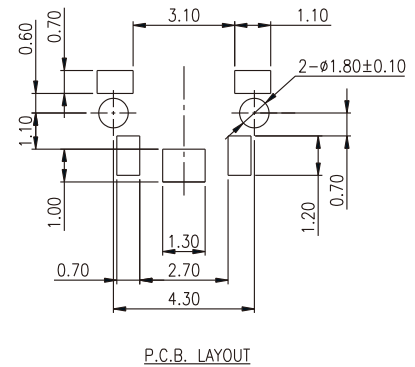
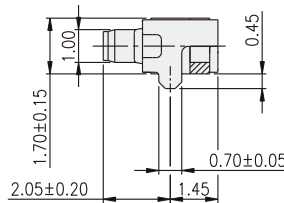
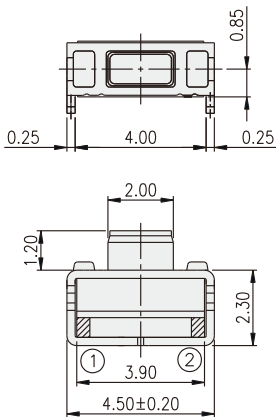


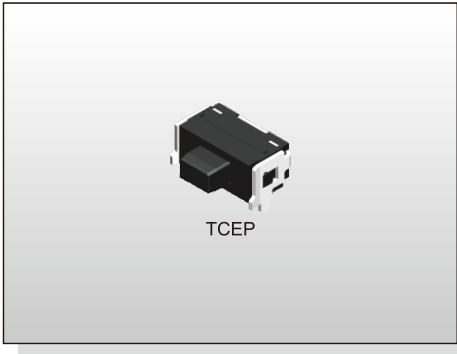
**PACKAGE**

<Tape & Reel>  
3000 pcs

TACT SWITCH

**TCD**





**FEATURES**

- ※ 1.65mm above PCB
- ※ High solder strength

**APPLICATION**

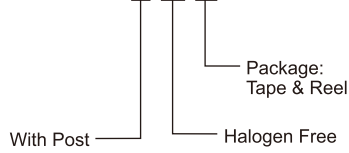
- ※ Personal audio
- ※ Mobile phone
- ※ Audio, OA equipment

**SPECIFICATION**

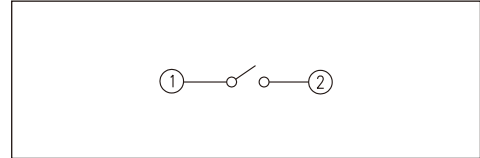
Contact Rating	20mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160±50gf
Travel	0.2mm
Operating Life	100,000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +90°C

**HOW TO ORDER**

**T C E P Q R**



**CIRCUIT**

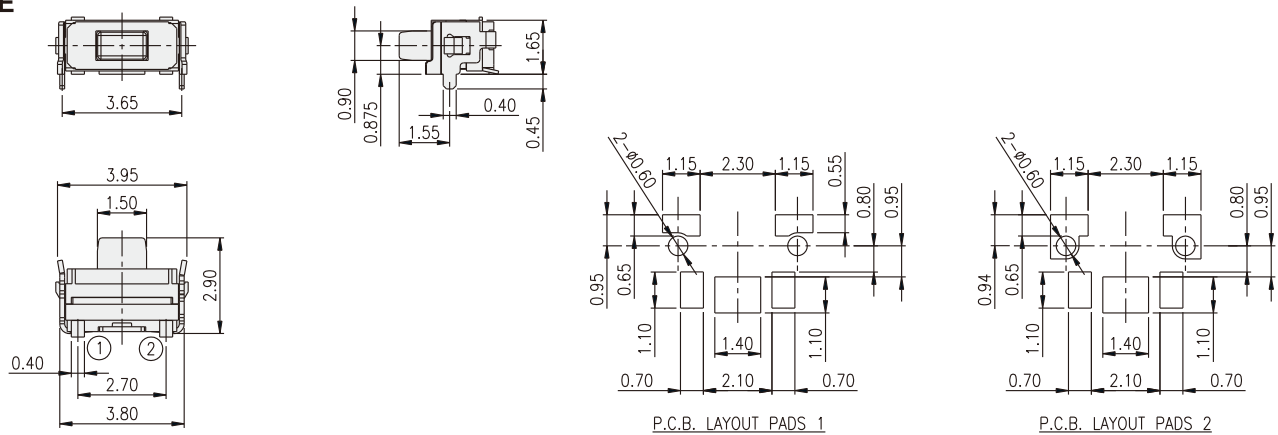


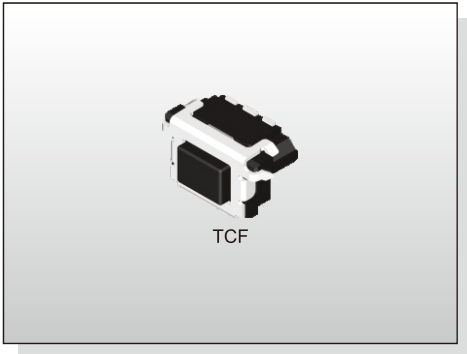
**PACKAGE**

<Tape & Reel>  
3000 pcs

TACT SWITCH

**TCE**





TCF

**FEATURES**

- ※Miniature 2.9x4.5mm
- ※Side push mid-mount type
- ※200,000 operating life cycles

**APPLICATION**

- ※Smart phone
- ※Portable personal audio
- ※Digital camera

**SPECIFICATION**

Contact Rating	10μA, 2V DC to 20mA, 15V DC
Contact Resistance	1000mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160±50gf/240±70gf
Travel	0.15mm
Operating Life	200,000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**

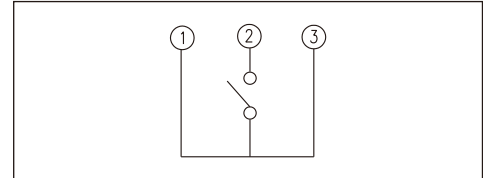
TCF □ QR

Package:  
Tape & Reel

Halogen Free

Operating Force:  
2=160gf  
3=240gf

**CIRCUIT**

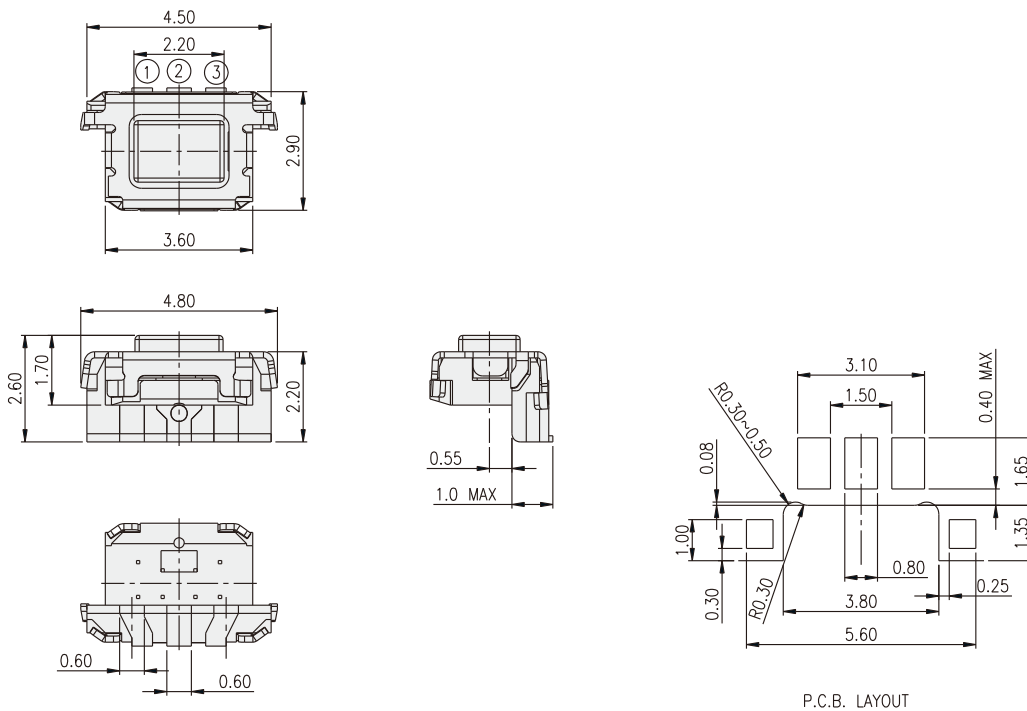


**PACKAGE**

<Tape & Reel>  
2400 pcs

TACT SWITCH

**TCF**





TCH

**FEATURES**

- ※Miniature 4.5\*2.2mm
- ※Side push mid-mount type
- ※600,000 operation life cycles

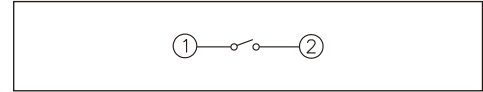
**APPLICATION**

- ※Smart phone
- ※Portable personal audio
- ※Digital camera
- ※3C products

**SPECIFICATION**

Contact Rating	50mA, 12V DC
Contact Resistance	500mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	100V AC/1 minute
Operating Force	160±50gf
Travel	0.15mm
Operating Life	600,000 cycles
Operating Temp.	-30°C ~ +85°C
Storage Temp.	-40°C ~ +90°C

**CIRCUIT**

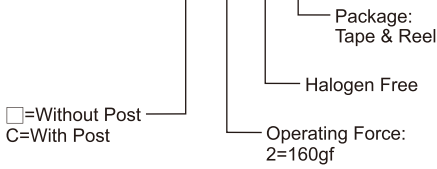


**PACKAGE**

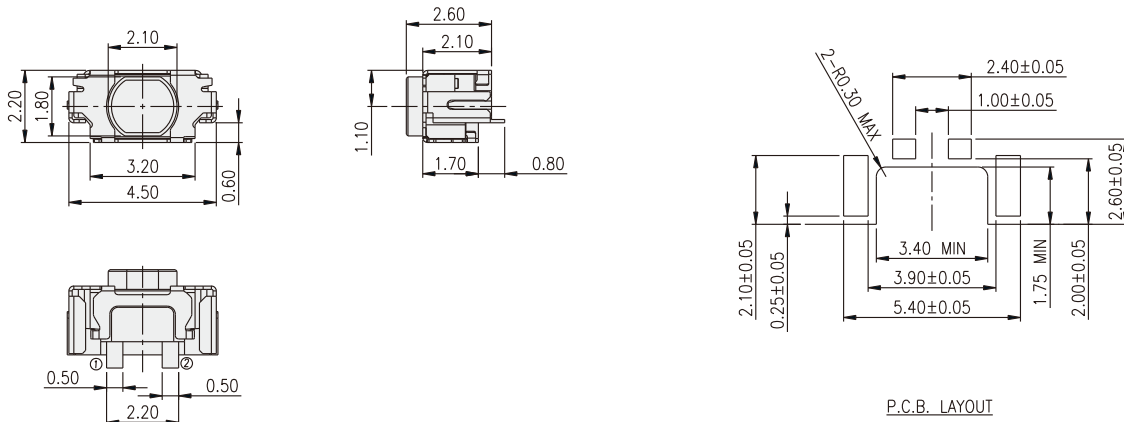
<Tape & Reel>  
3000 pcs

**HOW TO ORDER**

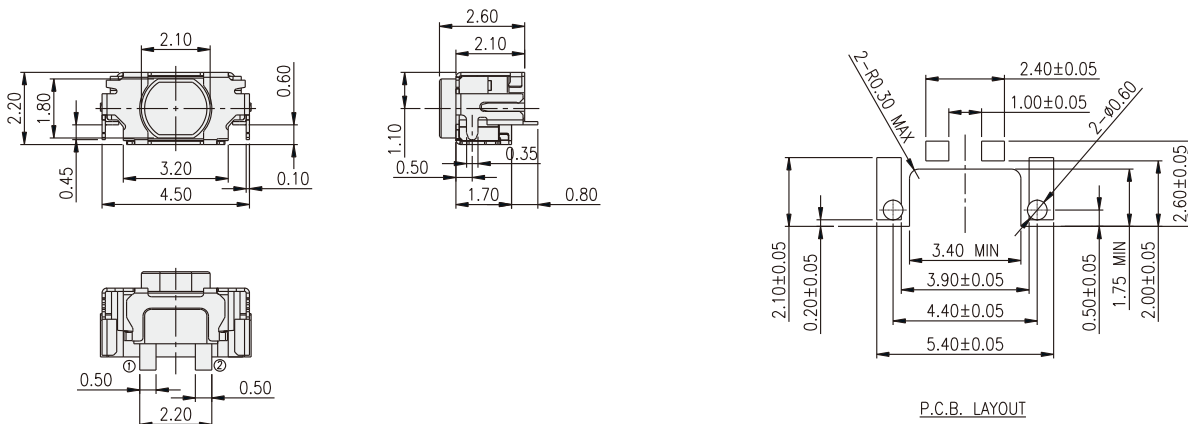
T C H   Q R



**TCH**



**TCHC**





**FEATURES**

- ※Soft actuation feeling
- ※Long travel of 1.3mm
- ※Wide stem for easy operation

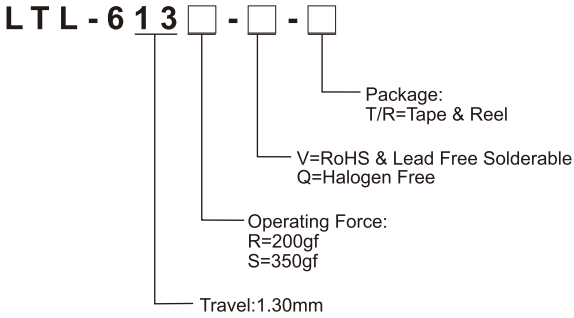
**APPLICATION**

- ※Automotive
- ※Instrumentation
- ※Audio

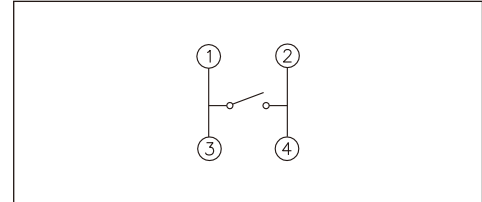
**SPECIFICATION**

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max. 500V DC
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	300V AC/1 minute
Operating Force	200±50gf/350±100gf
Travel	1.3mm
Operating Life	30,000 cycles (350gf) 100,000 cycles (200gf)
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**



**CIRCUIT**

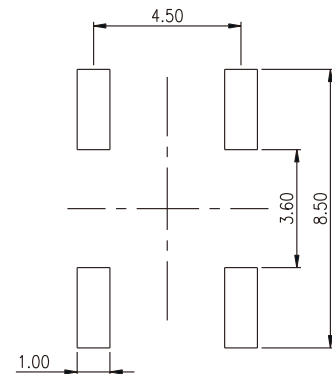
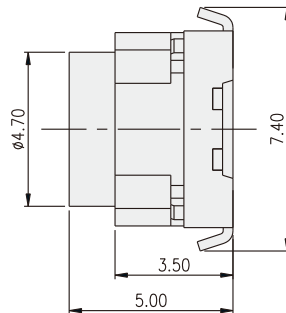
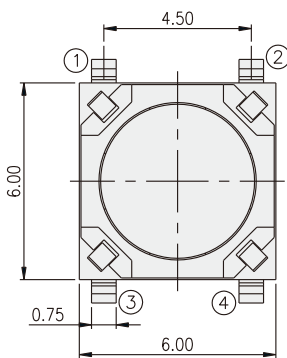


**PACKAGE**

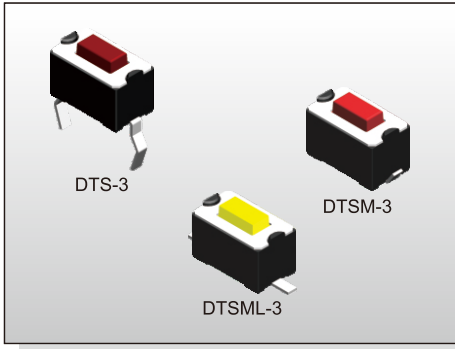
<Tape & Reel>  
900 pcs

TACT SWITCH

**LTL-6**



P.C.B. LAYOUT



**FEATURES**

- ※ Compact size 3.5x6 mm
- ※ Sharp click feeling
- ※ Choice of SMT terminal type

**APPLICATION**

- ※ Audio, OA equipment
- ※ Instrumentation
- ※ Industrial

**SPECIFICATION**

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	125±50gf, Black(K) 160±50gf, Brown(N) 260±50gf, Red(R) 320±80gf, Salmon(S) 520±130gf, Yellow(Y)
Travel	0.25mm
Operating Life	30,000 cycles for 520/320/260gf 50,000 cycles for 160/125gf
Operating Temp.	-25°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

**HOW TO ORDER**

**D T S** □ - 3 □ □ - □ □

□: Through Hole  
M: J Bend Outward  
ML: S.M.T./Flat  
MF: S.M.T./Gull-wing

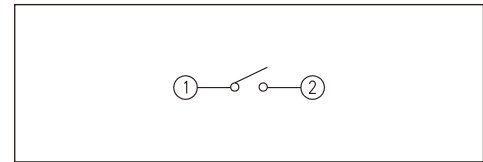
Package:  
□=Bag(Through Hole Only)  
B=Tube Package(Except DTSMF-3)  
T/R=Tape & Reel

V=RoHS & Lead Free Solderable  
Q=Halogen Free

Dimension H:  
1=4.30mm  
2=5.00mm

Operating Force:  
K=Black, 125gf  
N=Brown, 160gf  
R=Red, 260gf  
S=Salmon, 320gf  
Y=Yellow, 520gf >Not Available For Halogen Free

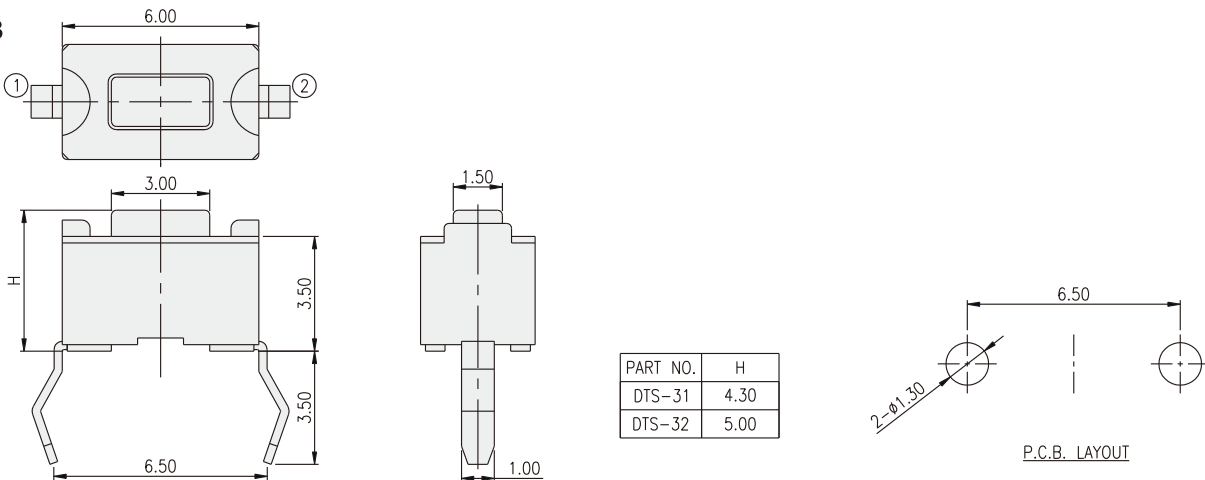
**CIRCUIT**



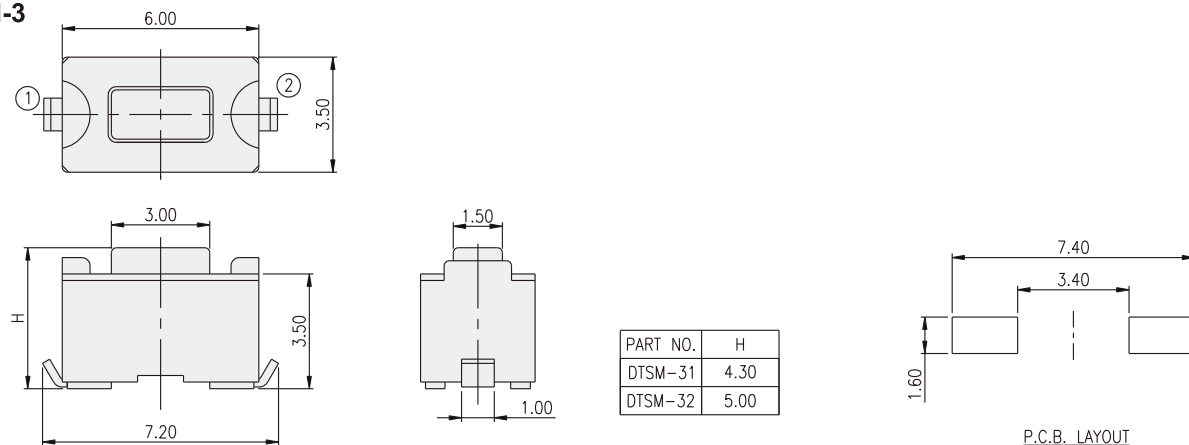
**PACKAGE**

- <Tube>  
DTS(M)(L)-3: 135 pcs
- <Bulk>  
1000 pcs
- <Tape & Reel>  
DTSM(L)(F)-31: 1800 pcs  
DTSM(L)(F)-32: 1600 pcs

**DTS-3**



**DTSM-3**



TACT SWITCH

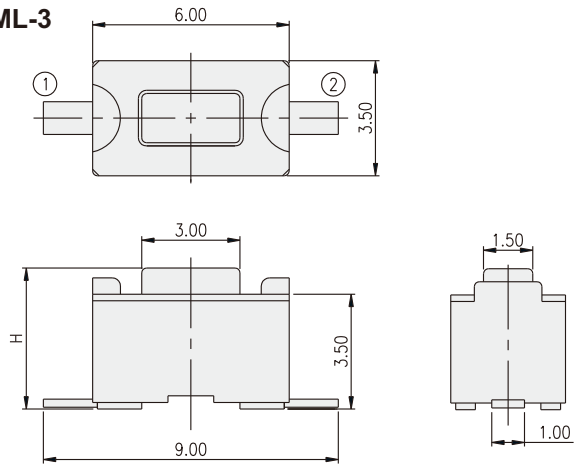


TACT SWITCH  
**DTS-3** SERIES

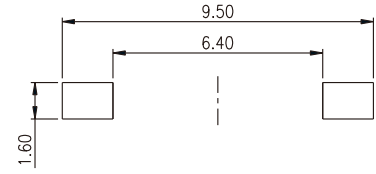
3.5x6 Through Hole & SMT Type  
 Tactile Switch



**DTSMML-3**

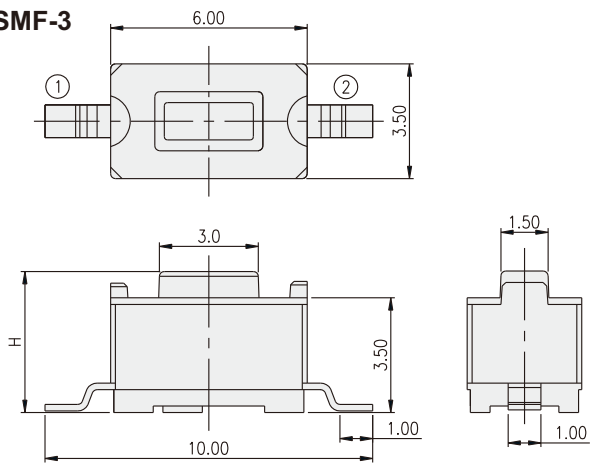


PART NO.	H
DTSMML-31	4.30
DTSMML-32	5.00

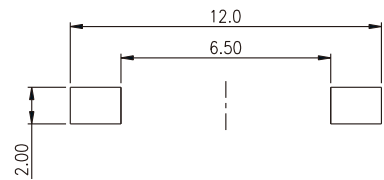


P.C.B. LAYOUT

**DTSMF-3**

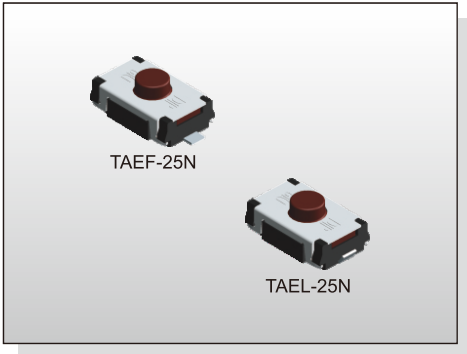


PART NO.	H
DTSMF-31	4.30
DTSMF-32	5.00



P.C.B. LAYOUT

TACT SWITCH



**FEATURES**

- ※3.8x6mm of thinner type 2.5mm height
- ※Soft actuator with long travel
- ※Choice of actuation force

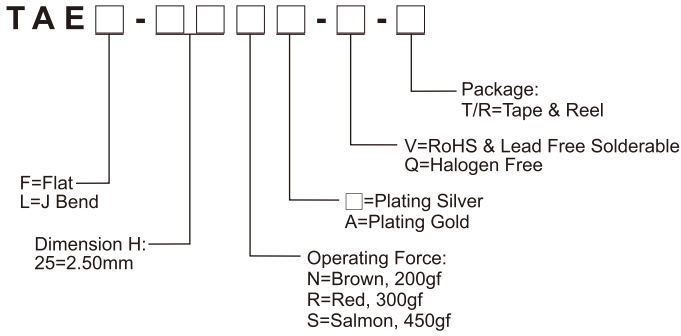
**APPLICATION**

- ※Car remote control
- ※Audio, OA equipment
- ※Instrumentation

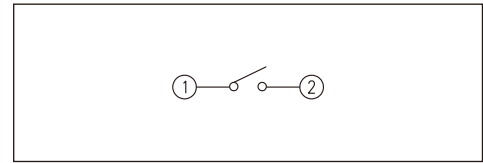
**SPECIFICATION**

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	300V AC/1 minute
Operating Force	200gf, Brown(N) 300gf, Red(R) 450gf, Salmon(S)
Travel	0.30mm, Brown(N) 0.35mm, Red(R) 0.45mm, Salmon(S)
Operating Life	100,000 cycles (S) 200,000 cycles (N/R)
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**



**CIRCUIT**

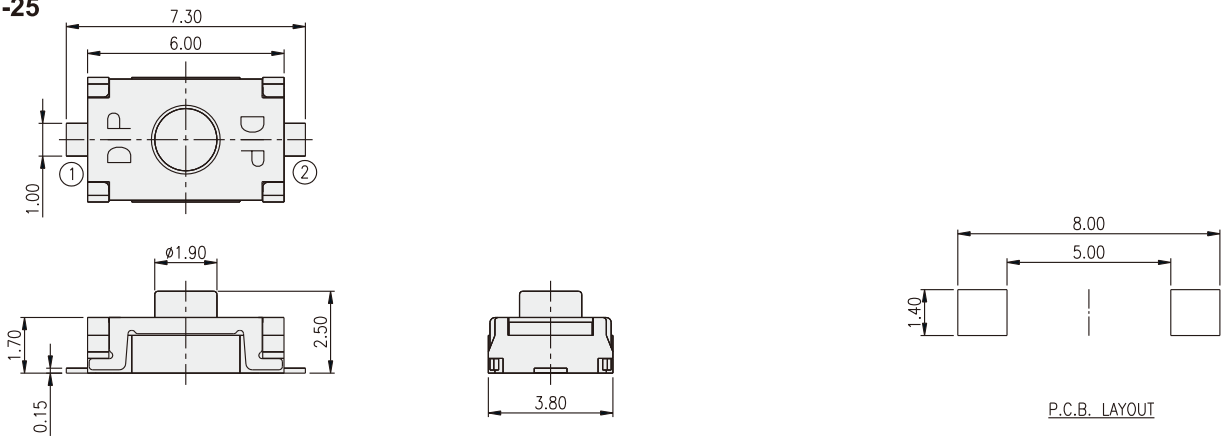


**PACKAGE**

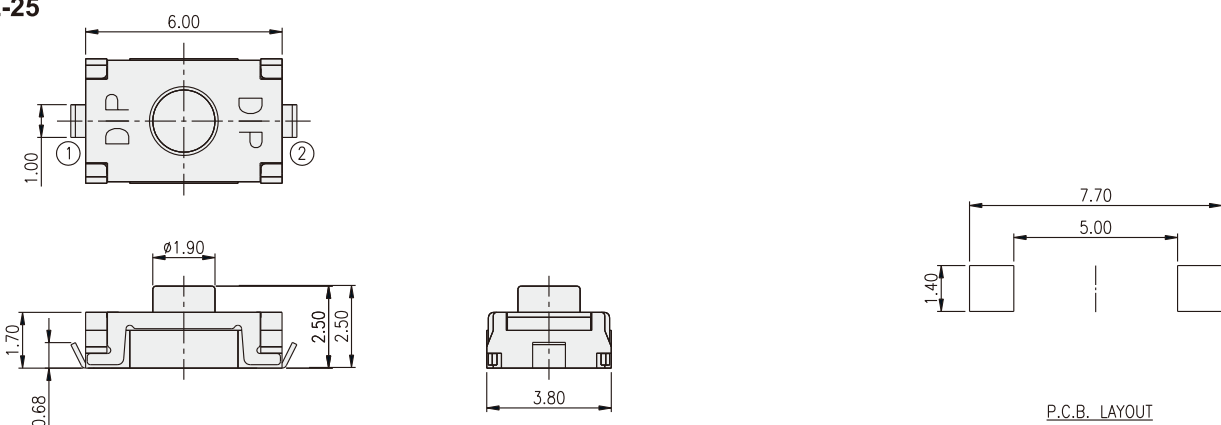
<Tape & Reel>  
2700 pcs

TACT SWITCH

**TAEF-25**

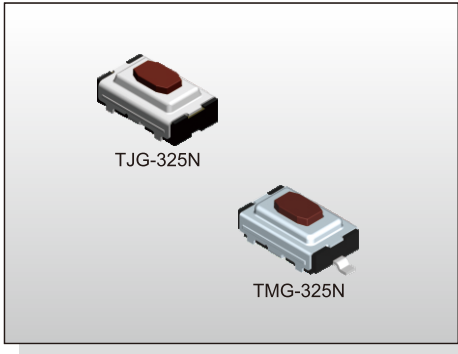


**TAEL-25**



# TACT SWITCH T(M)(J)G-325 SERIES

## 3.7x6 Thinner Type Tactile Switch



### FEATURES

- ※ Thinner type 2.5mm height
- ※ High density mounting
- ※ With anti-ESD of ground terminal

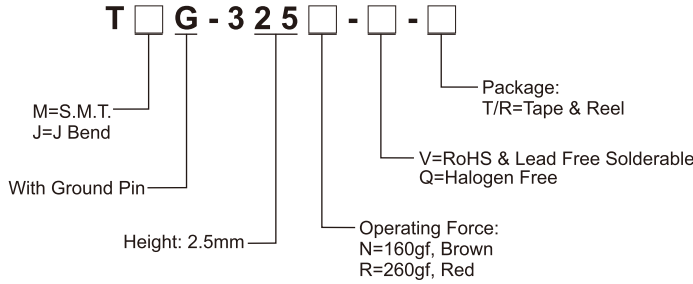
### APPLICATION

- ※ Consumer products
- ※ Instrumentation
- ※ Industrial

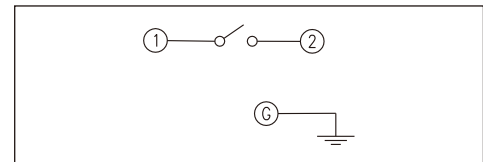
### SPECIFICATION

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	300V AC/1 minute
Operating Force	160±50gf, Brown(N) 260±50gf, Red(R)
Travel	0.25mm
Operating Life	20,000 cycles for 260gf 50,000 cycles for 160gf
Operating Temp.	-25°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

### HOW TO ORDER



### CIRCUIT

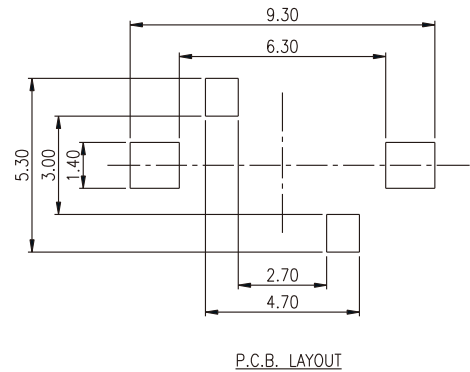
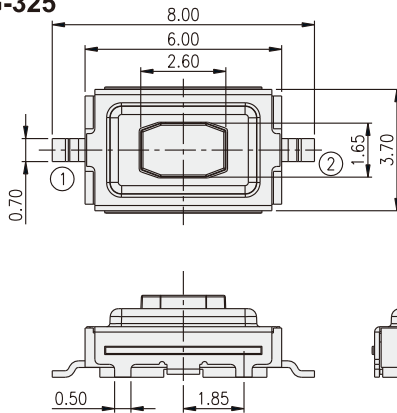


### PACKAGE

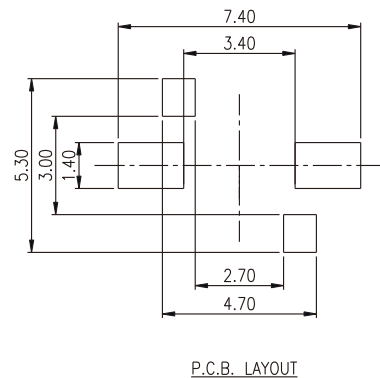
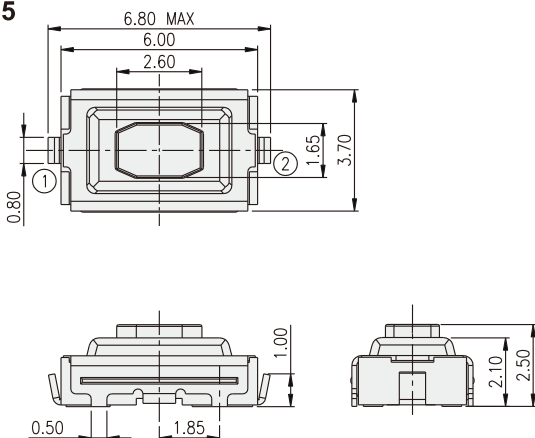
<Tape & Reel>  
2800 pcs

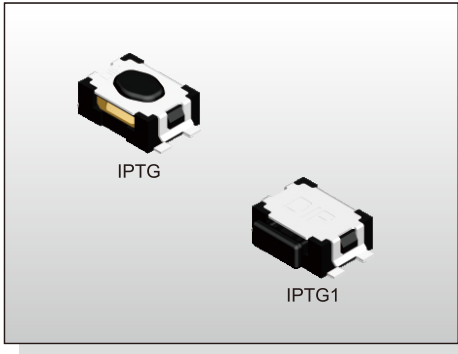
TACT SWITCH

### TMG-325



### TJG-325





**FEATURES**

- ※ Compact-sized 2.8x3.8mm
- ※ Vertical or side actuation
- ※ Wide stem

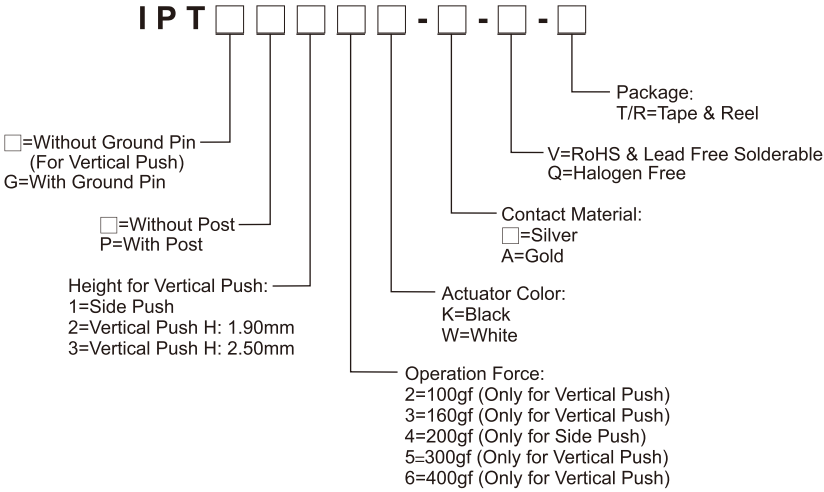
**APPLICATION**

- ※ Automotive
- ※ Portable electronic device
- ※ Control panel

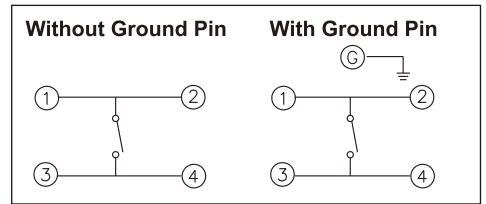
**SPECIFICATION**

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	100V AC/1 minute
Operating Force	100±50gf, 160±50gf (Vertical Push) 200±65gf (Side Push) 300±80gf, 400±80gf (Vertical Push)
Travel	0.13mm (Vertical Push) 0.20mm (Side Push)
Operating Life	50,000 cycles for 300/400gf 100,000 cycles for 100/160/200gf
Operating Temp.	-20°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

**HOW TO ORDER**



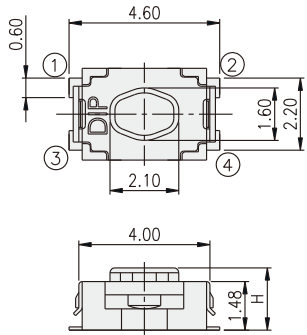
**CIRCUIT**



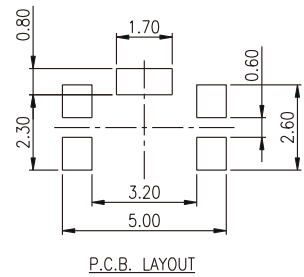
**PACKAGE**

<Tape & Reel>  
IPTGP1: 3000 pcs  
IPTG1: 3500 pcs  
IPTG2: 7000 pcs  
IPTG3: 6300 pcs

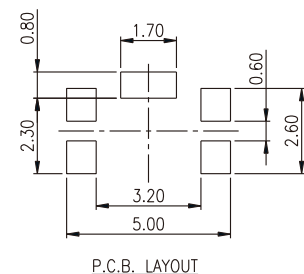
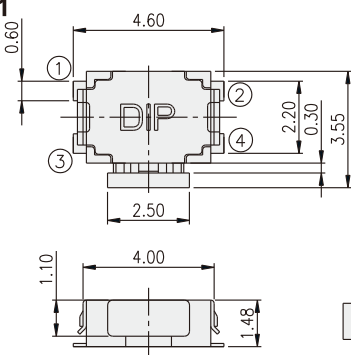
**IPTG**

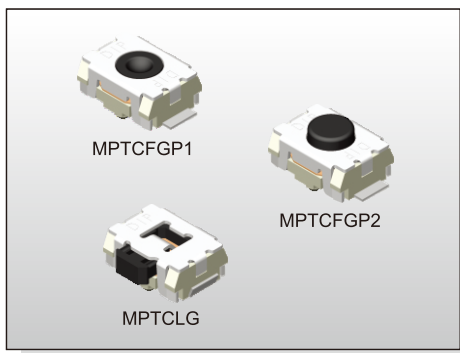


PART NO.	H
IPTG2	1.90
IPTG3	2.50



**IPTG1**





**FEATURES**

- ※ Compact-sized 2.9x3.9mm
- ※ Vertical or side actuation
- ※ Reflow solderable

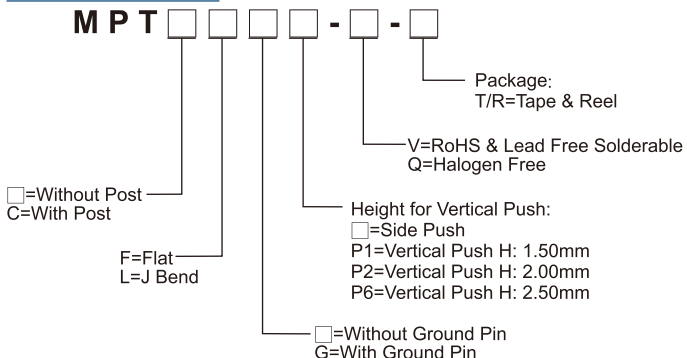
**APPLICATION**

- ※ Automotive
- ※ Portable electronic device
- ※ Control panel

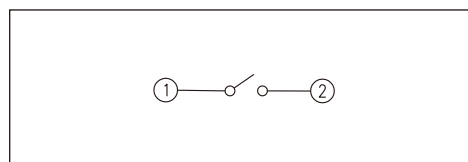
**SPECIFICATION**

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	100V AC/1 minute
Operating Force	160±50gf (Vertical Push) 220±65gf (Side Push)
Travel	0.13mm (Vertical Push) 0.20mm (Side Push)
Operating Life	100,000 cycles
Operating Temp.	-20°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

**HOW TO ORDER**



**CIRCUIT**

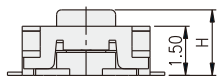
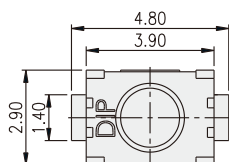


**PACKAGE**

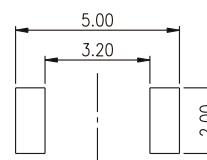
<Tape & Reel>  
Side push: 3500 pcs  
Vertical push: 2000 pcs

TACT SWITCH

**MPTFP** □

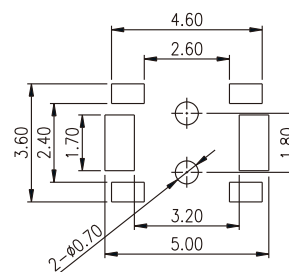
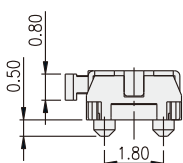
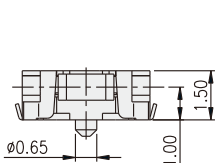
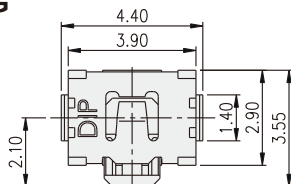


PART NO.	H
MPTFP1	1.50
MPTFP2	2.00
MPTFP6	2.50

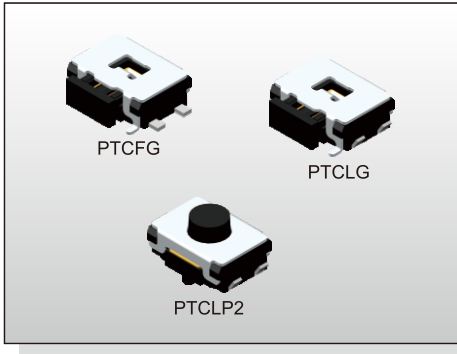


P.C.B. LAYOUT

**MPTCLG**



P.C.B. LAYOUT



**FEATURES**

- ※For high density mounting
- ※Vertical or side actuation
- ※Reflow solderable

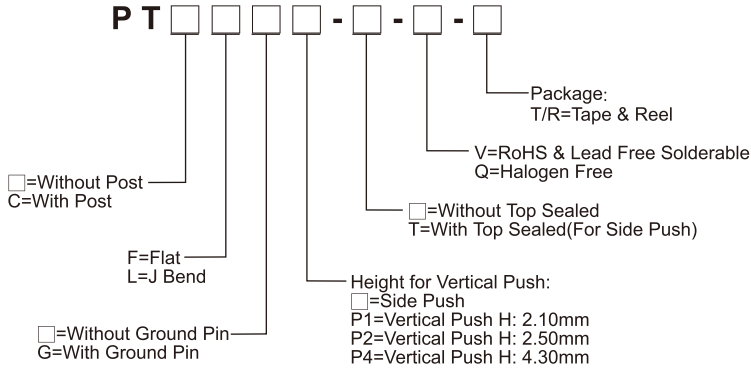
**APPLICATION**

- ※Automotive
- ※Portable electronic device
- ※Control panel

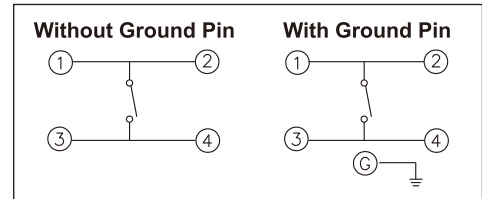
**SPECIFICATION**

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160±50gf (Vertical Push) 220+80/-70gf (Side Push)
Travel	0.20mm (Vertical Push) 0.30mm (Side Push)
Operating Life	100,000 cycles
Operating Temp.	-25°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

**HOW TO ORDER**



**CIRCUIT**

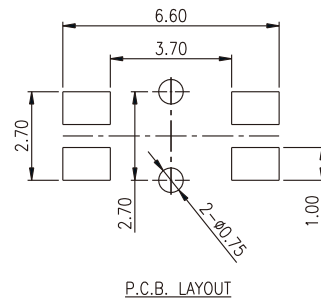
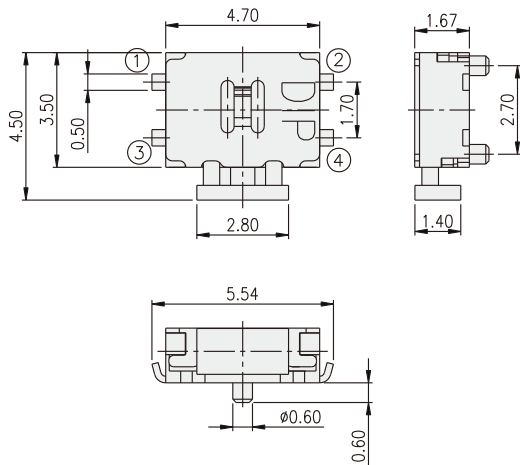


**PACKAGE**

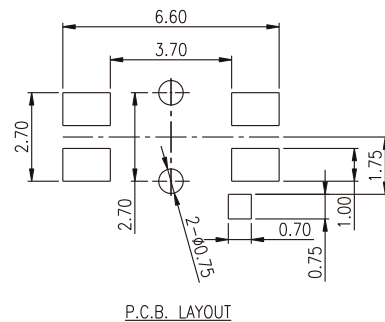
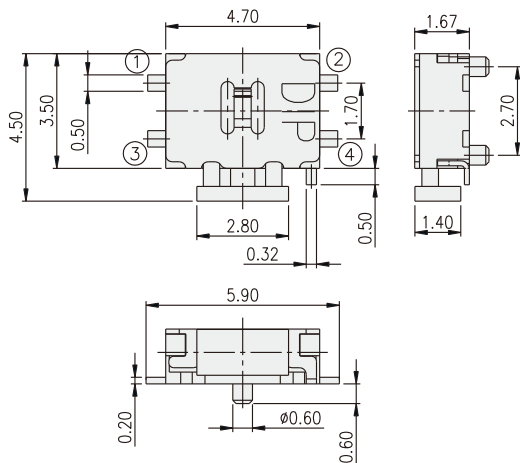
<Tape & Reel>  
 Side push: 3000 pcs  
 Vertical push: 2400 pcs

TACT SWITCH

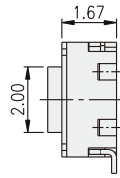
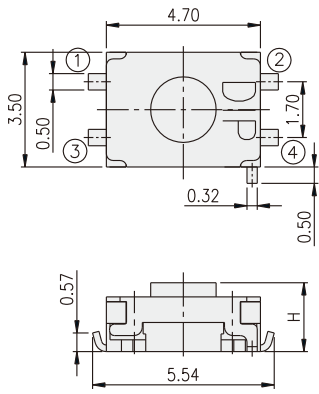
**PTCL**



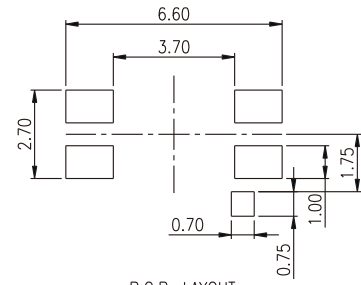
**PTCFG**



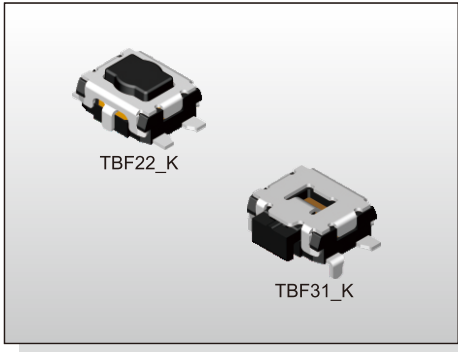
PTLGP□



PART NO.	H
PTLGP1	2.10
PTLGP2	2.50
PTLGP4	4.30



P.C.B. LAYOUT



**FEATURES**

- ※Miniature 2.9x3.5mm
- ※Vertical or side actuation
- ※Long operating life

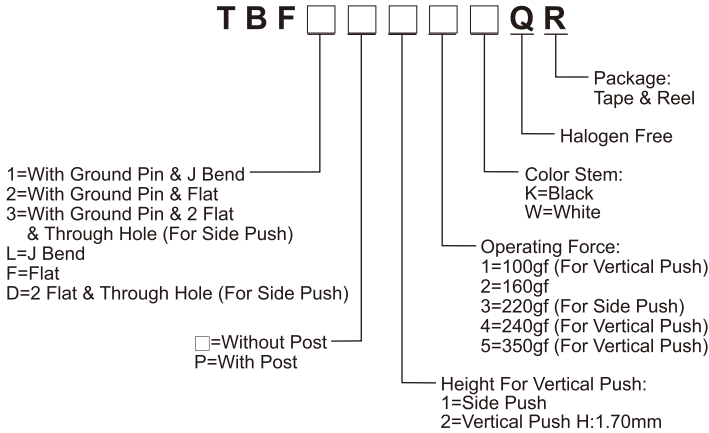
**APPLICATION**

- ※Mobile phone
- ※Consumer electronics
- ※Automotive

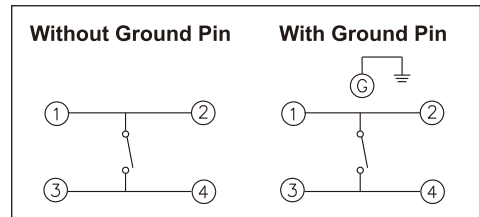
**SPECIFICATION**

Contact Rating	10 $\mu$ A, 2V DC to 20mA, 15V DC
Contact Resistance	100m $\Omega$ max.
Insulation Resistance	100M $\Omega$ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	100 $\pm$ 50/160 $\pm$ 50/240 $\pm$ 80/350 $\pm$ 100gf (Vertical Push) 160+70/-40, 220+80/-70gf (Side Push)
Travel	0.15mm (Vertical Push) 0.20mm (Side Push)
Operating Life	100,000 cycles for Side Push 200,000 cycles for 160/240/350gf 1,000,000 cycles for 100gf (Vertical Push)
Operating Temp.	-40 $^{\circ}$ C ~ +85 $^{\circ}$ C
Storage Temp.	-40 $^{\circ}$ C ~ +85 $^{\circ}$ C

**HOW TO ORDER**



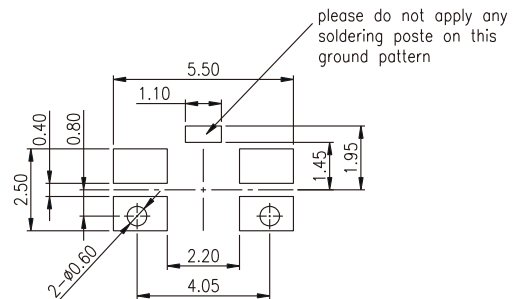
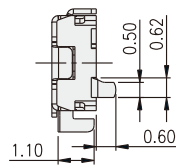
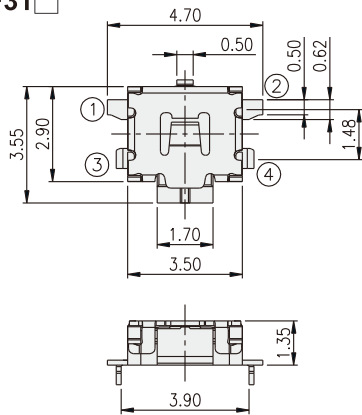
**CIRCUIT**



**PACKAGE**

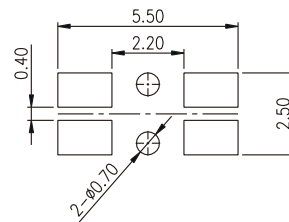
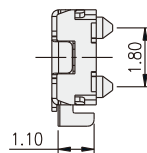
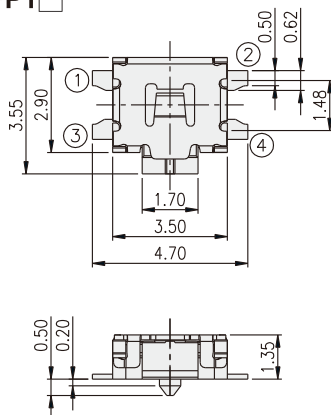
<Tape & Reel>  
3000 pcs

**TBF31** [ ]



P.C.B. LAYOUT

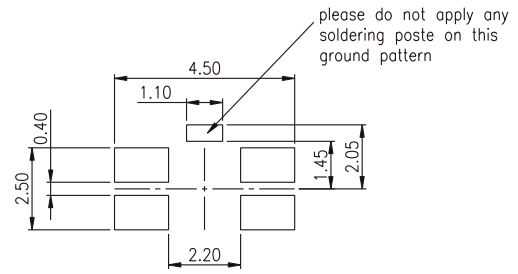
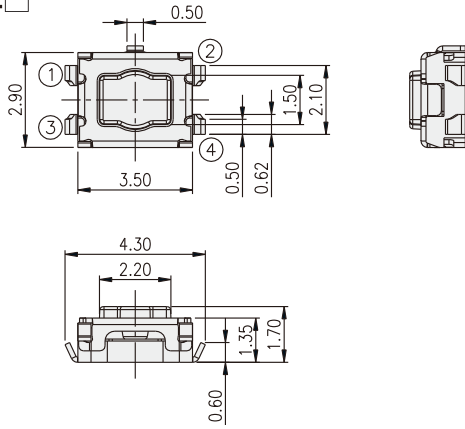
**TBFFP1** [ ]



P.C.B. LAYOUT

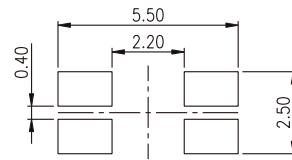
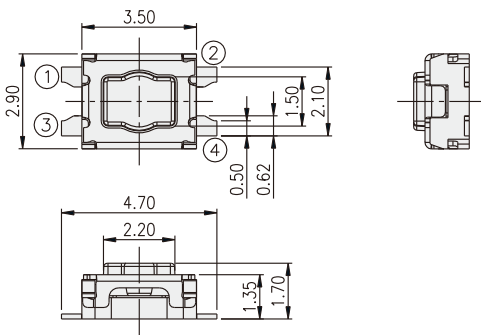


**TBF12** □

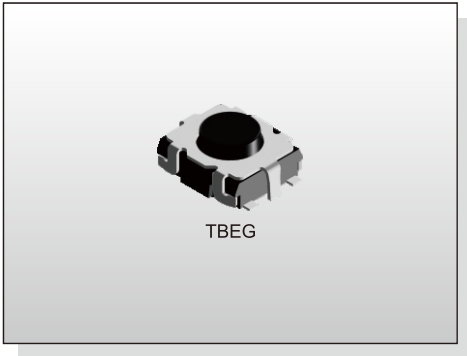


P.C.B. LAYOUT

**TBFF2** □



P.C.B. LAYOUT



**FEATURES**

- ※Electrical life: 200,000 cycles
- ※Sharp click feeling
- ※2.7x3.0mm miniature tact switch

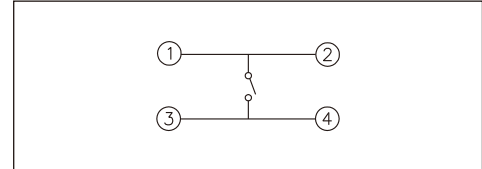
**APPLICATION**

- ※Automotive
- ※Video game device

**SPECIFICATION**

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160±50gf/200±50gf/400±80gf
Travel	0.12mm
Operating Life	200,000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +90°C

**CIRCUIT**



**PACKAGE**

<Tape & Reel>  
8000 pcs

**HOW TO ORDER**

T B E □ - □ - Q - □

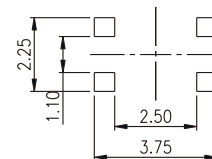
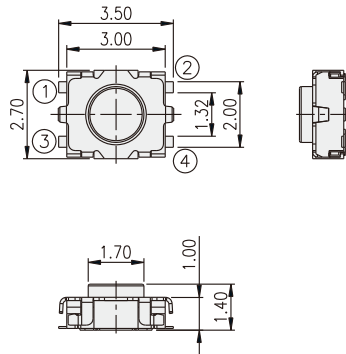
G=With Ground Pin  
□=Without Ground Pin

Package:  
T/R=Tape & Reel

Halogen Free

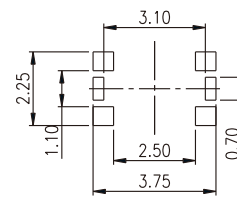
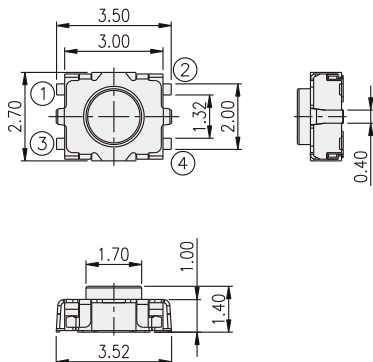
Operating Force:  
N=Brown, 160gf  
W=White, 200gf  
□=Black, 400gf

**TBE**

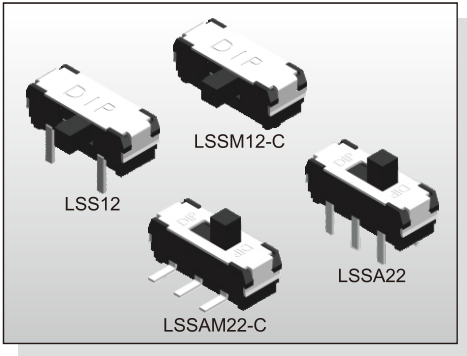


P.C.B. LAYOUT

**TBEG**



P.C.B. LAYOUT



**FEATURES**

- ※2.0mm stroke
- ※Through hole or SMT
- ※1P2T, 2P2T models

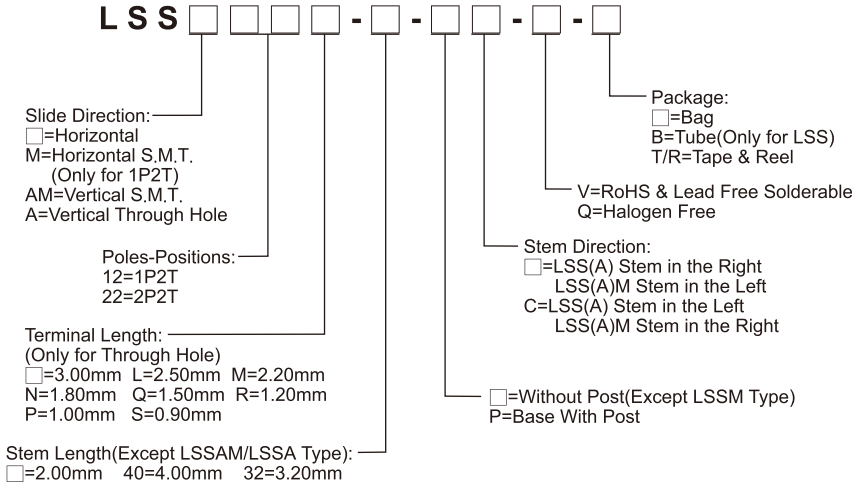
**APPLICATION**

- ※Remote control
- ※Consumer electronics
- ※Instrumentations

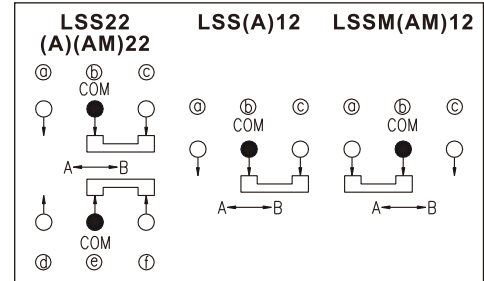
**SPECIFICATION**

Contact Rating	0.1A, 12V DC
Contact Resistance	60mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	500V AC/1 minute
Operating Force	200±150gf
Travel	2mm
Operating Life	10,000 cycles
Operating Temp.	-10°C ~ +60°C
Storage Temp.	-20°C ~ +70°C

**HOW TO ORDER**



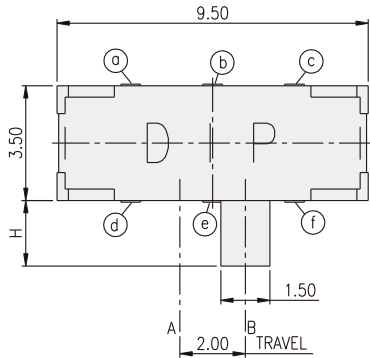
**CIRCUIT**



**PACKAGE**

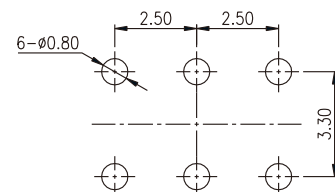
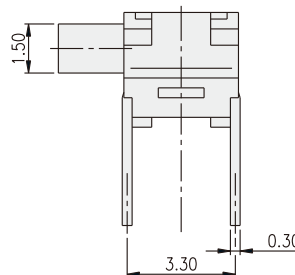
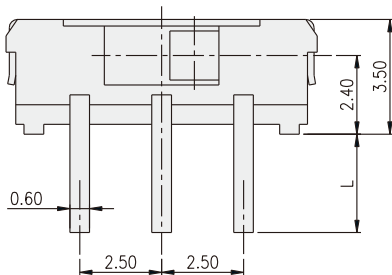
- <Bag>  
LSS(A)12, 22: 1000 pcs
- <Tube>  
LSS□2, LSS□2M, LSS□2L: 50 pcs
- <Tape & Reel>  
LSS12, 22-N,P,S,Q,R: 900 pcs  
LSS12, 22-□,M,L: 800 pcs  
LSS12, 12-40-P, 22□-40: 800 pcs  
LSSM12-P, LSSM12-40-P: 800 pcs  
LSSM12: 1000 pcs  
LSSA(M)12, 22: 600 pcs  
LSSA12, 22M,L-P: 600 pcs  
LSSA12, 22R-P: 500 pcs

**LSS22**



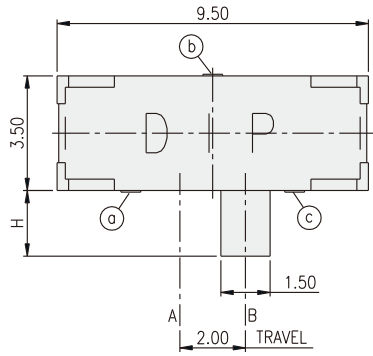
PART NO.	H
LSS22	2.0
LSS22-32	3.20
LSS22-40	4.0

PART NO.	L
LSS22	3.0
LSS22S	0.90
LSS22P	1.0
LSS22R	1.20
LSS22Q	1.50
LSS22N	1.80
LSS22M	2.20
LSS22L	2.50



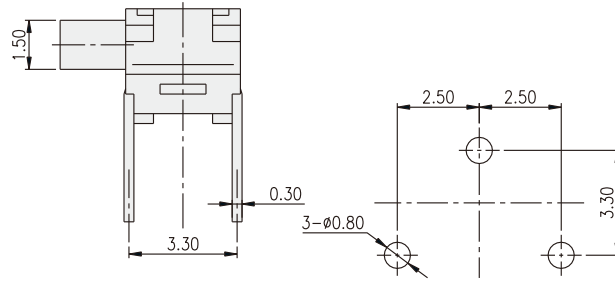
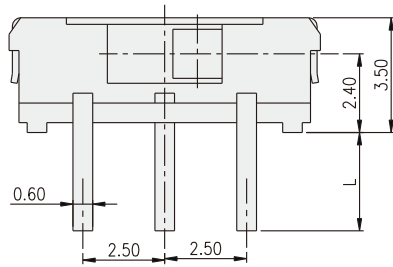
P.C.B. LAYOUT

**LSS12**



PART NO.	H
LSS12	2.00
LSS12-32	3.20
LSS12-40	4.00

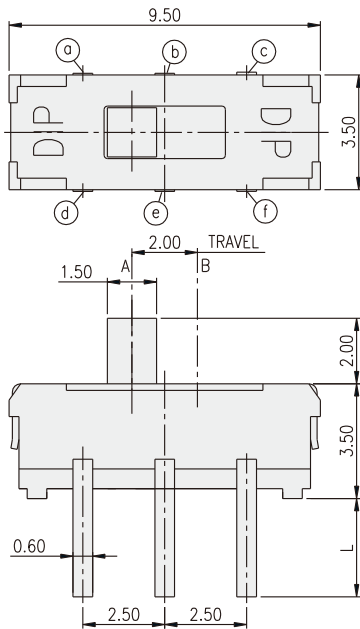
PART NO.	L
LSS12	3.0
LSS12S	0.90
LSS12P	1.0
LSS12R	1.20
LSS12Q	1.50
LSS12N	1.80
LSS12M	2.20
LSS12L	2.50



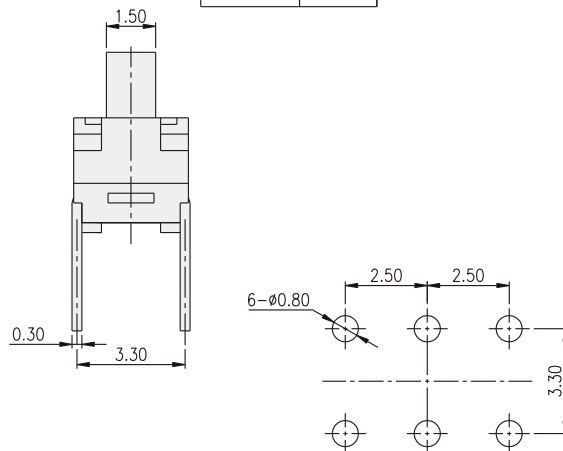
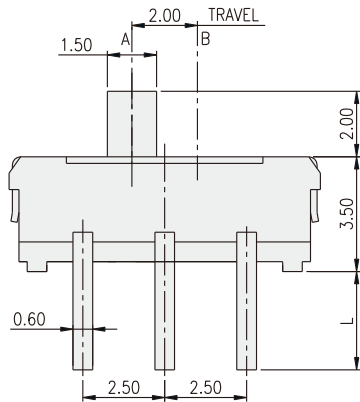
P.C.B. LAYOUT

SLIDE SWITCH

**LSSA22**

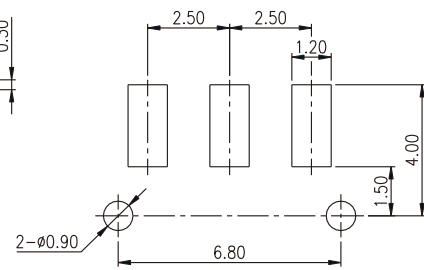
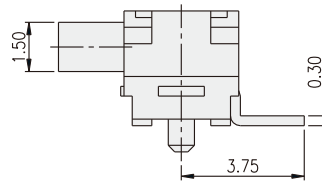
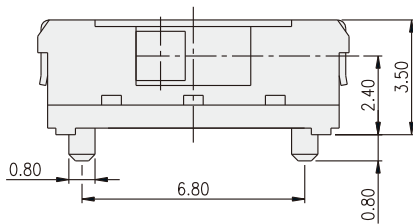
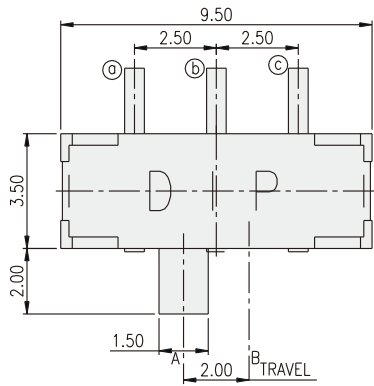


PART NO.	L
LSSA22	3.0
LSSA22S	0.90
LSSA22P	1.0
LSSA22R	1.20
LSSA22Q	1.50
LSSA22N	1.80
LSSA22M	2.20
LSSA22L	2.50



P.C.B. LAYOUT

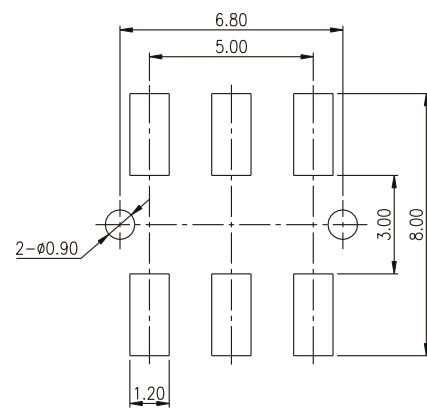
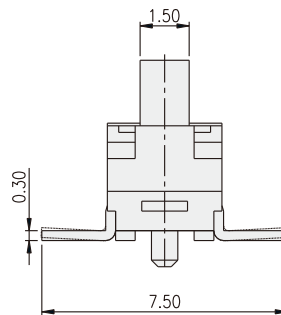
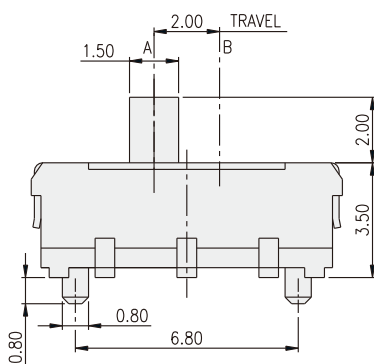
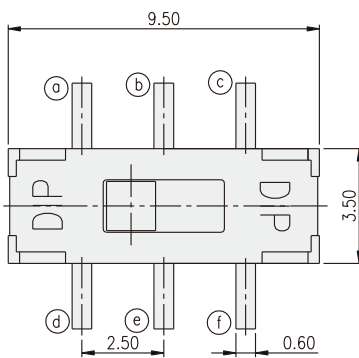
LSSM12-P



P.C.B. LAYOUT

SLIDE SWITCH

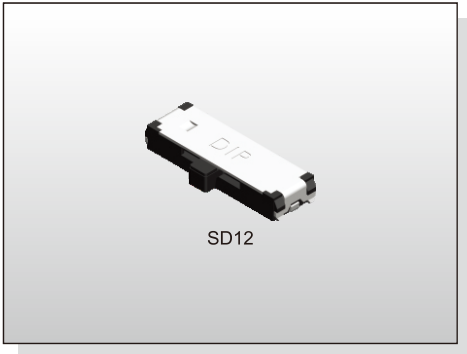
LSSAM22-P



P.C.B. LAYOUT

# SLIDE SWITCH SD12 SERIES

## Slide Type (1P3T)



### FEATURES

- ※ 1.45mm height
- ※ 1P3T model
- ※ Single side recoil

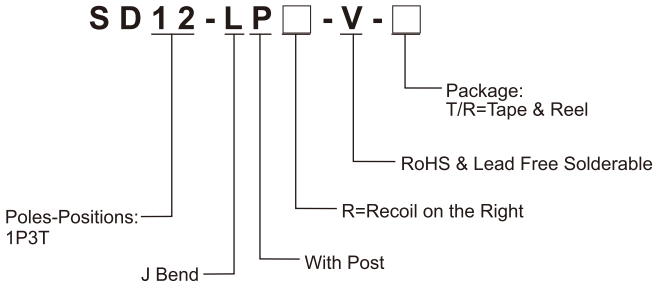
### APPLICATION

- ※ Remote control
- ※ Consumer electronics
- ※ Instrumentations

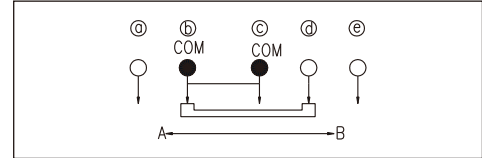
### SPECIFICATION

Contact Rating	0.3A, 15V DC
Contact Resistance	1Ω max.
Insulation Resistance	10MΩ min. 100V DC
Dielectric Strength	100V AC/1 minute
Operating Force	150±100gf
Travel	1.5mm
Operating Life	5,000 cycles
Operating Temp.	-10°C ~ +60°C
Storage Temp.	-25°C ~ +85°C

### HOW TO ORDER



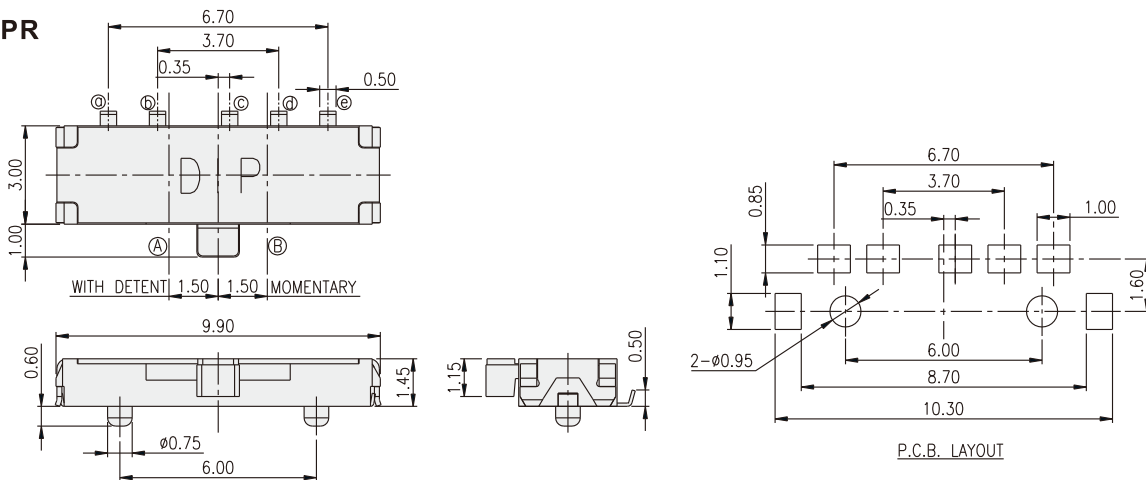
### CIRCUIT



### PACKAGE

<Tape & Reel>  
3000 pcs

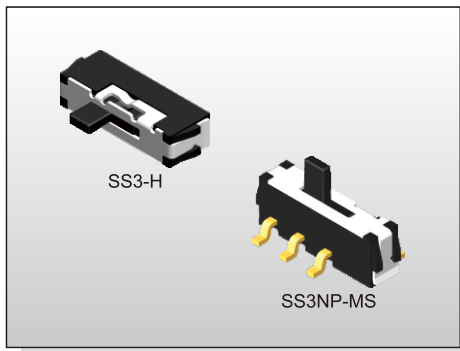
### SD12-LPR



SLIDE SWITCH

# SLIDE SWITCH SS3 SERIES

## Recoil & SMT Type (1P2T)



### FEATURES

- ※2.0mm height
- ※1P2T model
- ※Reflow solderable

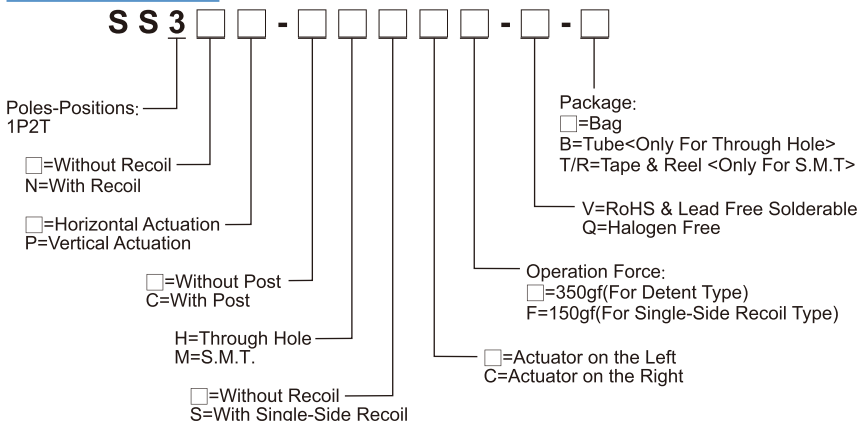
### APPLICATION

- ※Remote control
- ※Consumer electronics
- ※Instrumentations

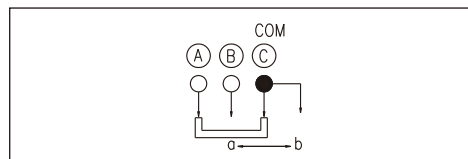
### SPECIFICATION

Contact Rating	25mA, 24V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	500V AC/1 minute
Operating Force	100gf min./350gf max. (Detent Type) 150±100gf (Recoil Type)
Travel	2mm
Operating Life	10,000 cycles
Operating Temp.	-20°C ~ +70°C
Storage Temp.	-40°C ~ +85°C

### HOW TO ORDER



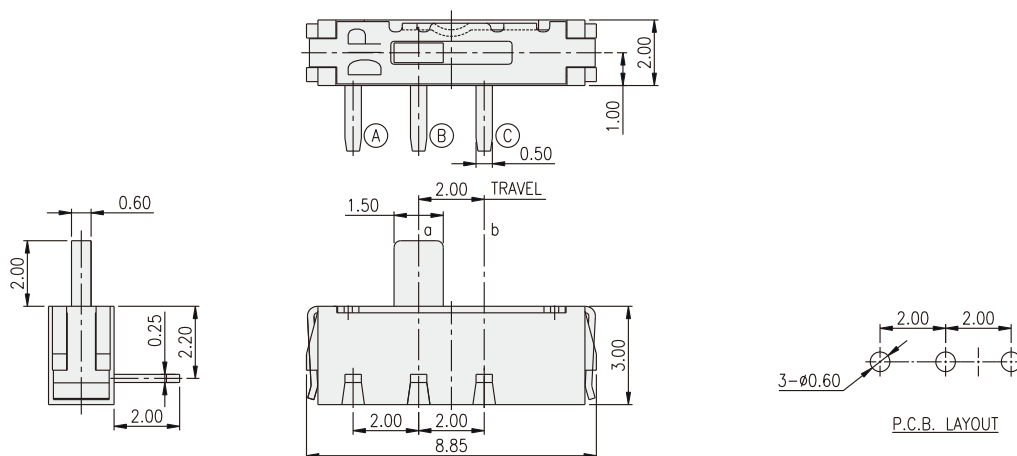
### CIRCUIT



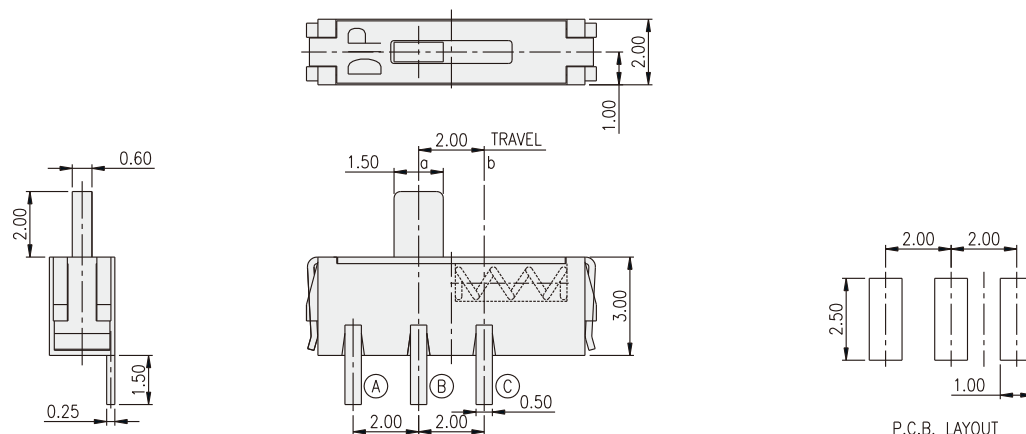
### PACKAGE

- <Bag>  
2000 pcs
- <Tube>  
53 pcs
- <Tape & Reel>  
SS3-CM: 1900 pcs  
SS3NP: 1000 pcs

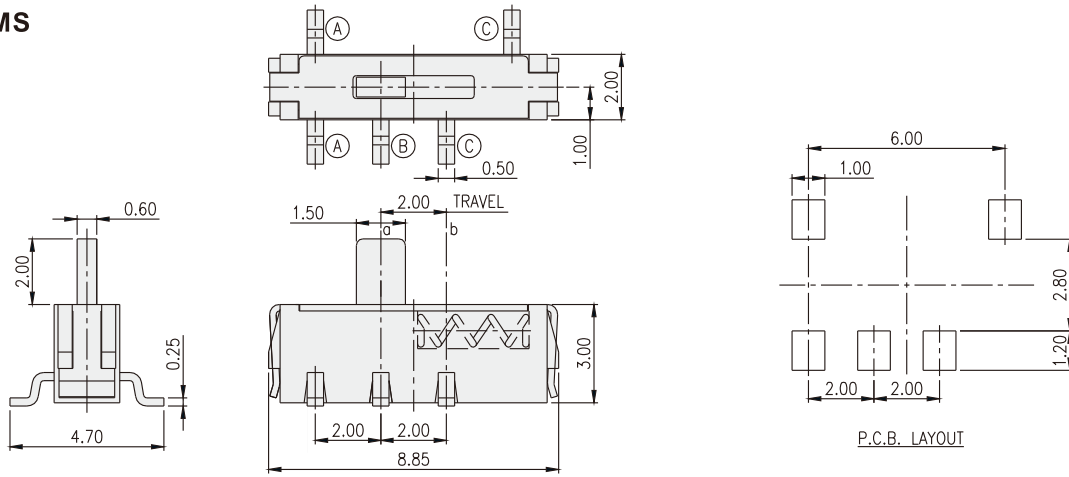
### SS3-H



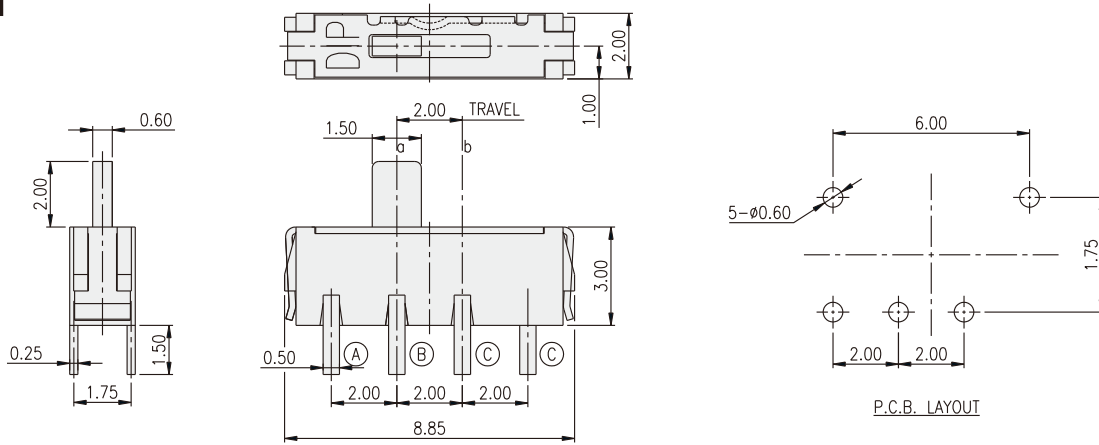
### SS3N-MS



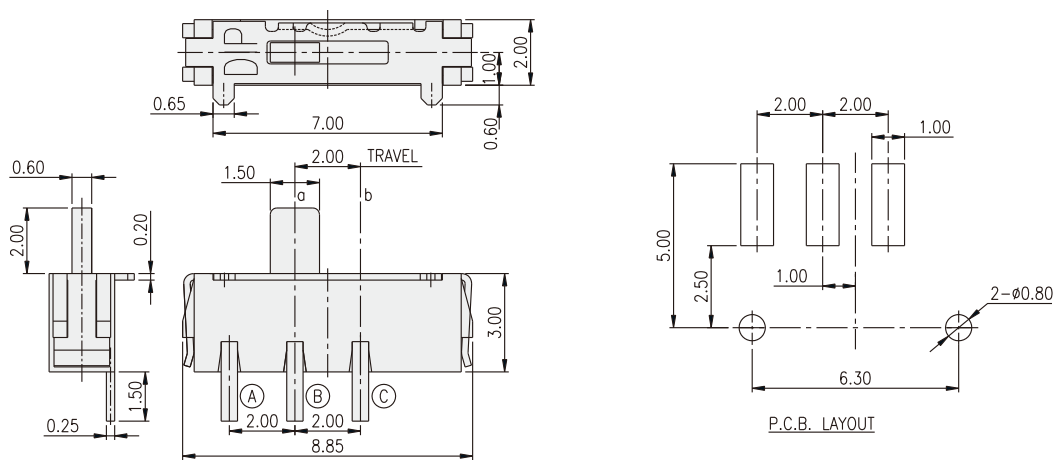
**SS3NP-MS**



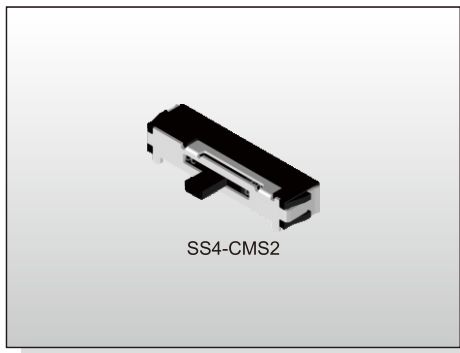
**SS3P-H**



**SS3-CM**







**FEATURES**

- ※2.0mm height
- ※1P3T model
- ※Reflow solderable

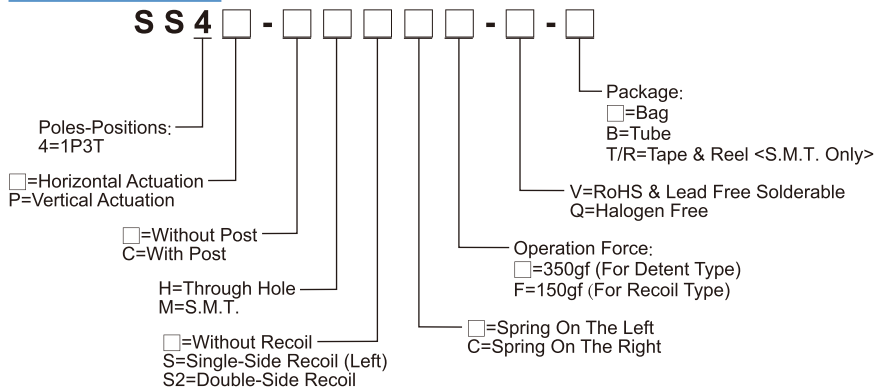
**APPLICATION**

- ※Remote control
- ※Consumer electronics
- ※Instrumentations

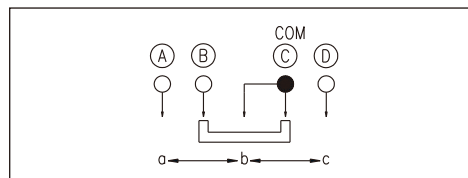
**SPECIFICATION**

Contact Rating	25mA, 24V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	500V AC/1 minute
Operating Force	100gf min./350gf max.(Detent Type) 150±100gf (Recoil Type)
Travel	2mm
Operating Life	10,000 cycles
Operating Temp.	-20°C ~ +70°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**



**CIRCUIT**

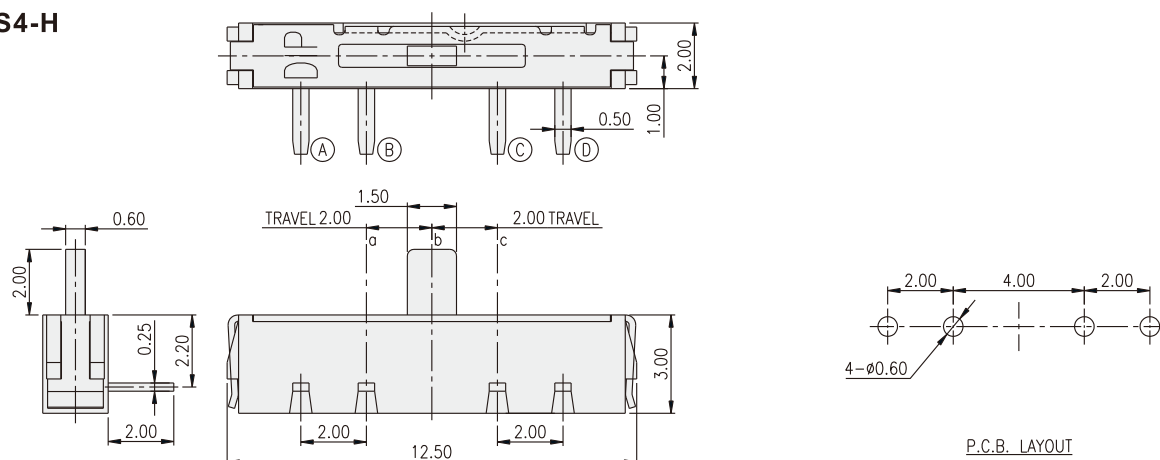


**PACKAGE**

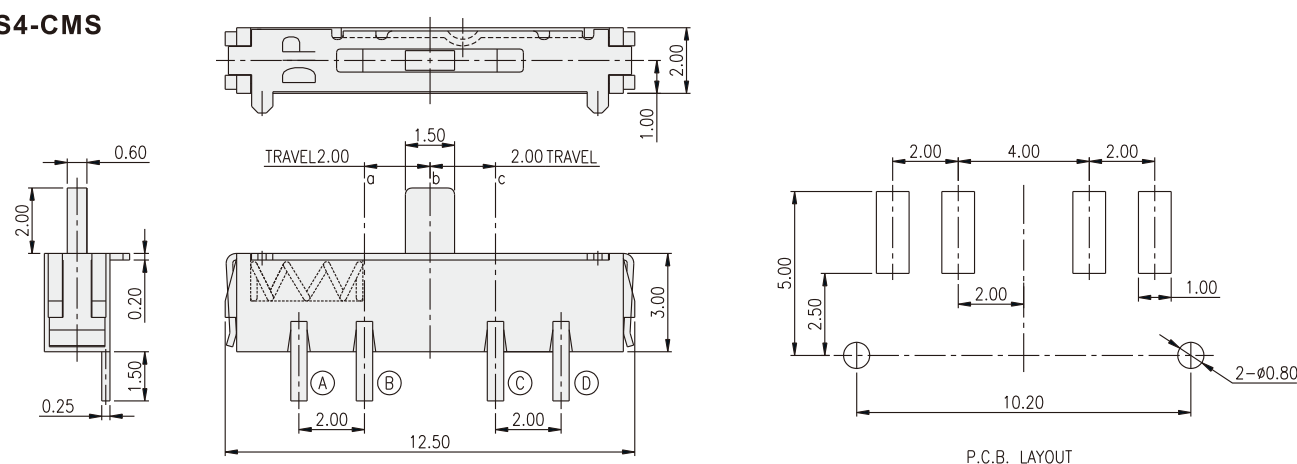
- <Bag>  
1500 pcs
- <Tube>  
38 pcs
- <Tape & Reel>  
1900 pcs

SLIDE SWITCH

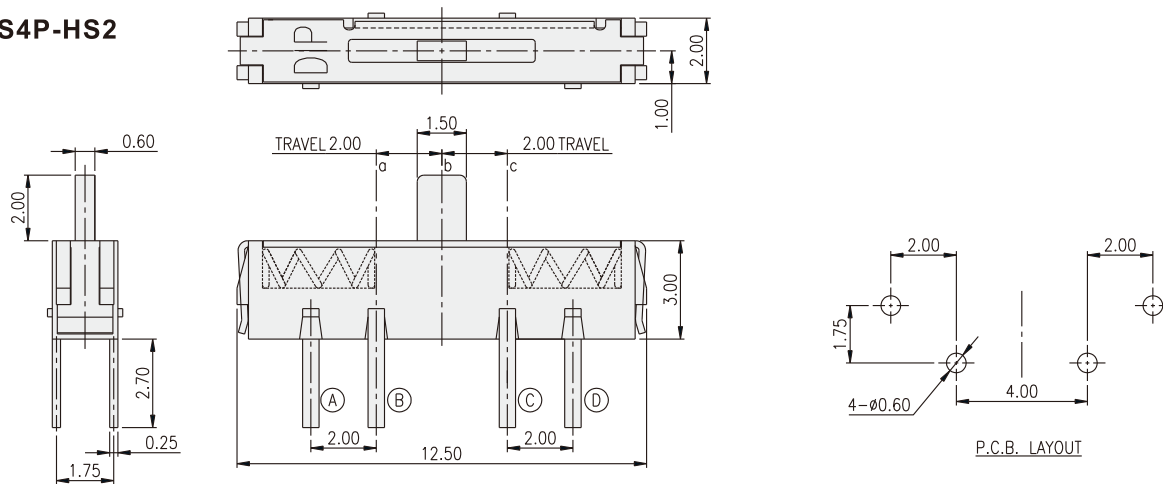
**SS4-H**



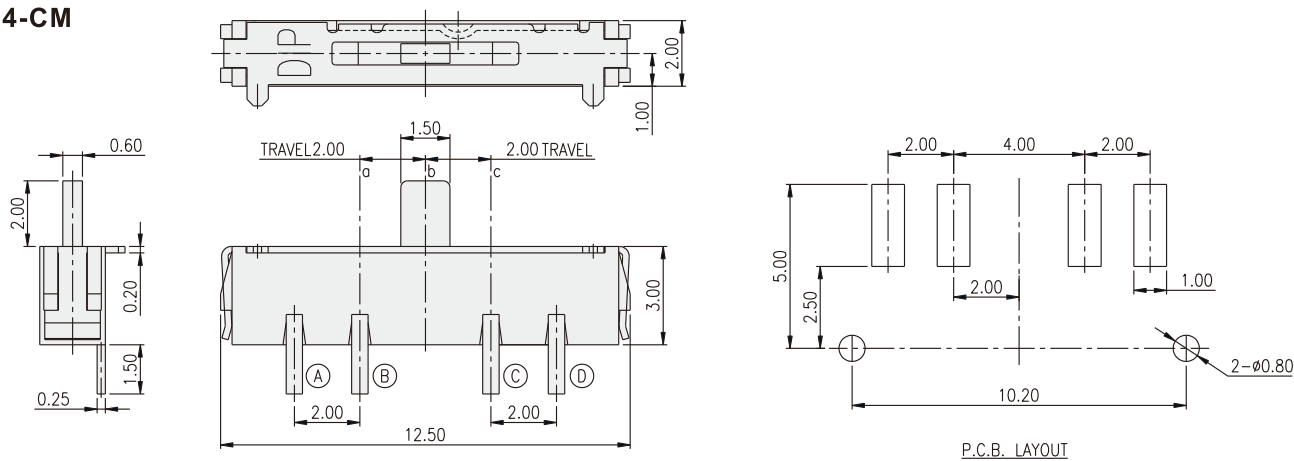
**SS4-CMS**



**SS4P-HS2**

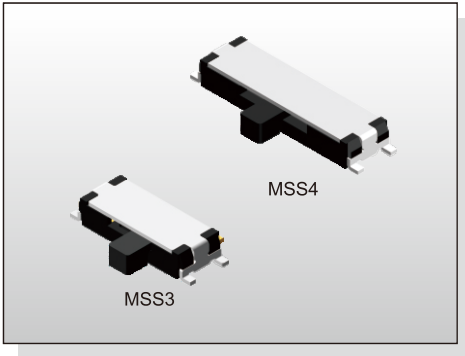


**SS4-CM**



# SLIDE SWITCH MSS(3)(4) SERIES

Miniature & SMT Type  
(1P2T, 1P3T)



## FEATURES

- ✘ 1.4mm height
- ✘ 1P2T, 1P3T models
- ✘ Stroke 1.5mm

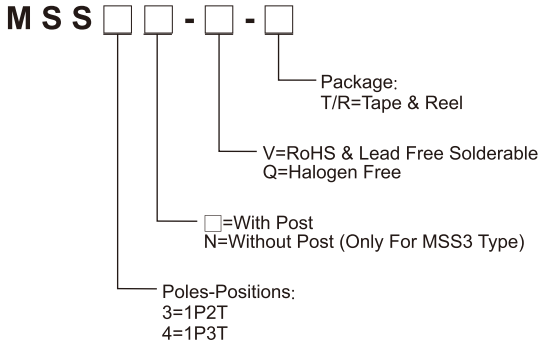
## APPLICATION

- ✘ Remote control
- ✘ Consumer electronics
- ✘ Instrumentations

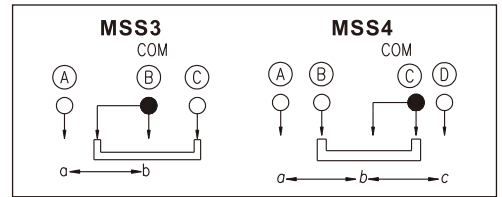
## SPECIFICATION

Contact Rating	25mA , 24V DC	
Contact Resistance	70mΩ max	
Insulation Resistance	100MΩ min. 100V DC	
Dielectric Strength	100V AC/1 minute	
Operating Force	150±100gf (1.47N±0.98N)	MSS3
	A→B 150±100gf (1.47N±0.98N)	MSS4
	C→B 150±100gf (1.47N±0.98N)	
	B→C 200±150gf (1.96N±1.47N)	
B→A 200±150gf (1.96N±1.47N)		
Travel	1.5mm	
Operating Life	10, 000 cycles	
Operating Temp.	-20°C ~ +70°C	
Storage Temp.	-40°C ~ +85°C	

## HOW TO ORDER



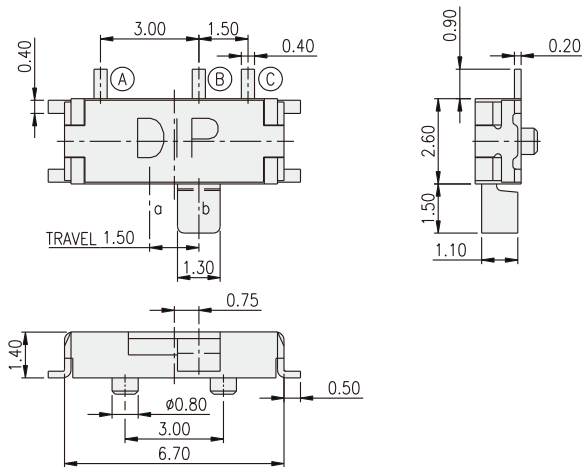
## CIRCUIT



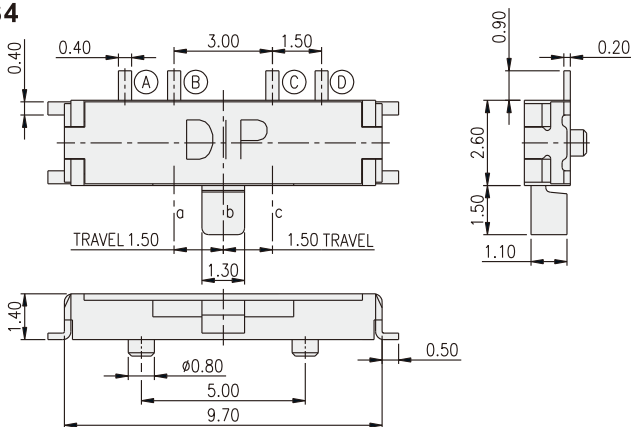
## PACKAGE

<Tape & Reel>  
2500 pcs

## MSS3



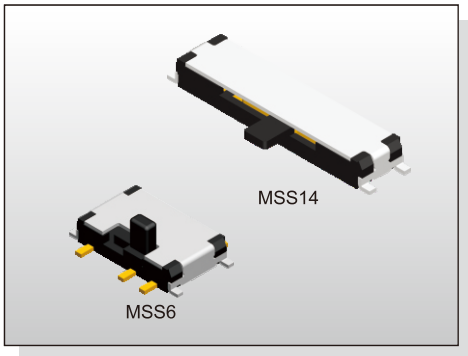
## MSS4



SLIDE SWITCH

# SLIDE SWITCH MSS(6)(14) SERIES

## Miniature Travel & SMT Type (2P2T, 1P4T)



### FEATURES

- ✧ 1.4mm height
- ✧ 2P2T, 1P4T models
- ✧ Stroke 1.5mm

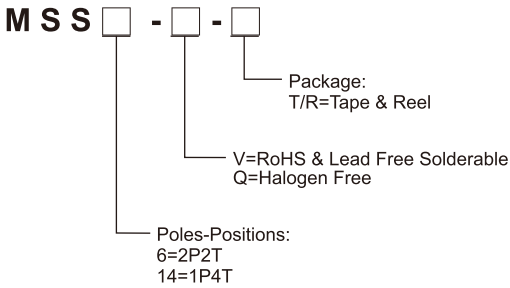
### APPLICATION

- ✧ Remote control
- ✧ Consumer electronics
- ✧ Instrumentations

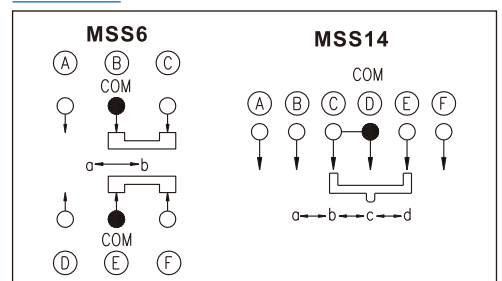
### SPECIFICATION

Contact Rating	25mA , 24V DC	
Contact Resistance	70mΩ max	
Insulation Resistance	100MΩ min. 100V DC	
Dielectric Strength	100V AC/1 minute	
Operating Force	200±150gf (1.96N±1.47N)	MSS6
	A→B 150±100gf (1.47N±0.98N)	MSS14
	D→C 150±100gf (1.47N±0.98N)	
	B→C 200±150gf (1.96N±1.47N)	
	C→D 200±150gf (1.96N±1.47N)	
	B→A 200±150gf (1.96N±1.47N)	
Travel	1.5mm	
Operating Life	10,000 cycles	
Operating Temp.	-20°C ~ +70°C	
Storage Temp.	-40°C ~ +85°C	

### HOW TO ORDER



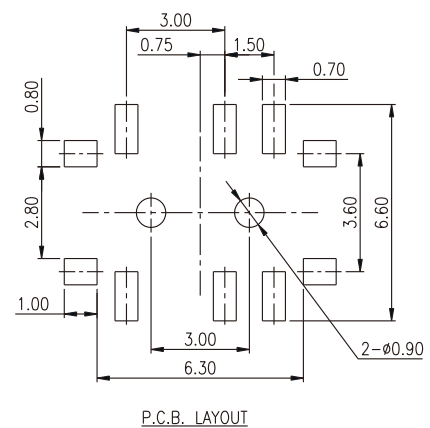
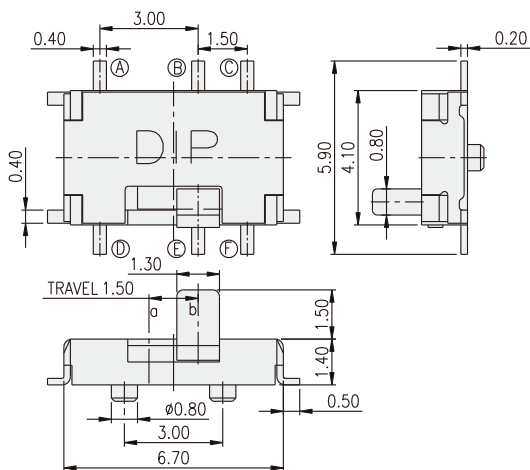
### CIRCUIT



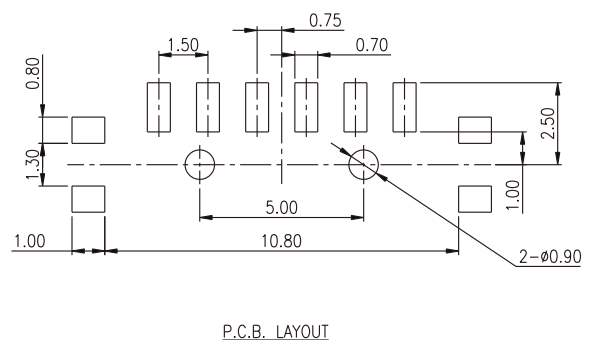
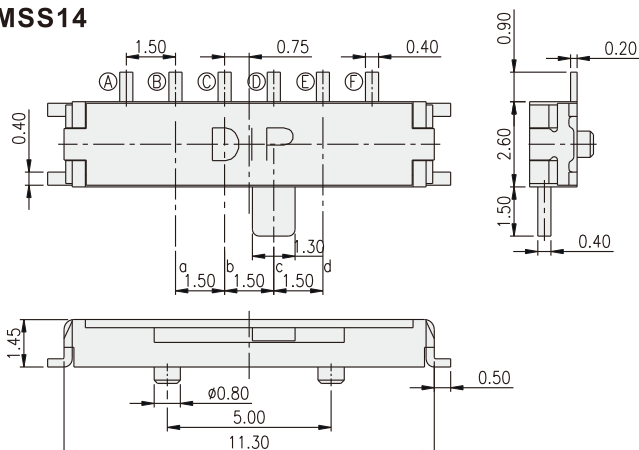
### PACKAGE

<Tape & Reel>  
MSS6: 1400 pcs  
MSS14: 2500 pcs

### MSS6

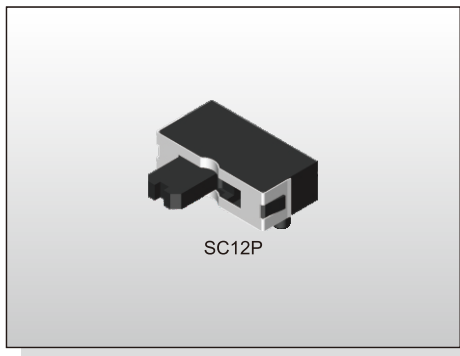


### MSS14



# SLIDE SWITCH SC12P SERIES

## Slide Type (1P2T)



### FEATURES

- ✘ 3.0mm height
- ✘ Through hole type
- ✘ 1P2T model

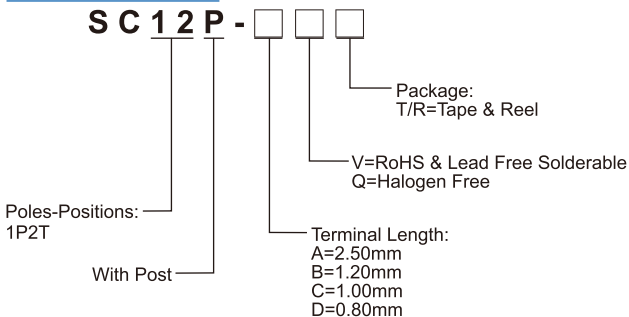
### APPLICATION

- ✘ Remote control
- ✘ Consumer electronics
- ✘ Instrumentations

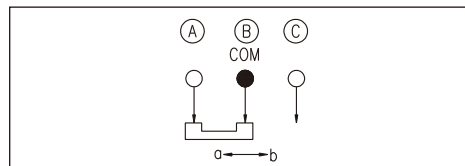
### SPECIFICATION

Contact Rating	0.3A, 10V DC
Contact Resistance	50mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	500V AC/1 minute
Operating Force	100~300gf
Travel	2.5mm
Operating Life	10,000 cycles
Operating Temp.	-10°C ~ +60°C
Storage Temp.	-20°C ~ +75°C

### HOW TO ORDER



### CIRCUIT

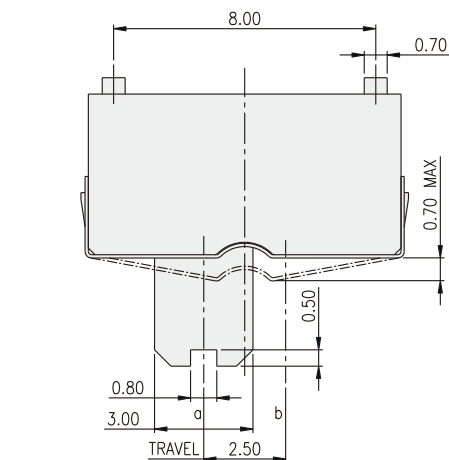


### PACKAGE

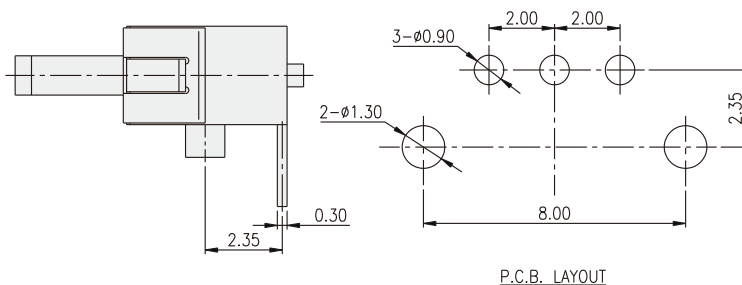
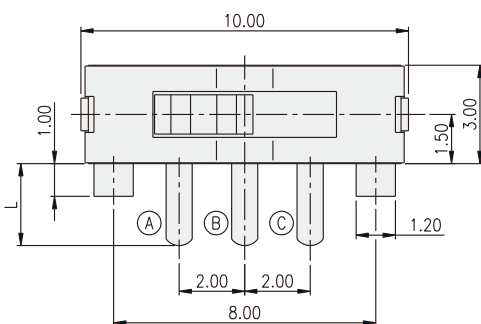
<Tape & Reel>  
650 pcs

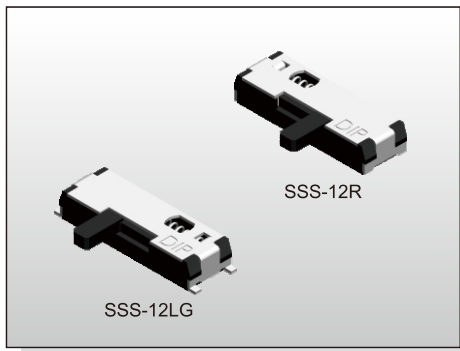
SLIDE SWITCH

## SC12P



PART NO.	L
SC12P-A	2.50
SC12P-B	1.20
SC12P-C	1.00
SC12P-D	0.80





**FEATURES**

- ※2.0mm height
- ※1P2T model
- ※Stroke 2.7mm

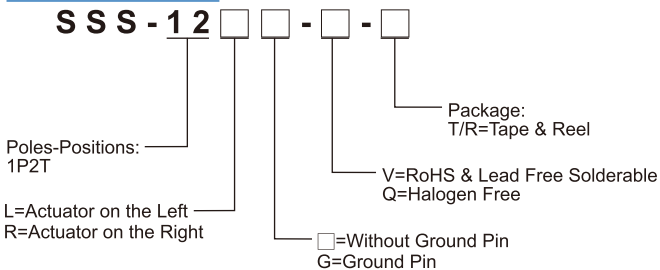
**APPLICATION**

- ※Remote control
- ※Consumer electronics
- ※Instrumentations

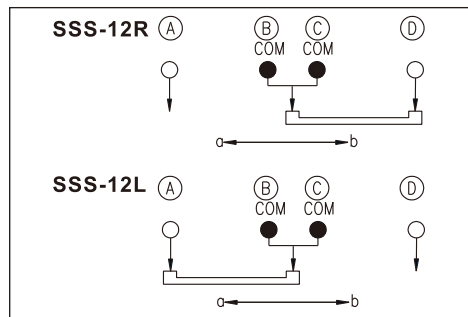
**SPECIFICATION**

Contact Rating	0.3A, 4V DC
Contact Resistance	70mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	100V AC/1 minute
Operating Force	180±70gf
Travel	2.7mm
Operating Life	10,000 cycles
Operating Temp.	-10°C ~ +60°C
Storage Temp.	-20°C ~ +75°C

**HOW TO ORDER**



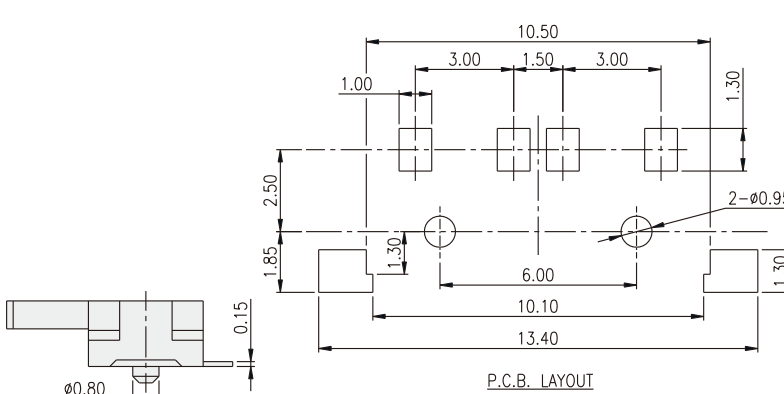
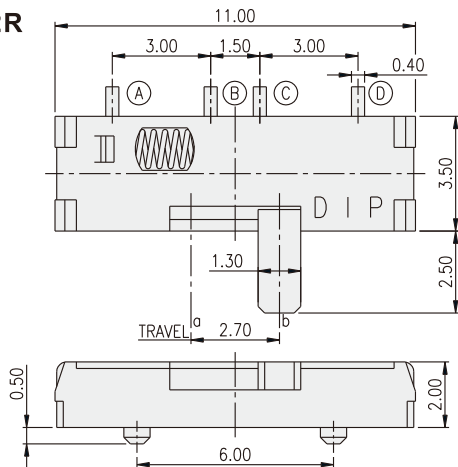
**CIRCUIT**



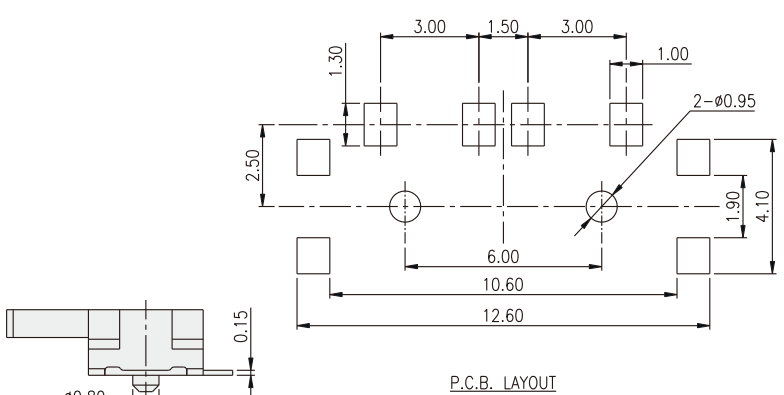
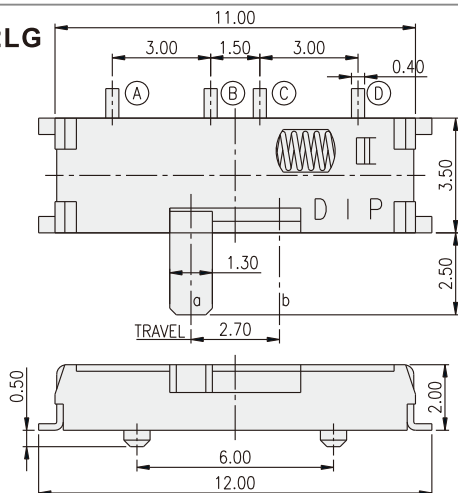
**PACKAGE**

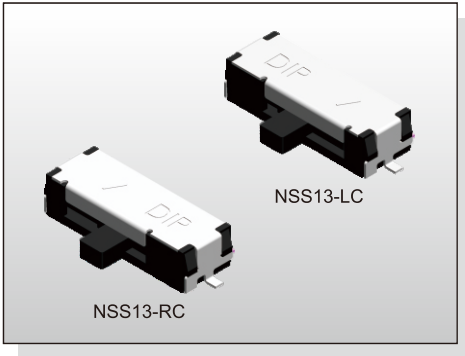
<Tape & Reel>  
2000 pcs

**SSS-12R**



**SSS-12LG**





**FEATURES**

- ※ 1P3T model
- ※ Single-side recoil type
- ※ Reflow solderable

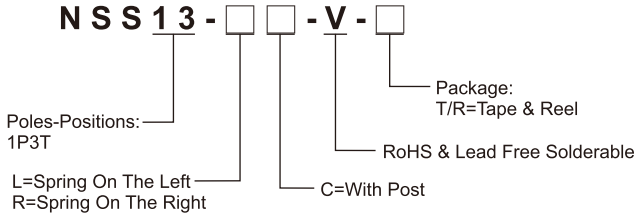
**APPLICATION**

- ※ Remote control
- ※ Consumer electronics
- ※ Instrumentations

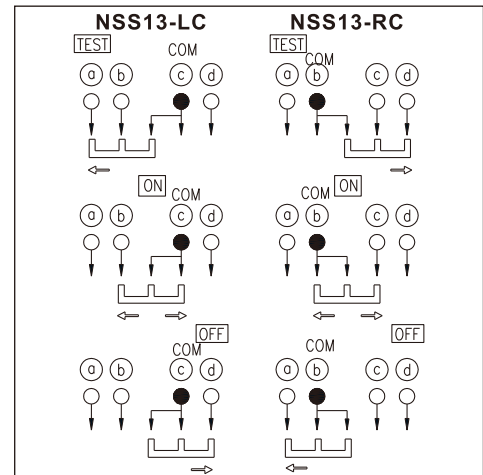
**SPECIFICATION**

Contact Rating	0.3A, 4V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	500V AC/1 minute
Operating Force	320±150gf (ON-TEST) 320±150gf (OFF-ON) 500+100/-200gf (ON-OFF)
Travel	2mm (ON-TEST) 4mm (OFF-ON) 4mm (ON-OFF)
Operating Life	10, 000 cycles
Operating Temp.	-20°C ~ +70°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**



**CIRCUIT**

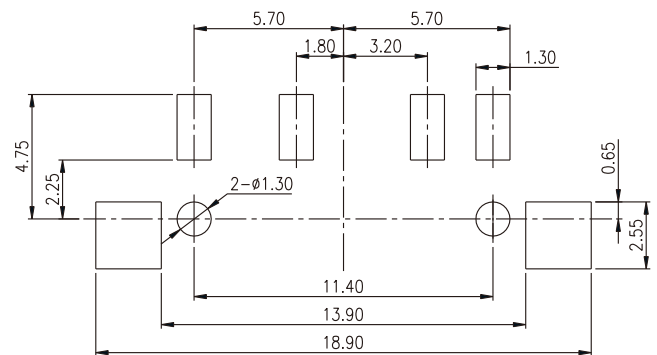
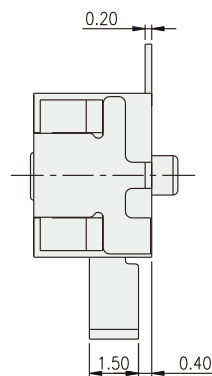
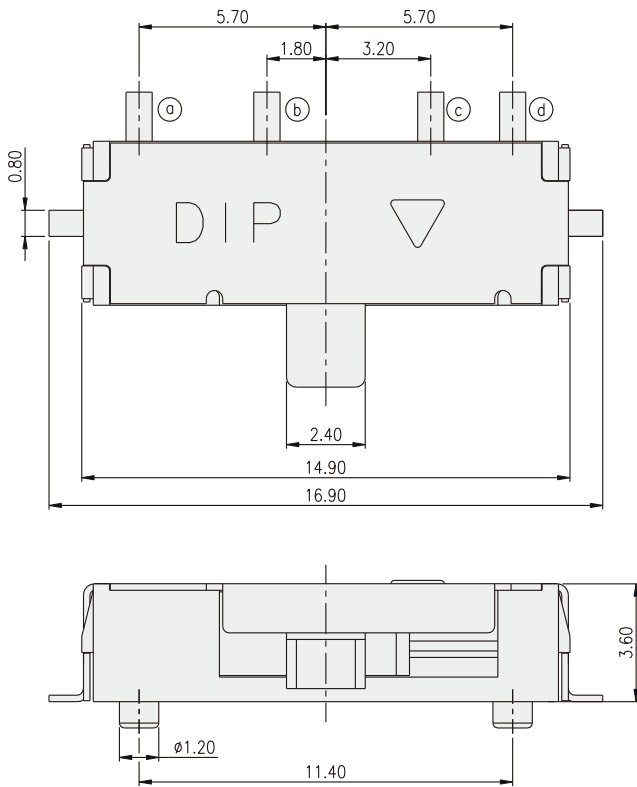


**PACKAGE**

<Tape & Reel>  
800 pcs

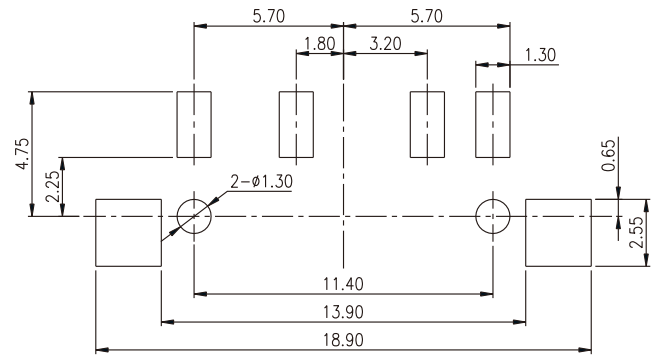
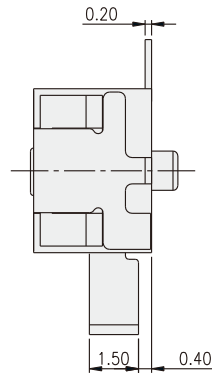
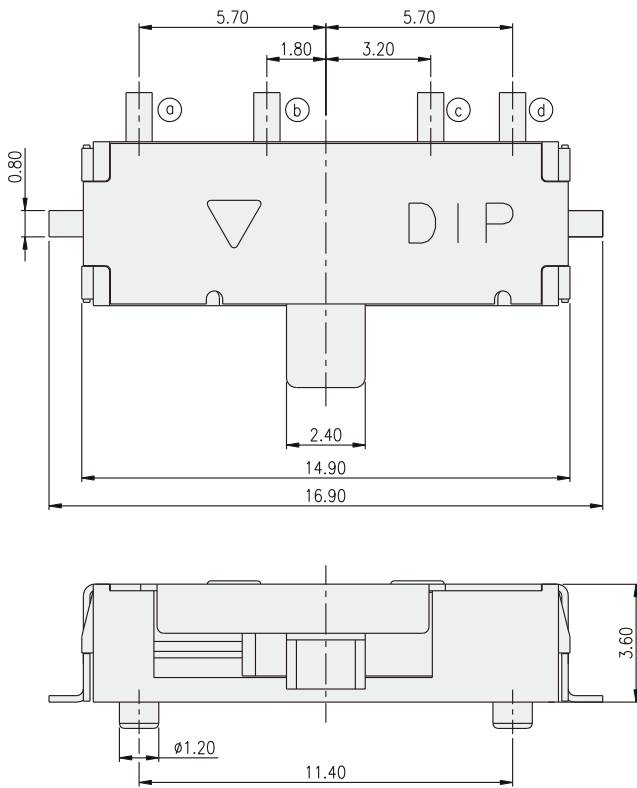
SLIDE SWITCH

**NSS13-LC**



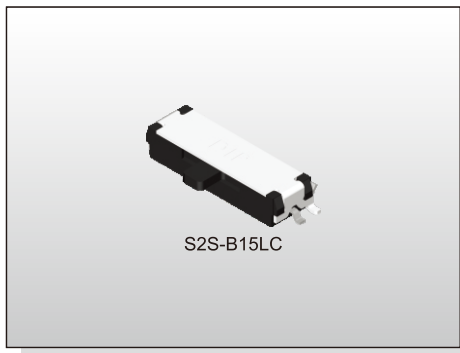
P.C.B. LAYOUT

**NSS13-RC**



P.C.B. LAYOUT





S2S-B15LC

**FEATURES**

- ※2.0mm height
- ※Double-side recoil
- ※Stroke 1.5mm

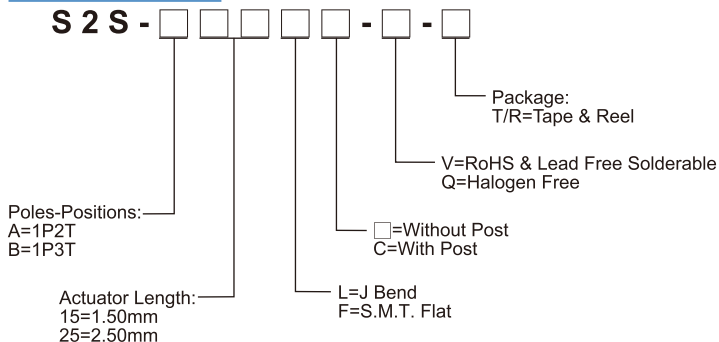
**APPLICATION**

- ※Remote control
- ※Consumer electronics
- ※Instrumentations

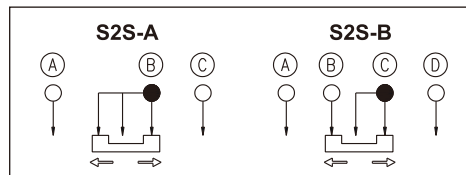
**SPECIFICATION**

Contact Rating	300mA, 4V DC
Contact Resistance	70mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	100V AC/1 minute
Operating Force	100±50gf
Travel	1.5mm
Operating Life	50,000 cycles
Operating Temp.	-30°C ~ +80°C
Storage Temp.	-40°C ~ +90°C

**HOW TO ORDER**



**CIRCUIT**

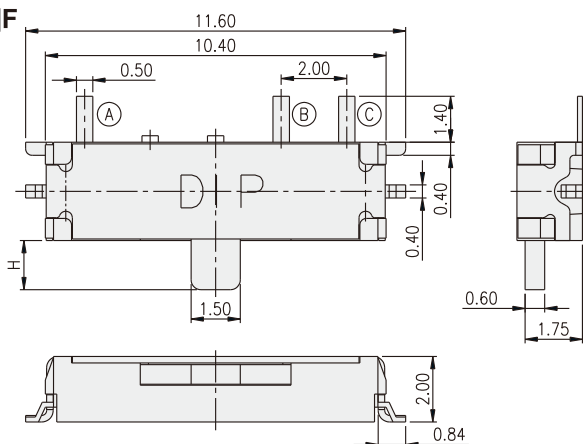


**PACKAGE**

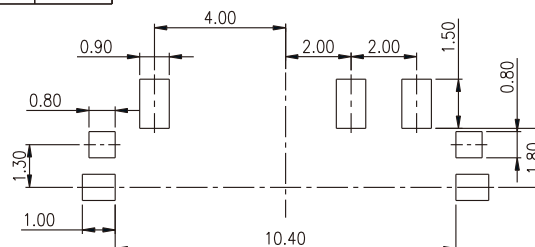
<Tape & Reel>  
2000 pcs

SLIDE SWITCH

**S2S-A** [ ] [ ] [ ] F

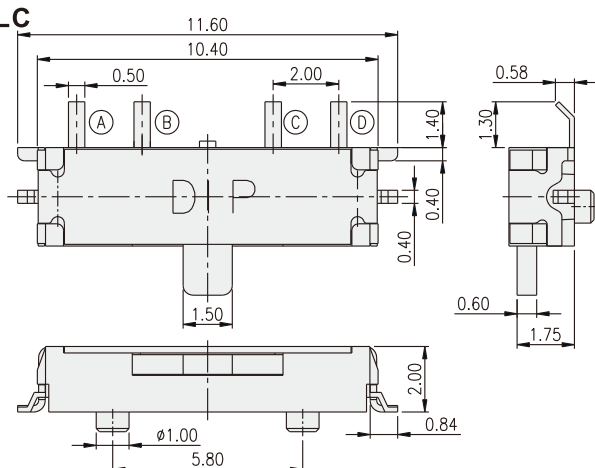


PART NO.	H
S2S-A15F	1.50
S2S-A25F	2.50

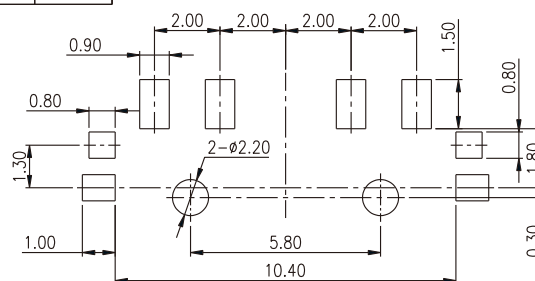


P.C.B. LAYOUT

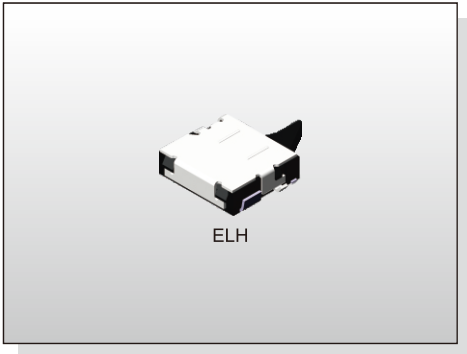
**S2S-B** [ ] [ ] [ ] LC



PART NO.	H
S2S-B15LC	1.50
S2S-B25LC	2.50



P.C.B. LAYOUT



**FEATURES**

- ※ Compact size
- ※ Two-way operation
- ※ Halogen Free

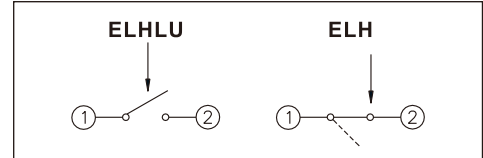
**APPLICATION**

- ※ Digital camera
- ※ Notebook
- ※ Automotive

**SPECIFICATION**

Contact Rating	50 $\mu$ A, 3V DC min. 1mA, 5V DC max.
Contact Resistance	2 $\Omega$ max.
Insulation Resistance	100M $\Omega$ min. 100V DC
Dielectric Strength	100V AC/1 minute
Operating Force	35gf max.
Travel	2.15mm
Operating Life	50,000 cycles
Operating Temp.	-10 $^{\circ}$ C ~ +60 $^{\circ}$ C
Storage Temp.	-40 $^{\circ}$ C ~ +85 $^{\circ}$ C

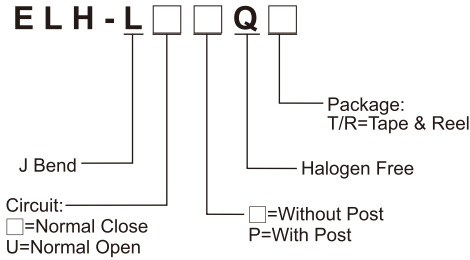
**CIRCUIT**



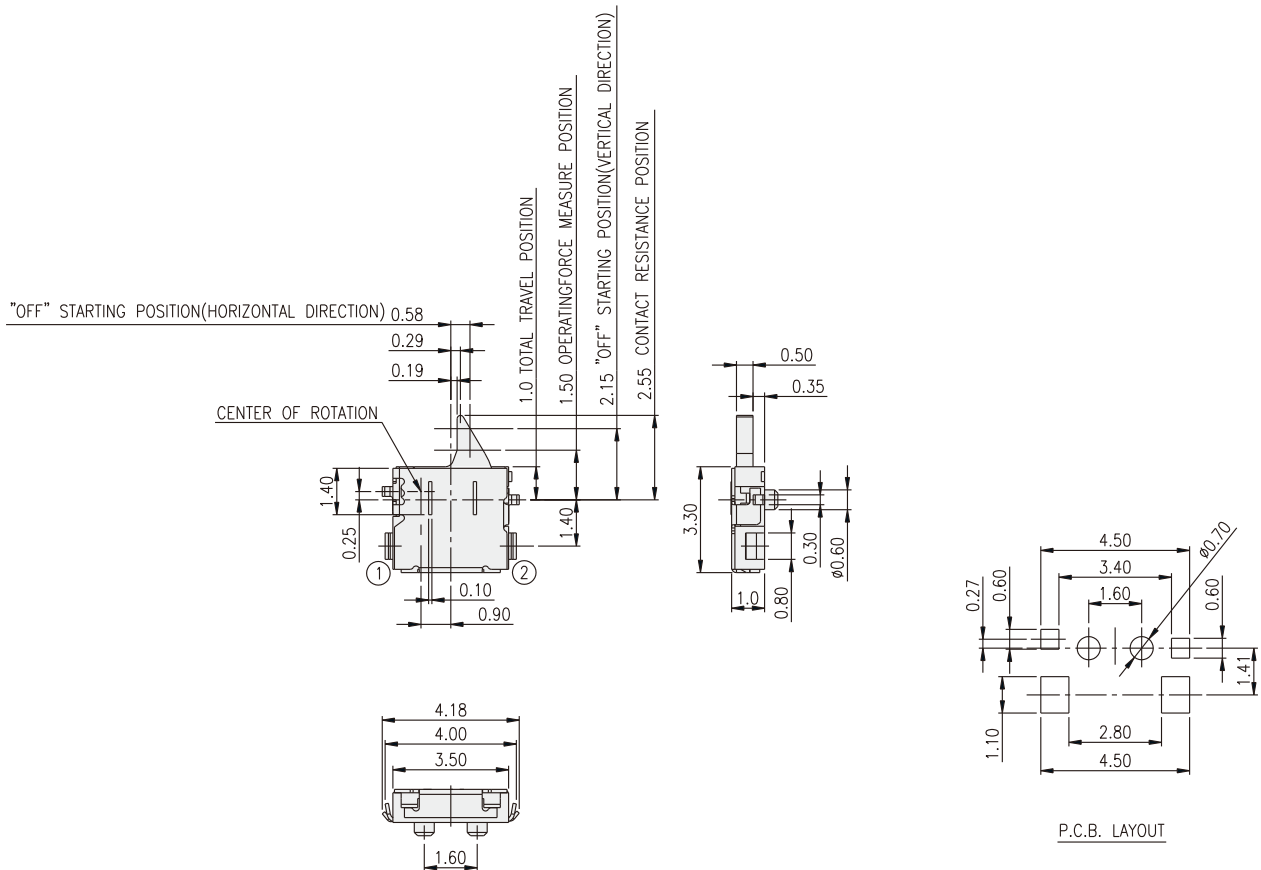
**PACKAGE**

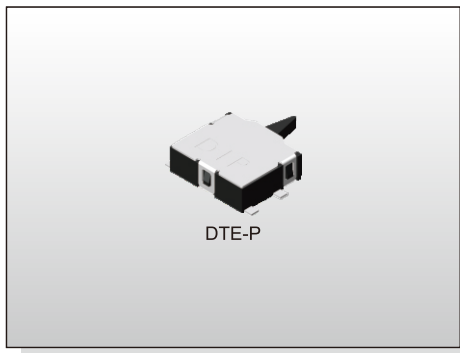
<Tape & Reel>  
3500 pcs

**HOW TO ORDER**



**ELH**





**FEATURES**

- ※ Compact size
- ※ Two-way operation, auto return
- ※ Circuit type: Normally open

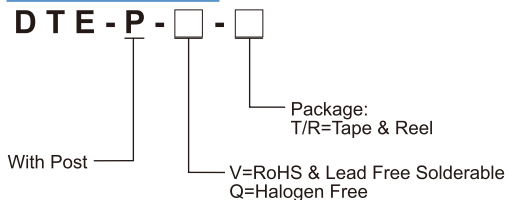
**APPLICATION**

- ※ Detecting opening/ closing of DSC cover
- ※ Computer peripheral
- ※ Instruments

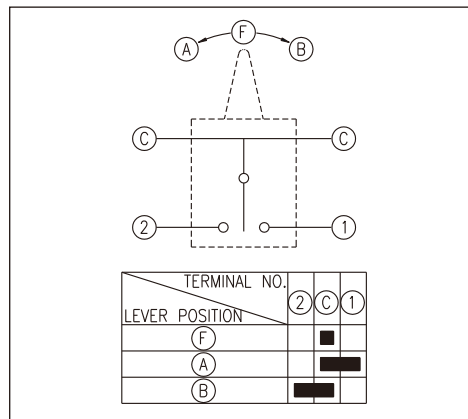
**SPECIFICATION**

Contact Rating	10mA, 5V DC
Contact Resistance	500mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	100V AC/1 minute
Operating Force	30gf max.
Travel	1.5mm
Operating Life	100,000 cycles
Operating Temp.	-10°C ~ +60°C
Storage Temp.	-40°C ~ +70°C

**HOW TO ORDER**



**CIRCUIT**

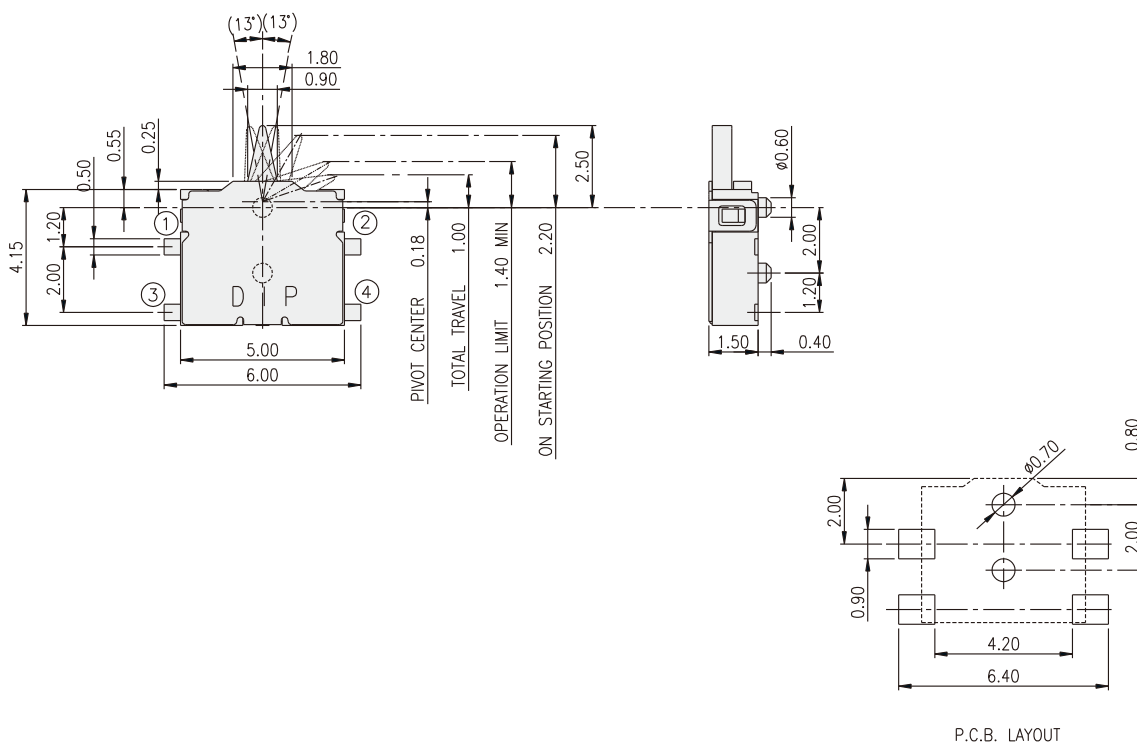


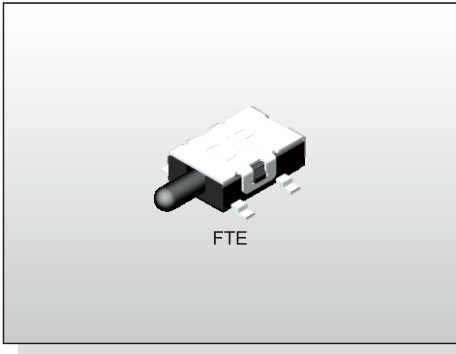
**PACKAGE**

<Tape & Reel>  
3800 pcs

DETECTOR SWITCH

**DTE-P**





**FEATURES**

- ※Ultra-low profile with 2.0mm
- ※Sharp detection feeling

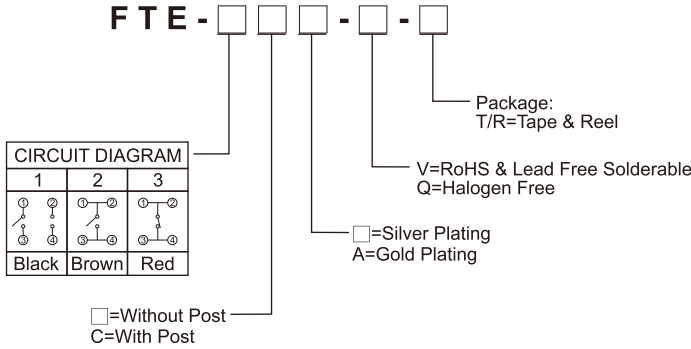
**APPLICATION**

- ※Detection of car audio mechanism
- ※Smoke detector
- ※Notebook

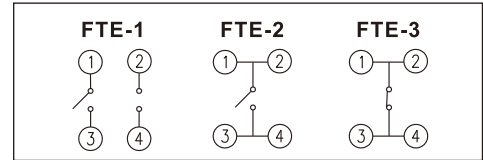
**SPECIFICATION**

Contact Rating	1mA, 5V DC
Contact Resistance	1Ω max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	100V AC/1 minute
Operating Force	105gf max.
Travel	2.0mm
Operating Life	100,000 cycles
Operating Temp.	-10°C ~ +60°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**



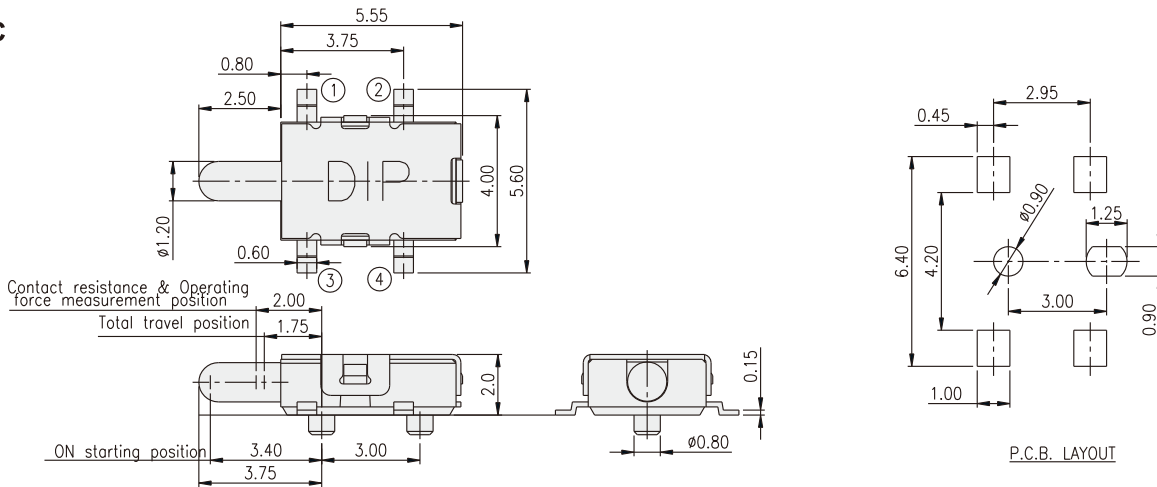
**CIRCUIT**



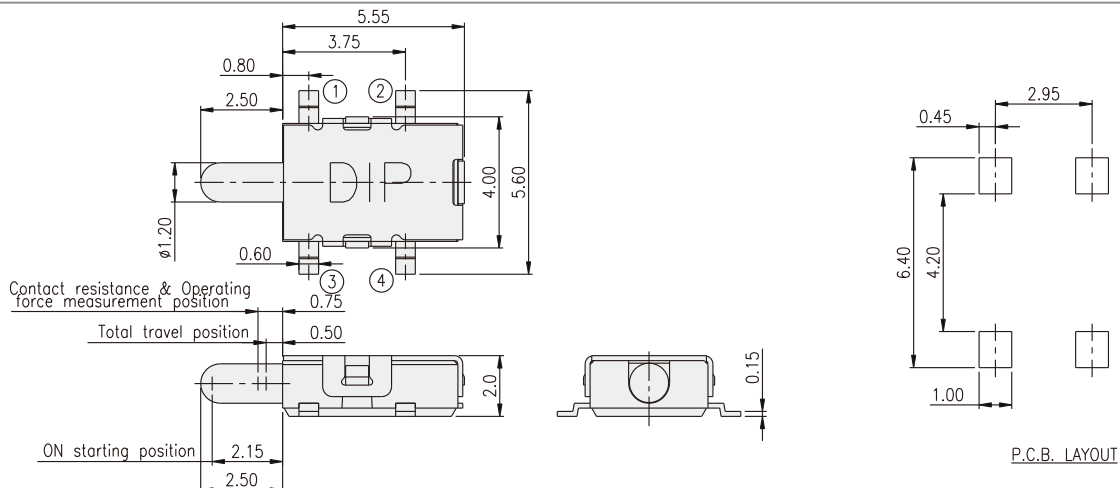
**PACKAGE**

<Tape & Reel>  
3000 pcs

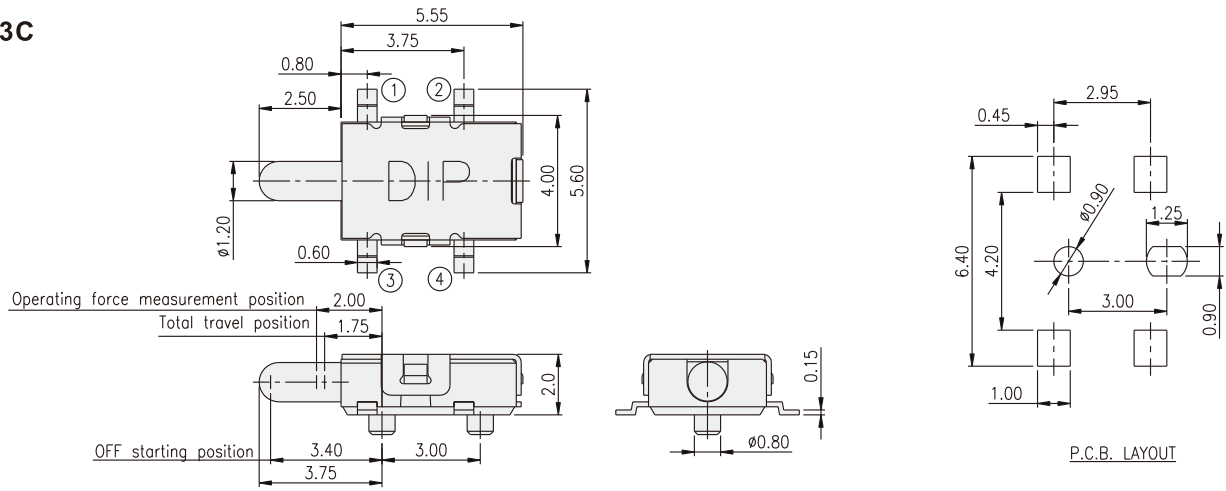
**FTE-1C**

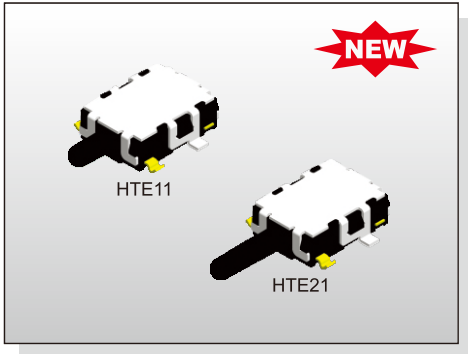


**FTE-2**



**FTE-3C**





**FEATURES**

- ※Ultra-low profile with 2.0mm
- ※Sharp detection feeling

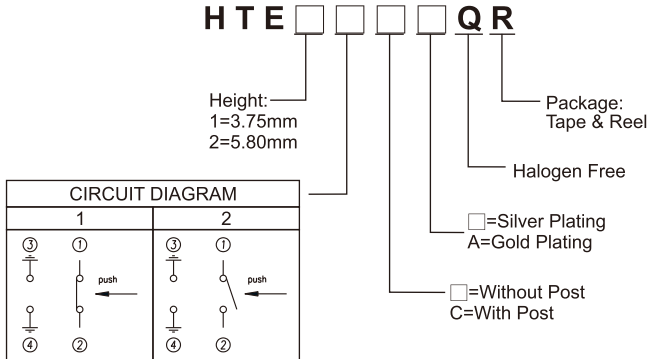
**APPLICATION**

- ※Detection of car audio mechanism
- ※Smoke detector
- ※Notebook
- ※Industrial application
- ※3C products

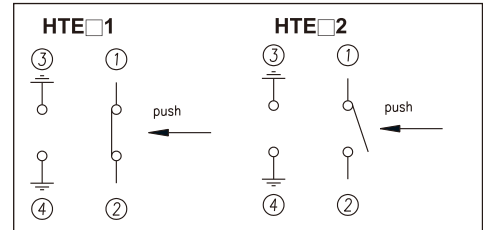
**SPECIFICATION**

Contact Rating	10mA, 5V DC
Contact Resistance	1Ω max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	100V AC/1 minute
Operating Force	150gf max.
Travel	2.0mm
Operating Life	100,000 cycles
Operating Temp.	-25°C ~ +105°C
Storage Temp.	-40°C ~ +105°C

**HOW TO ORDER**

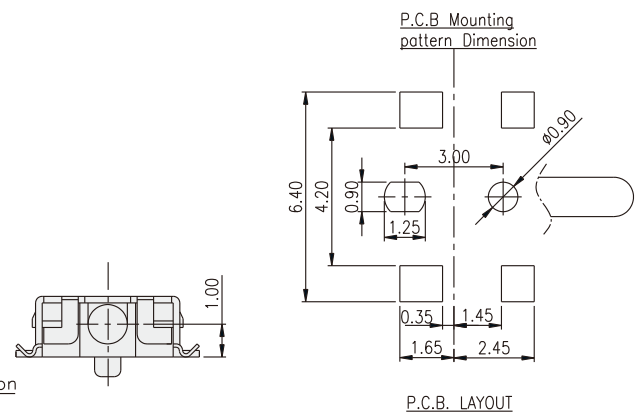
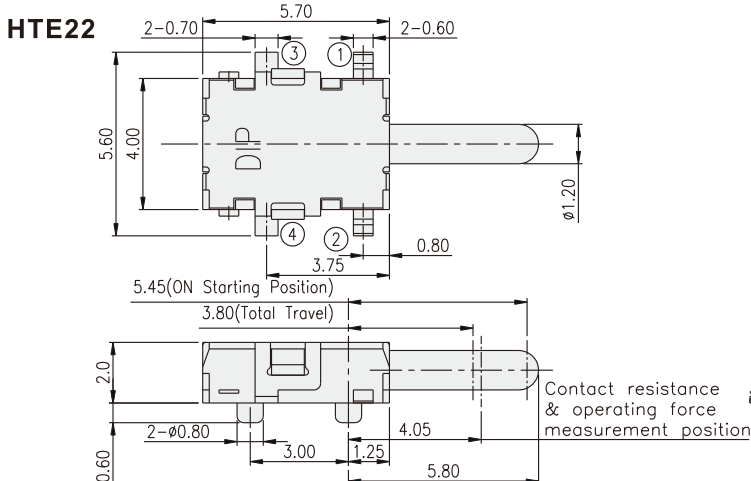
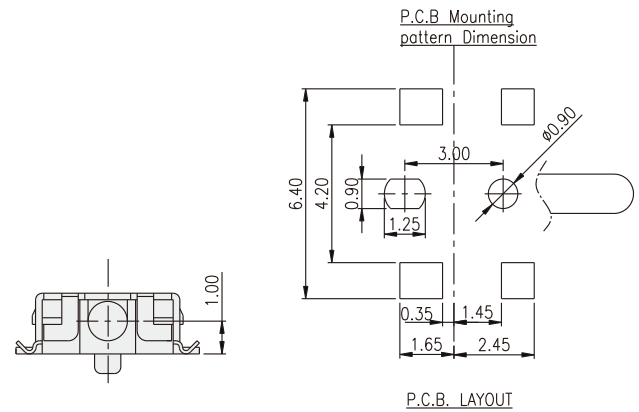
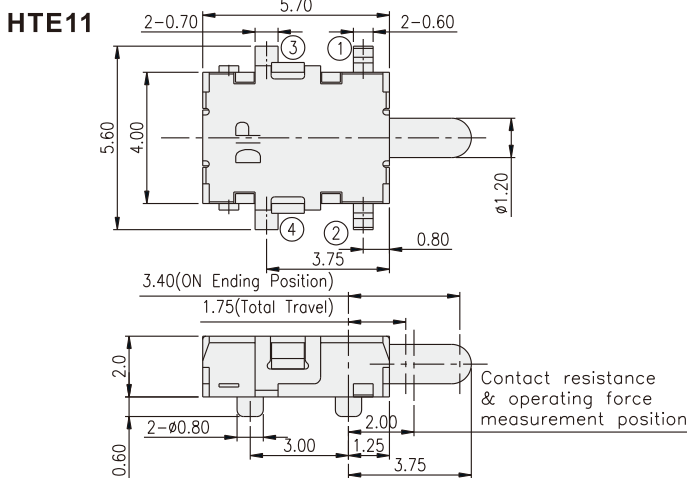


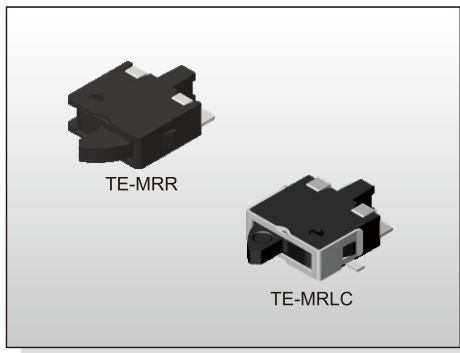
**CIRCUIT**



**PACKAGE**

<Tape & Reel>  
3000 pcs





**FEATURES**

※Left or right operation direction

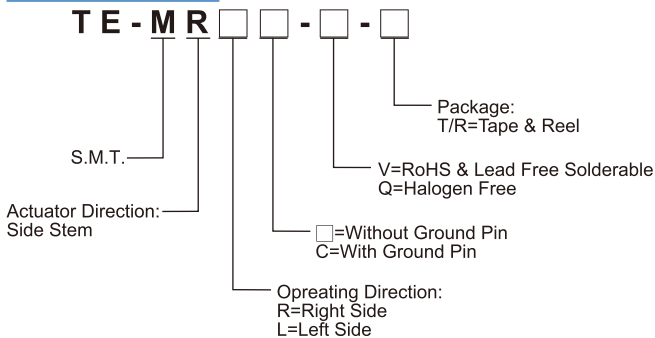
**APPLICATION**

- ※Close/open detection
- ※White goods
- ※Automotive

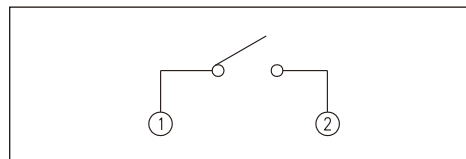
**SPECIFICATION**

Contact Rating	50mA, 20V DC
Contact Resistance	1Ω max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	100V AC/1 minute
Operating Force	50gf max.
Travel	2.15mm
Operating Life	100,000 cycles
Operating Temp.	-10°C ~ +60°C
Storage Temp.	-20°C ~ +70°C

**HOW TO ORDER**



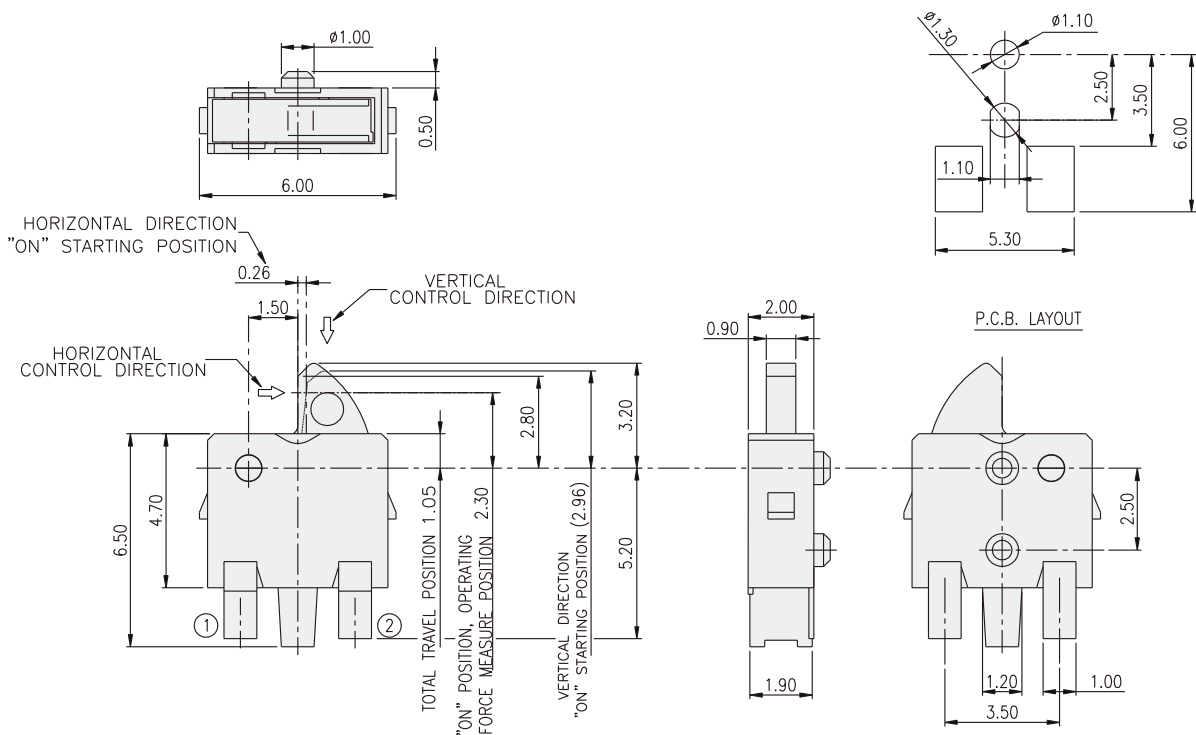
**CIRCUIT**



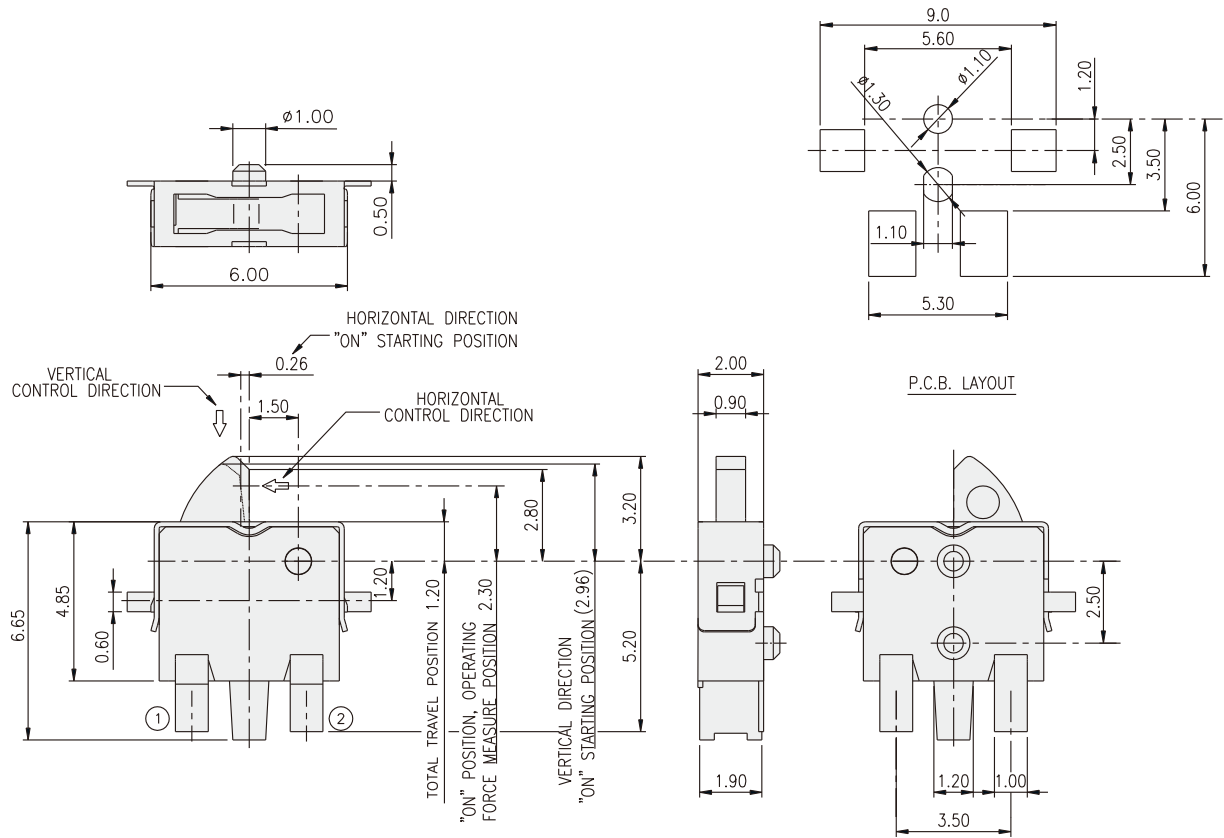
**PACKAGE**

<Tape & Reel>  
TE-MR□: 3000 pcs  
TE-MR□C: 2000 pcs

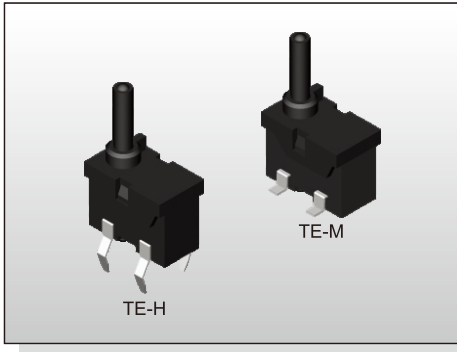
**TE-MRR**



TE-MRLC







**FEATURES**

- ※ Compact size
- ※ SMT & Through hole type available
- ※ Different stem height for option

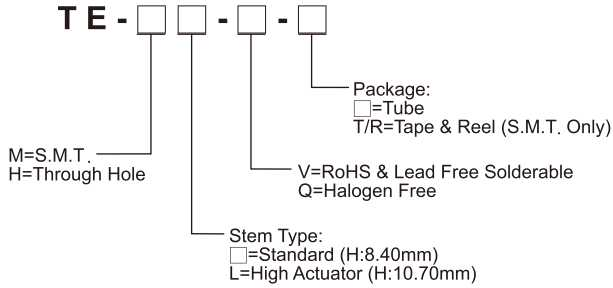
**APPLICATION**

- ※ DVD Players, CD-ROMs
- ※ Automotive
- ※ Telecommunication

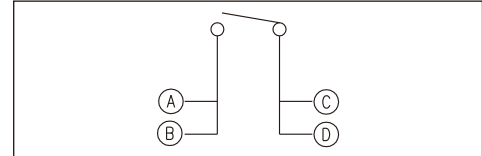
**SPECIFICATION**

Contact Rating	5mA, 5V DC
Contact Resistance	500mΩ max.
Insulation Resistance	100MΩ min. 250V DC
Dielectric Strength	250V AC/1 minute
Operating Force	35gf max.
Travel	2mm
Operating Life	50,000 cycles
Operating Temp.	-20°C ~ +70°C
Storage Temp.	-30°C ~ +80°C

**HOW TO ORDER**



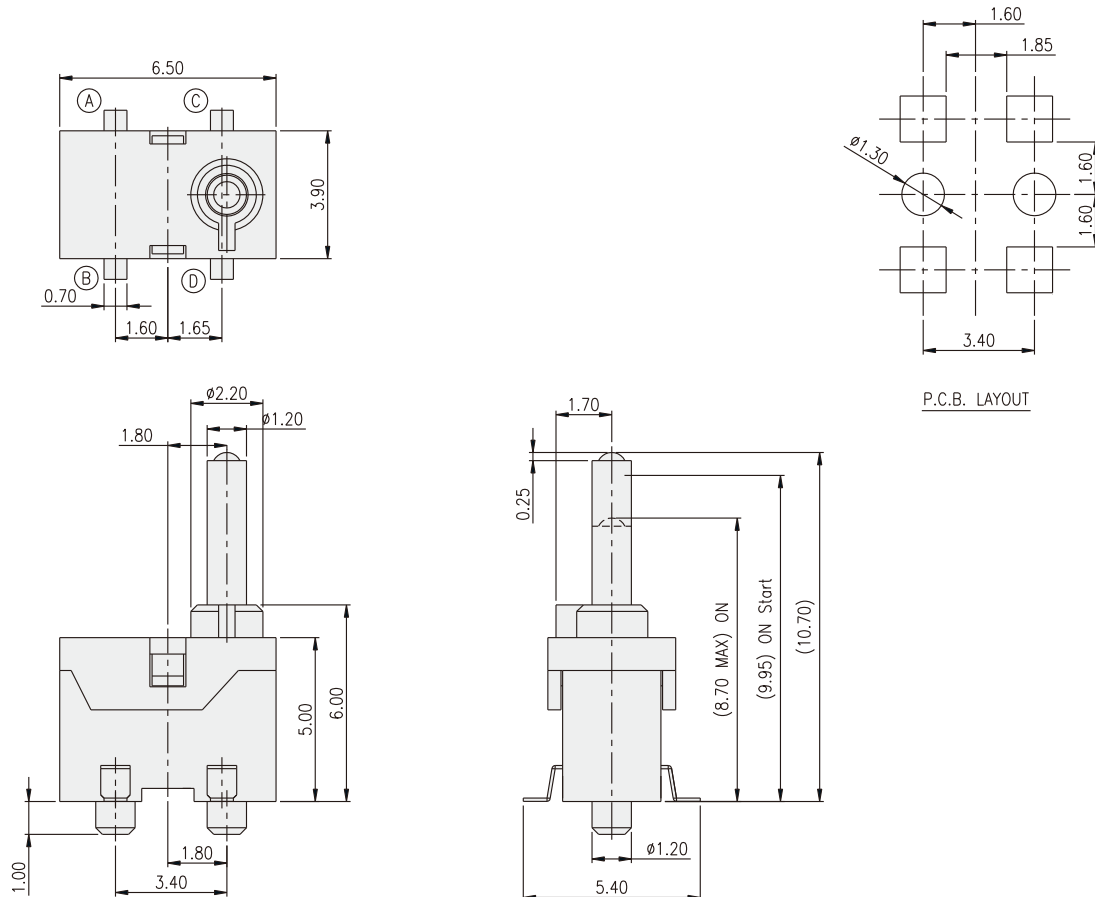
**CIRCUIT**



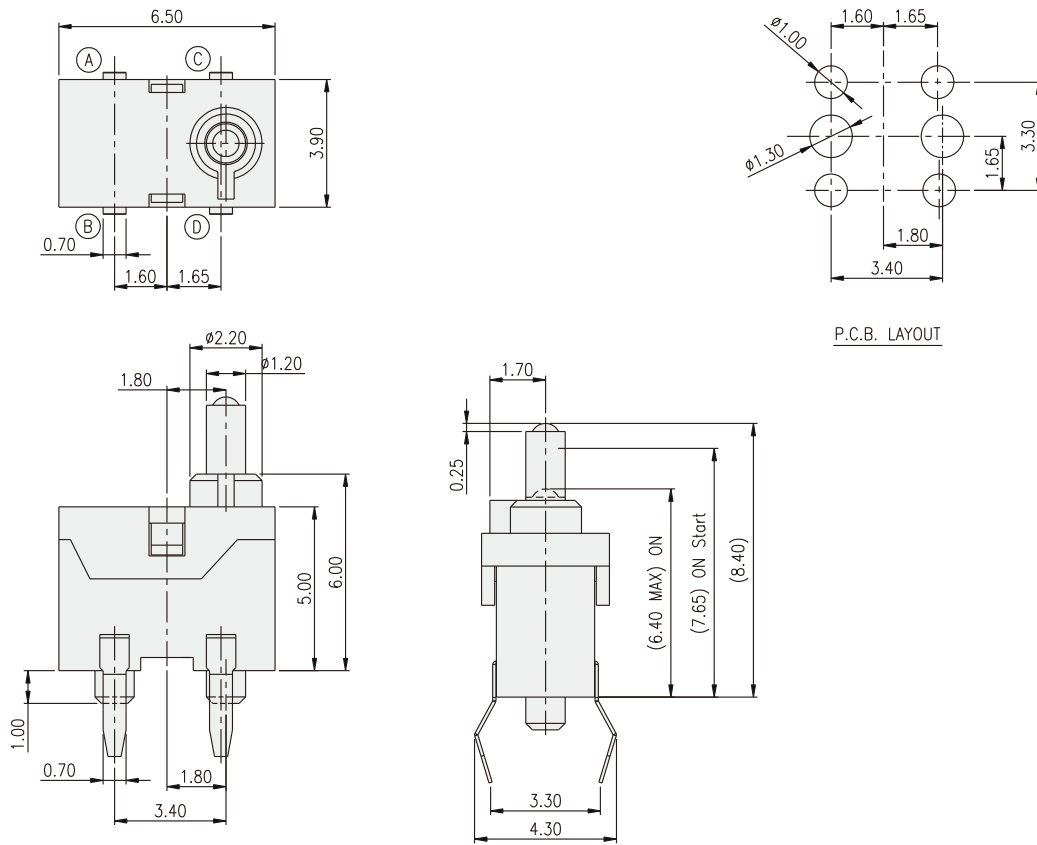
**PACKAGE**

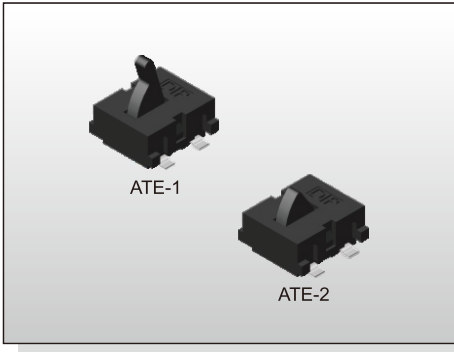
- <Tube>  
72 pcs
- <Tape & Reel>  
TE-M: 500 pcs  
TE-ML: 400 pcs

**TE-ML**



TE-H





**FEATURES**

- ※ Guiding post offers easy orientation
- ※ 3.80 & 5.30mm stem height available

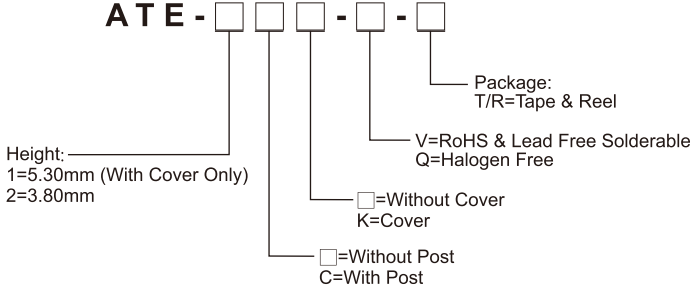
**APPLICATION**

- ※ DSC
- ※ Detection of disc loading

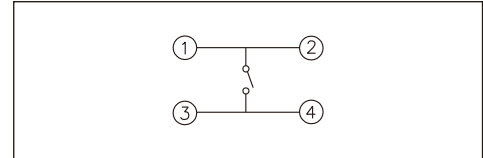
**SPECIFICATION**

Contact Rating	1mA, 5V DC
Contact Resistance	1Ω max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	100V AC/1 minute
Operating Force	40gf max.
Travel	3.9mm max. Stem Height 5.3mm 2.6mm max. Stem Height 3.8mm
Operating Life	100,000 cycles
Operating Temp.	-10°C ~ +60°C
Storage Temp.	-20°C ~ +70°C

**HOW TO ORDER**



**CIRCUIT**

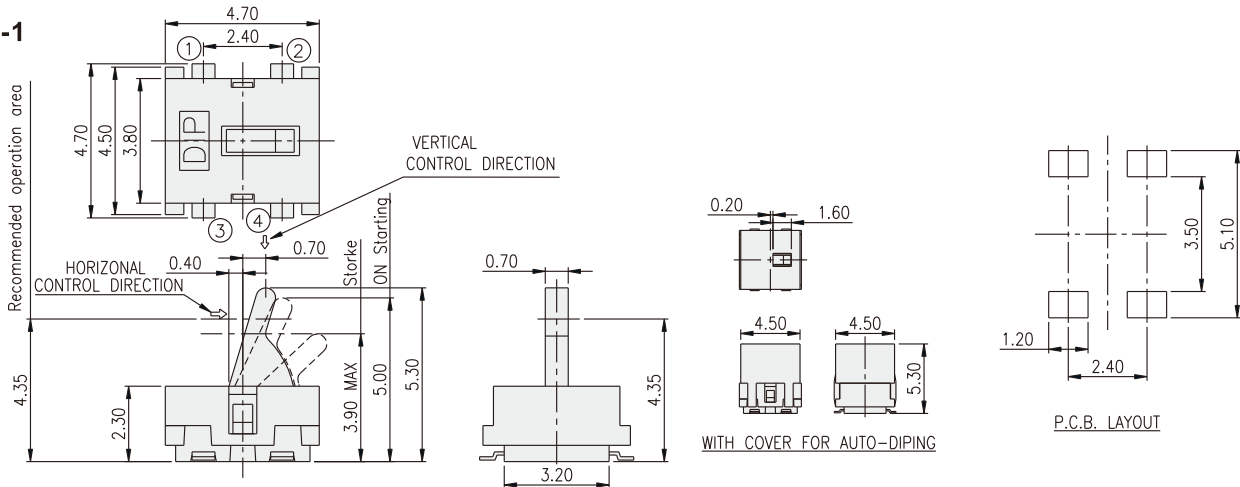


**PACKAGE**

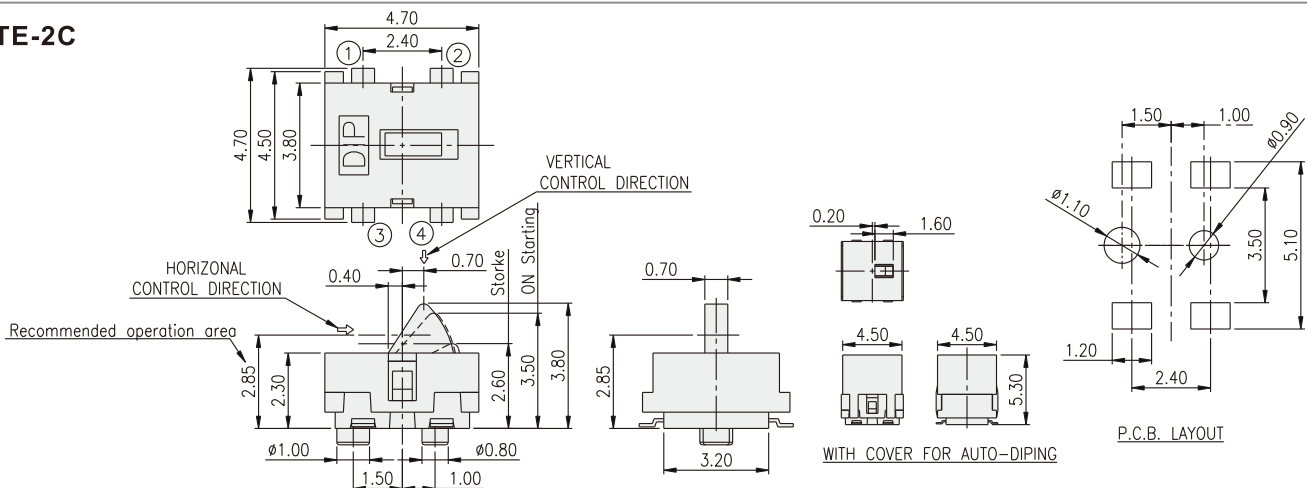
<Tape & Reel>  
ATE-1  : 900 pcs  
ATE-2  K: 900 pcs  
ATE-2 : 1200 pcs

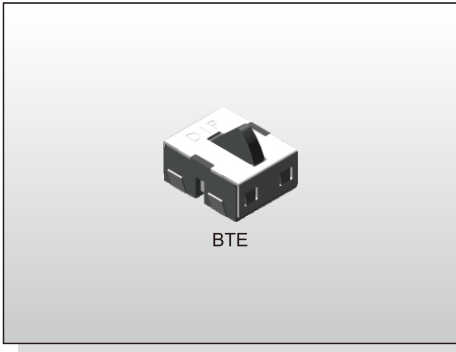
DETECTOR SWITCH

**ATE-1**



**ATE-2C**





BTE

**FEATURES**

- ※ Guiding post offers easy orientation
- ※ Ultra-low profile

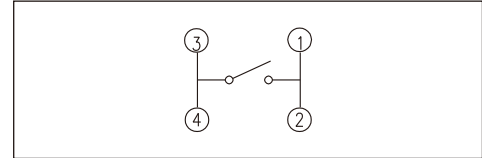
**APPLICATION**

- ※ Notebook
- ※ Smart phone

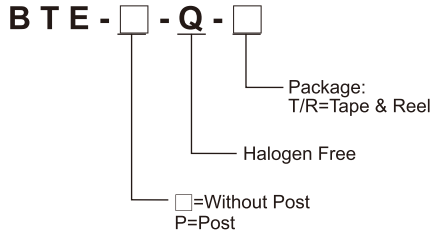
**SPECIFICATION**

Contact Rating	1mA, 5V DC
Contact Resistance	2Ω max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	100V AC/1 minute
Operating Force	50gf max.
Travel	1.03mm
Operating Life	100,000 cycles
Operating Temp.	-10°C ~ +60°C
Storage Temp.	-20°C ~ +70°C

**CIRCUIT**



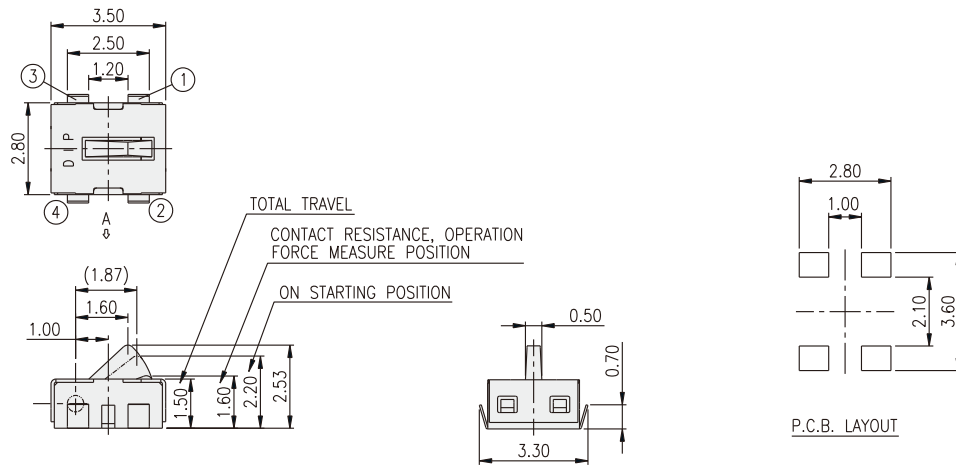
**HOW TO ORDER**



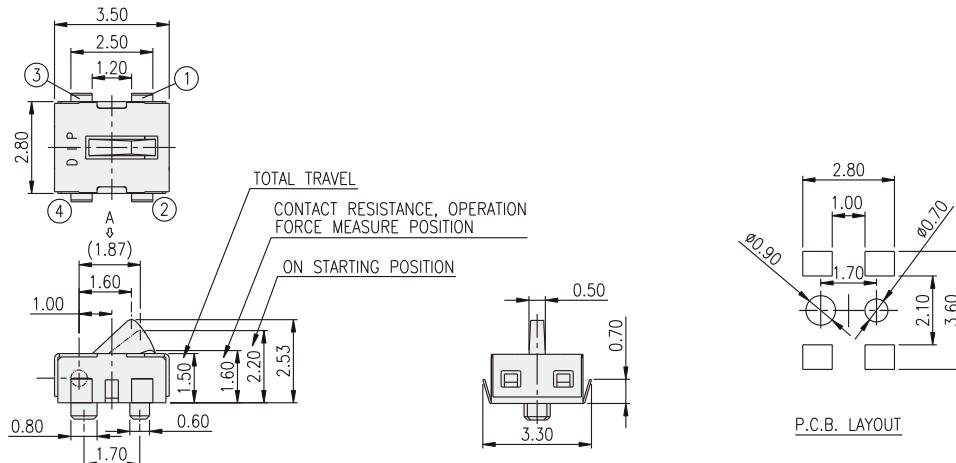
**PACKAGE**

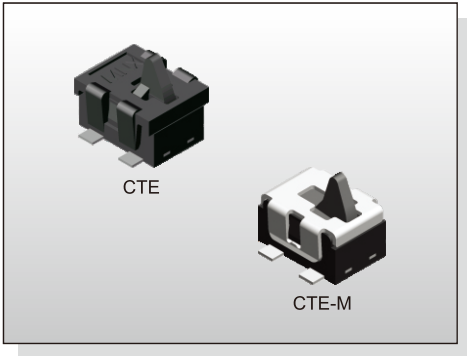
<Tape & Reel>  
2600 pcs

**BTE**



**BTE-P**





**FEATURES**

- ※ Guiding post offers easy orientation
- ※ Operation force: 35gf max.

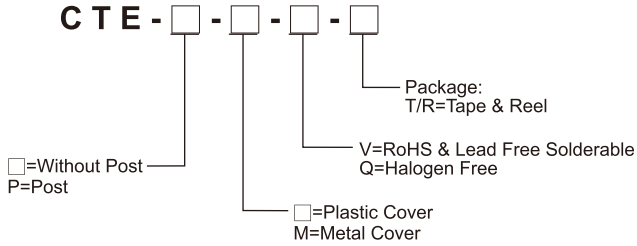
**APPLICATION**

- ※ Open/close detection
- ※ Notebook
- ※ DSC

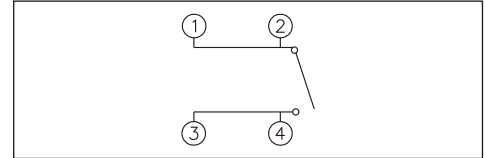
**SPECIFICATION**

Contact Rating	0.1mA~100mA, 20mV~5V DC
Contact Resistance	500mΩ max.
Insulation Resistance	100MΩ min. 250V DC
Dielectric Strength	250V AC/1 minute
Operating Force	35gf max.
Travel	1.05mm
Operating Life	80,000 cycles
Operating Temp.	-15°C ~ +70°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**



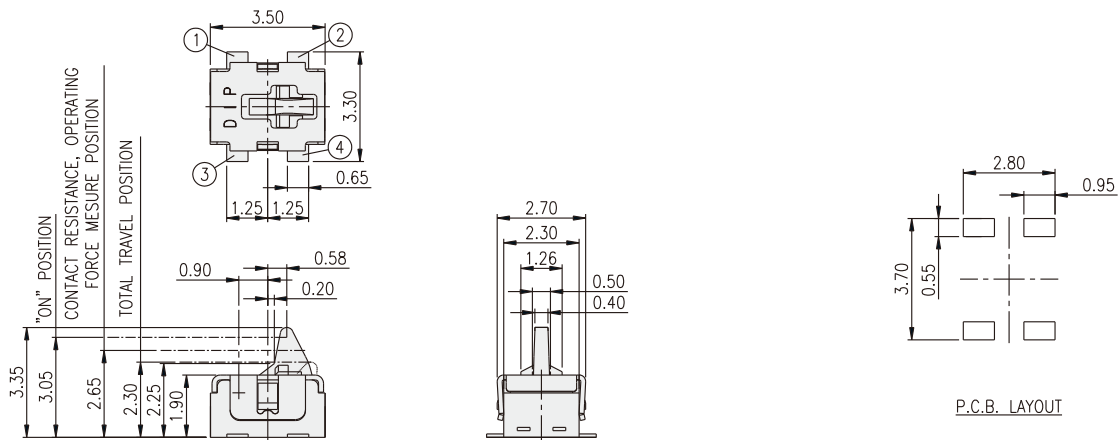
**CIRCUIT**



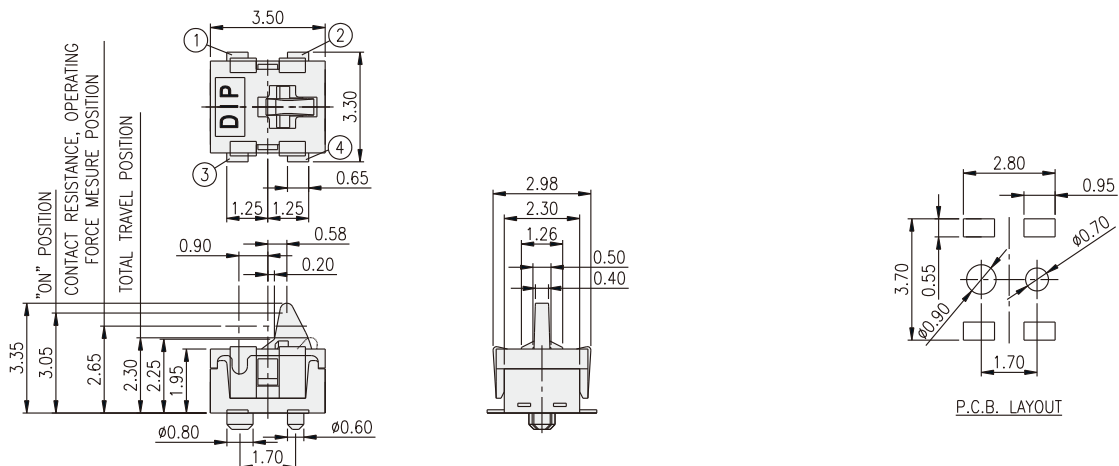
**PACKAGE**

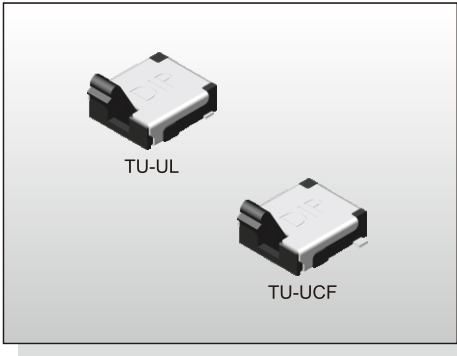
<Tape & Reel>  
1800 pcs

**CTE-M**



**CTE-P**





**FEATURES**

- ※Ultra-thin with height 1.2 mm
- ※Flat & bending terminal available

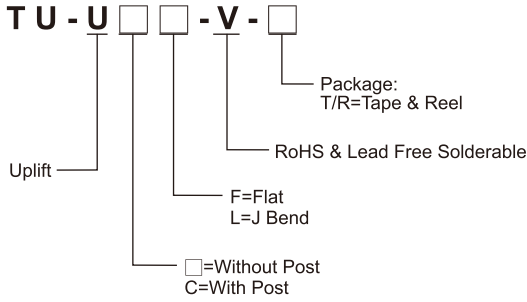
**APPLICATION**

- ※Detection of video cameras
- ※Mobile Phone

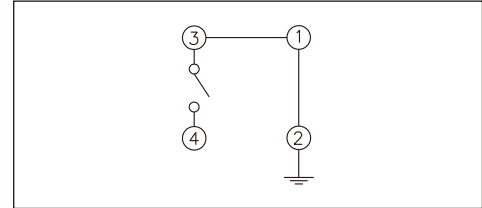
**SPECIFICATION**

Contact Rating	50uA, 3V DC to 10mA, 5V DC
Contact Resistance	1Ω max.
Insulation Resistance	100MΩ min.
Dielectric Strength	100V AC/1 minute
Operating Force	40gf max.
Travel	60°
Operating Life	50,000 cycles
Operating Temp.	-10°C ~ +60°C
Storage Temp.	-20°C ~ +70°C

**HOW TO ORDER**



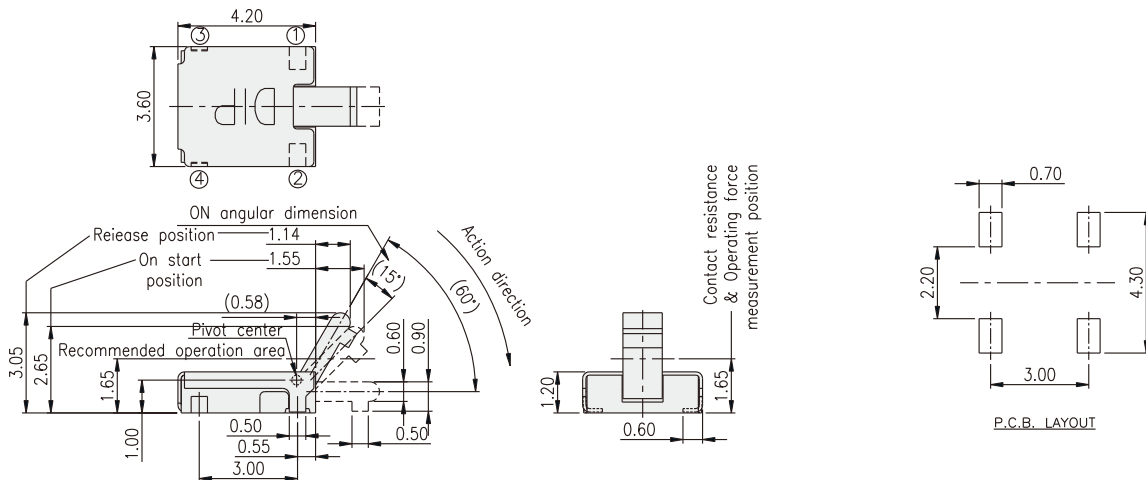
**CIRCUIT**



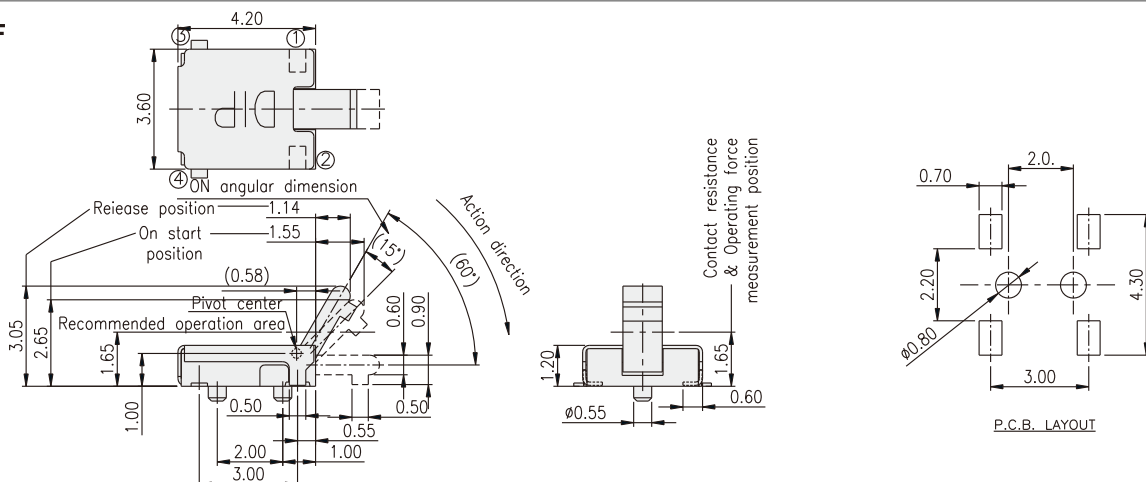
**PACKAGE**

<Tape & Reel>  
2300 pcs

**TU-UL**

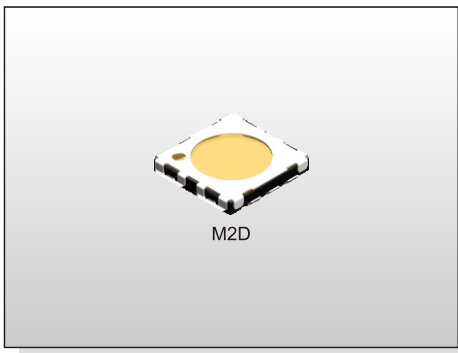


**TU-UCF**



MULTI FUNCTION SWITCH  
**M2D** SERIES

Miniature  
Double Action Type



M2D

**FEATURES**

- ※ Double action
- ※ Compact-sized 4.1x4.3mm
- ※ 0.6mm height

**APPLICATION**

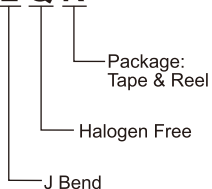
- ※ Camera
- ※ Mobile phone & peripherals

**SPECIFICATION**

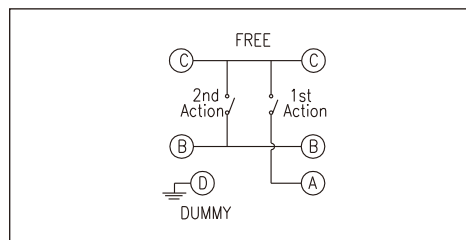
Contact Rating	10 $\mu$ A, 2V DC min. 20mA, 15V DC max.
Contact Resistance	500m $\Omega$ max.
Insulation Resistance	100M $\Omega$ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	90 $\pm$ 40gf, 1st 190 $\pm$ 60gf, 2nd
Travel	0.15mm, 1st 0.30mm, 2nd
Operating Life	100,000 cycles
Operating Temp.	-20 $^{\circ}$ C ~ +70 $^{\circ}$ C
Storage Temp.	-40 $^{\circ}$ C ~ +85 $^{\circ}$ C

**HOW TO ORDER**

**M 2 D L Q R**



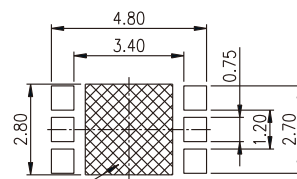
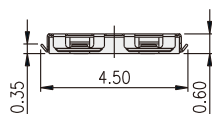
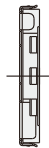
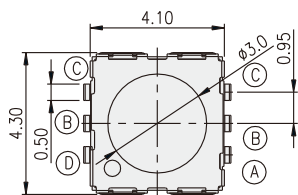
**CIRCUIT**



**PACKAGE**

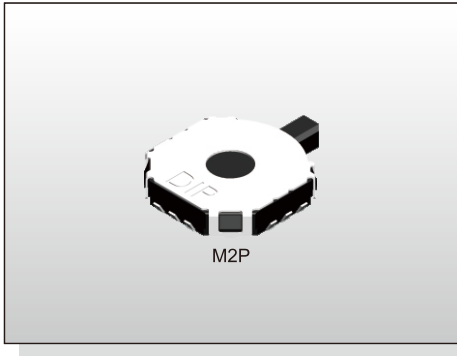
<Tape & Reel>  
4500 pcs

**M2D**



Any land pattern or vias shall not be provided at 2.7x2.8 area.

P.C.B. LAYOUT



### FEATURES

- ※Double action with lever
- ※1.4mm height

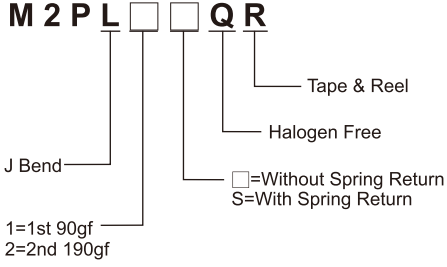
### APPLICATION

- ※Camera
- ※Mobile phone & peripherals

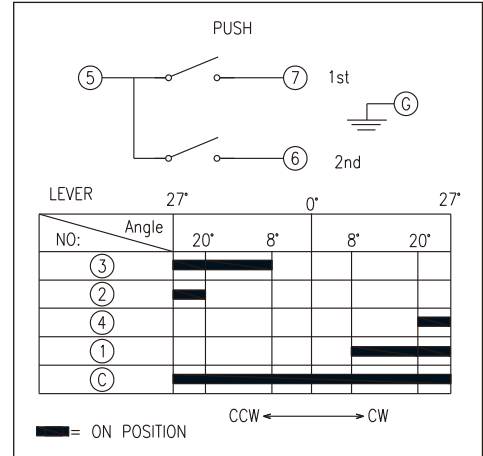
### SPECIFICATION

Contact Rating	01mA, 3V DC~10mA, 5V DC
Contact Resistance	1Ω max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	100V AC/1 minute
Operating Force	Lever:70gf.cm MAX Push:90±40gf, 1st 190±60gf, 2nd
Travel	Lever:8°, 1st 20°, 2nd Push:0.15mm, 1st 0.30mm, 2nd
Operating Life	50,000 cycles
Operating Temp.	-40°C ~ +85°C
Storage Temp.	-40°C ~ +85°C

### HOW TO ORDER



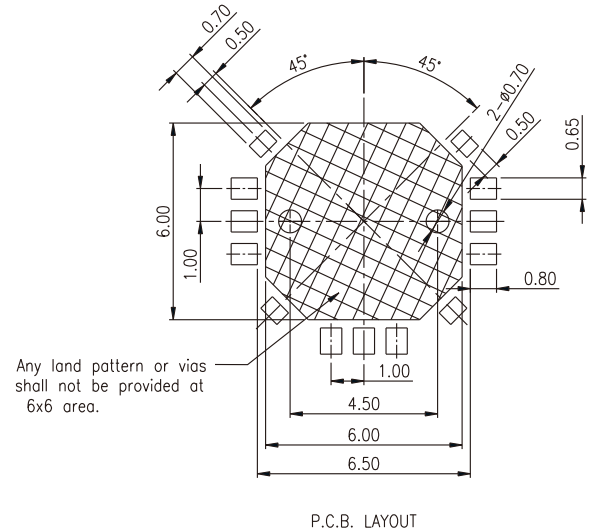
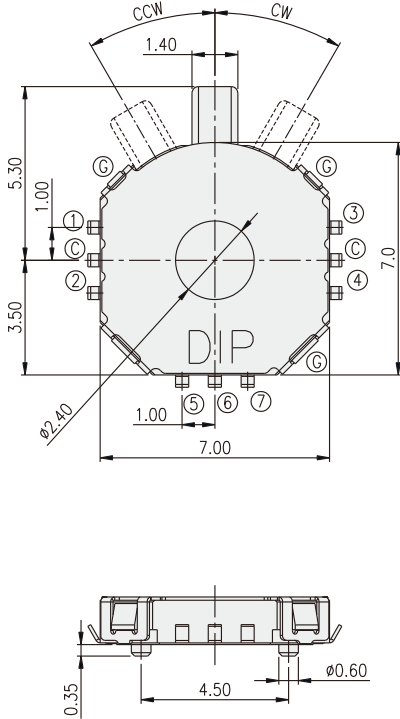
### CIRCUIT



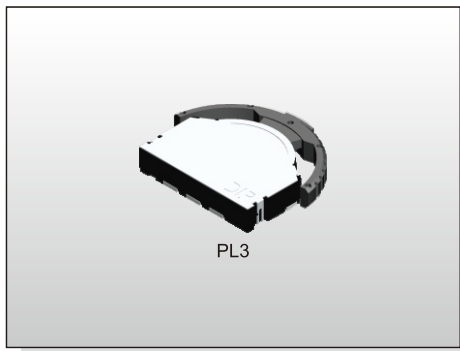
### PACKAGE

<Tape & Reel>  
2300 pcs

### M2P







PL3

**FEATURES**

※Multi function (Push & Lever)

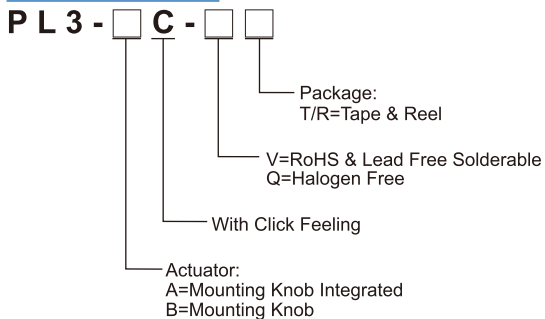
**APPLICATION**

※Remote controls  
※Volume control for variety of applications

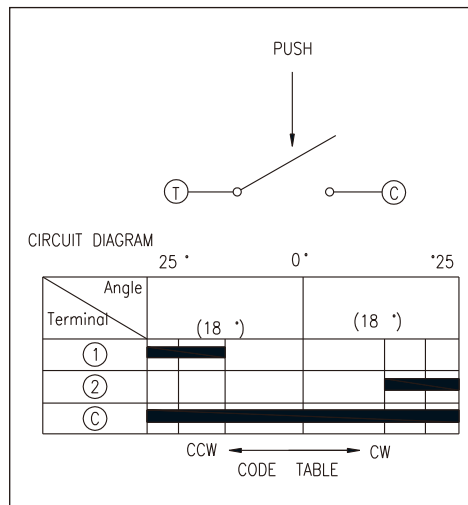
**SPECIFICATION**

Contact Rating	10mA, 5V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	100V AC/1 minute
Operating Force	70±50gf, Lever(CW, CCW) 200±100gf, Center push
Operating Life	100,000 cycles
Operating Temp.	-10°C ~ +60°C
Storage Temp.	-30°C ~ +80°C

**HOW TO ORDER**



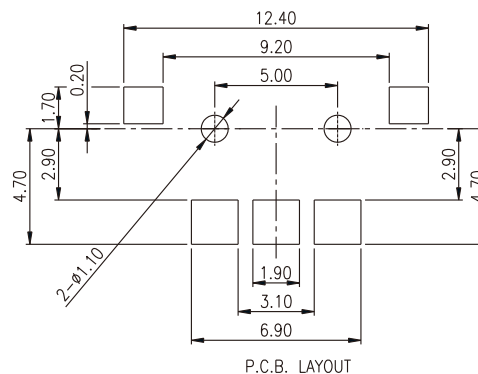
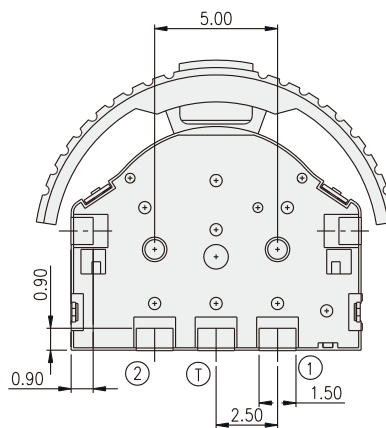
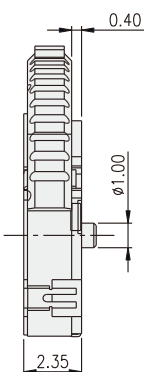
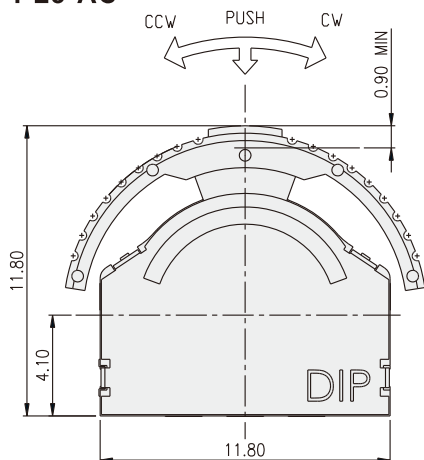
**CIRCUIT**



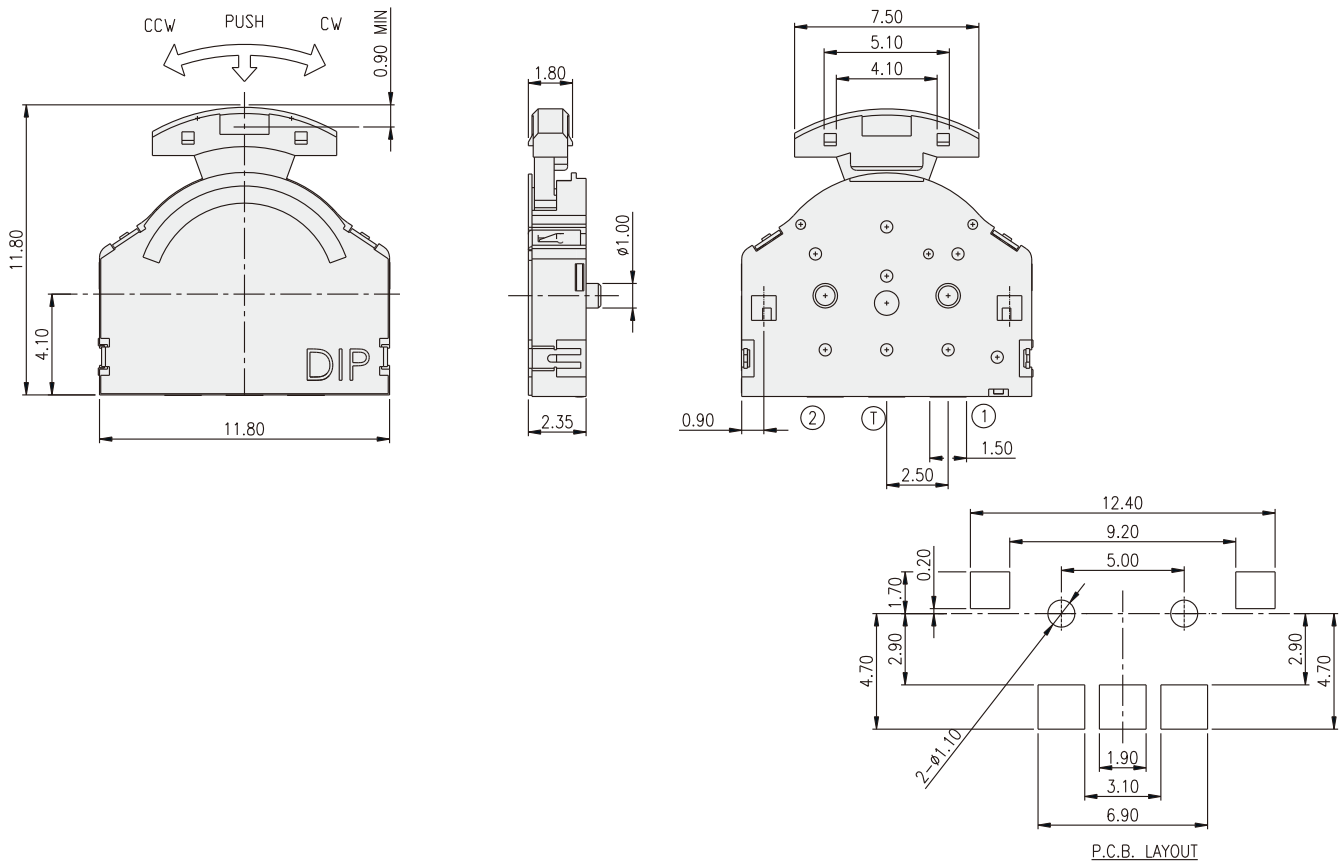
**PACKAGE**

<Tape & Reel>  
900 pcs

**PL3-AC**

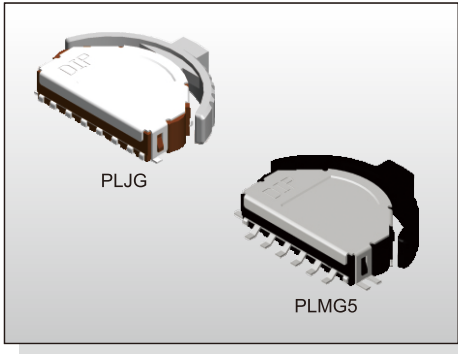


**PL3-BC**



# MULTI FUNCTION SWITCH PL SERIES

## Push & Lever Type



### FEATURES

※Multi function (Push & Lever)

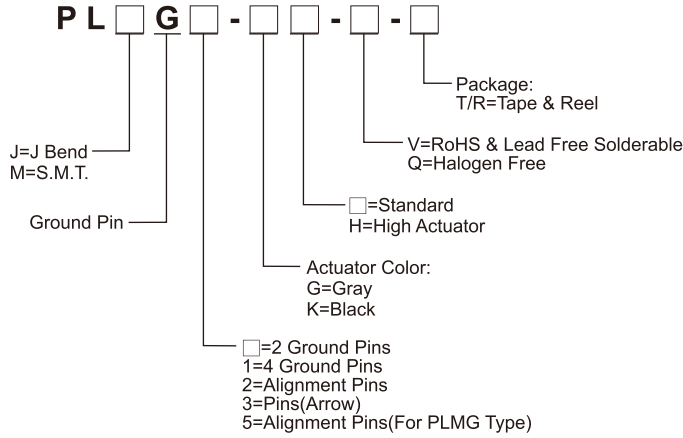
### APPLICATION

※Remote controls  
※Volume control for variety of applications

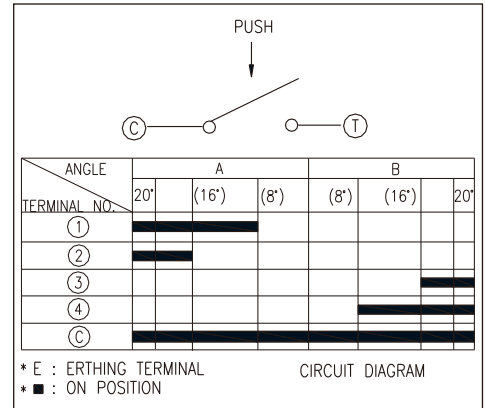
### SPECIFICATION

Contact Rating	10mA, 5V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	100V AC/1 minute
Operating Force	40±20gf, Return actuator 150+100/-50gf, Center push direction
Operating Life	100,000 cycles
Operating Temp.	-10°C ~ +70°C
Storage Temp.	-25°C ~ +85°C

### HOW TO ORDER



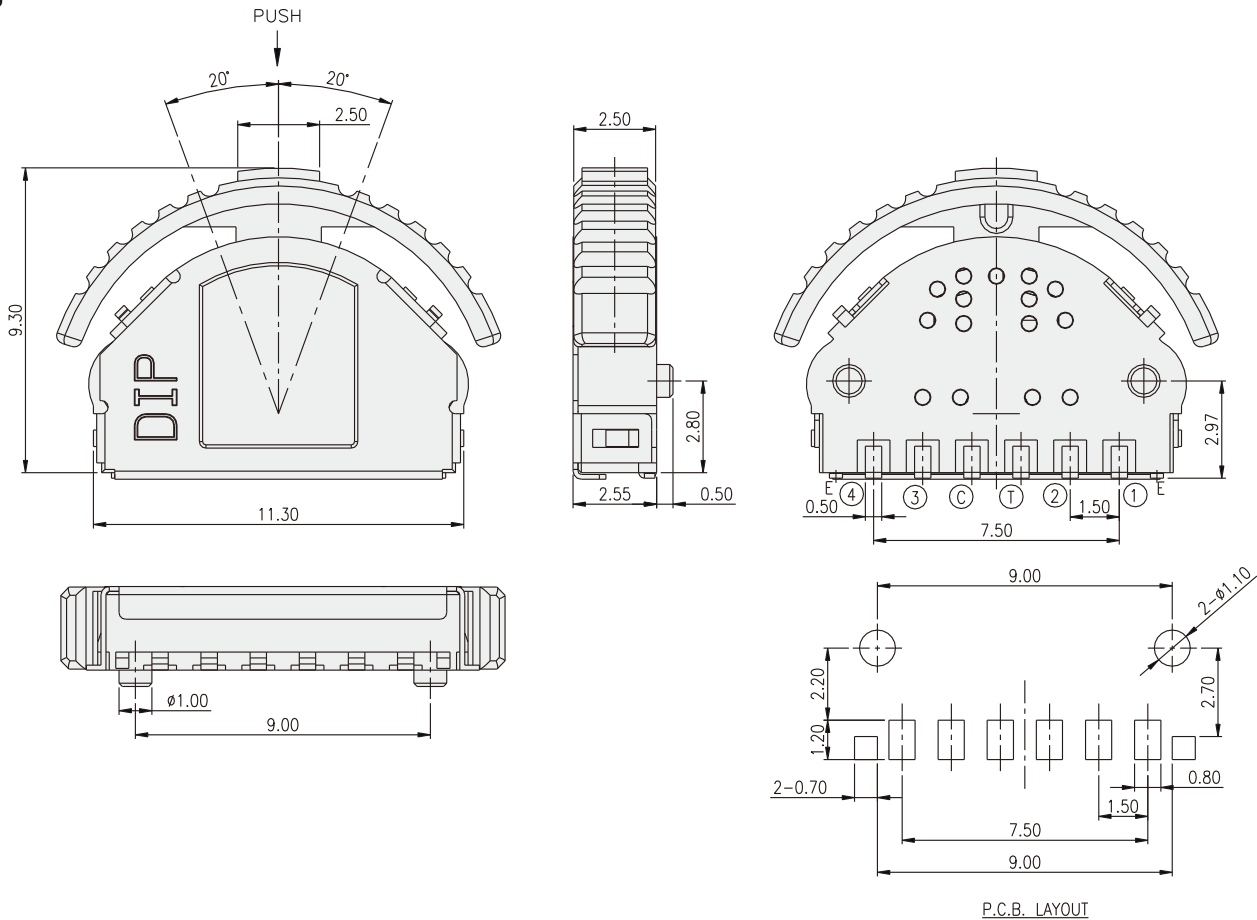
### CIRCUIT



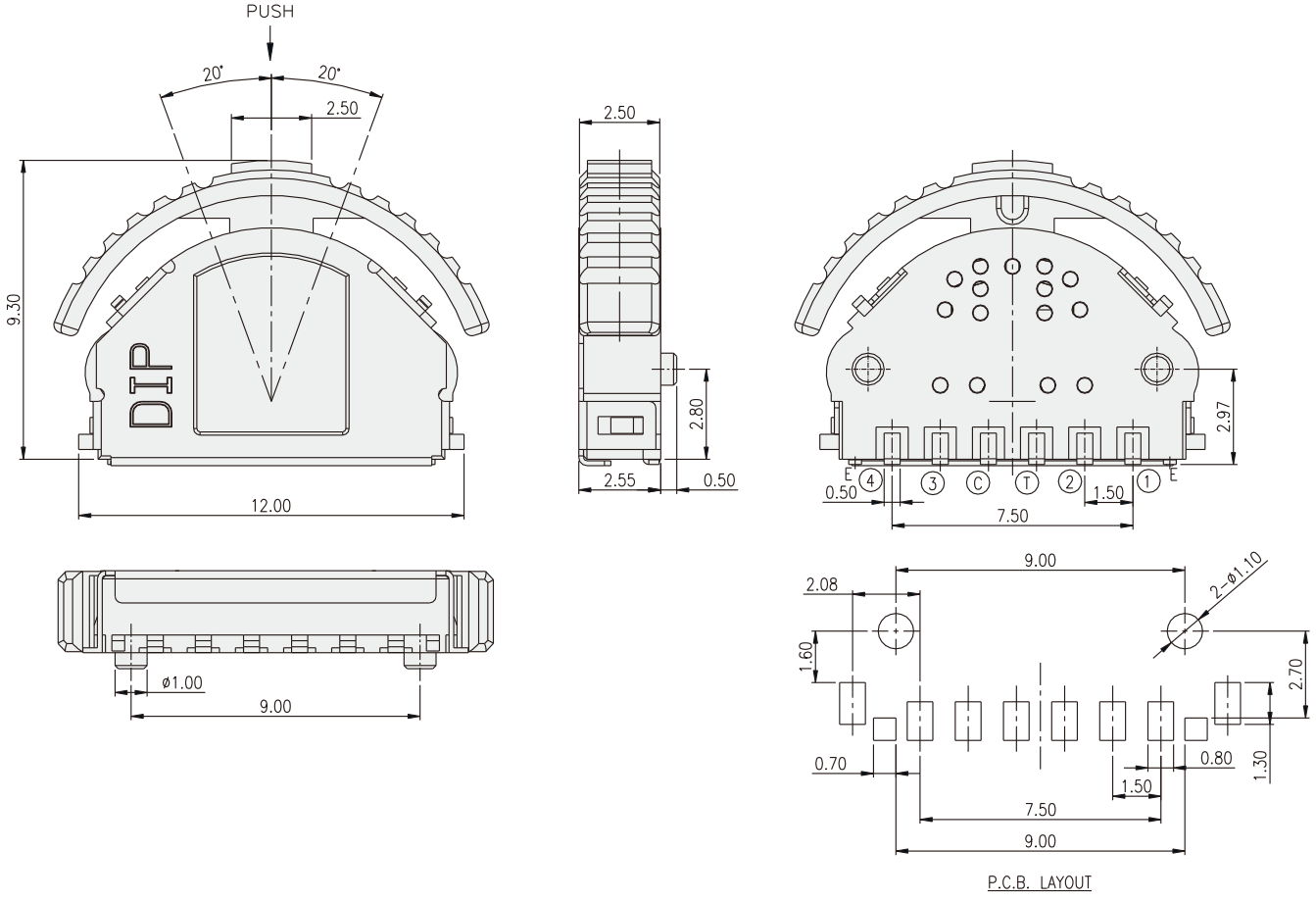
### PACKAGE

<Tape & Reel>  
 PLJ(G), PLJG1: 1000 pcs  
 PLJG(2)(3): 800 pcs  
 PLMG5: 750 pcs

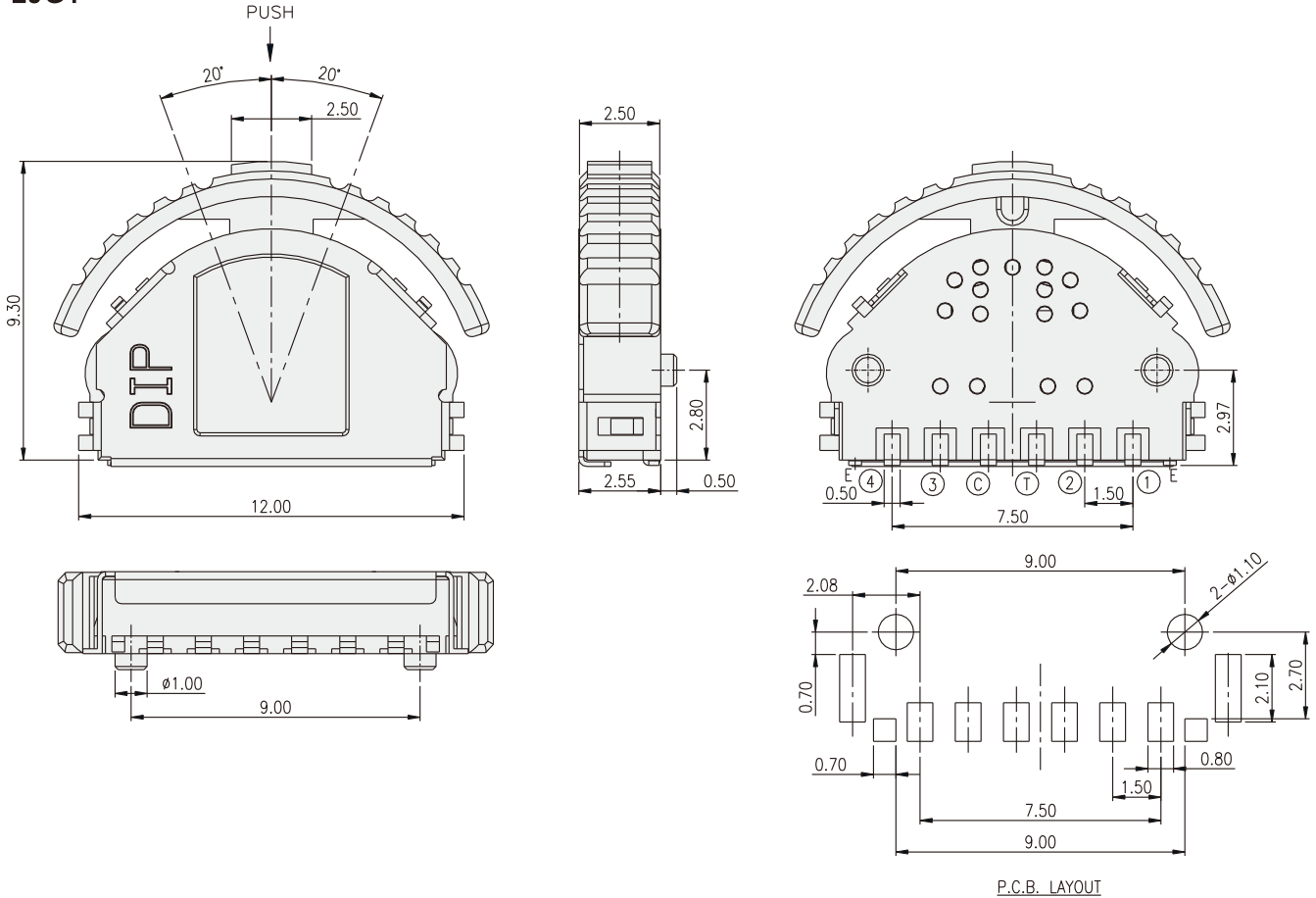
### PLJ



PLJG



PLJG1

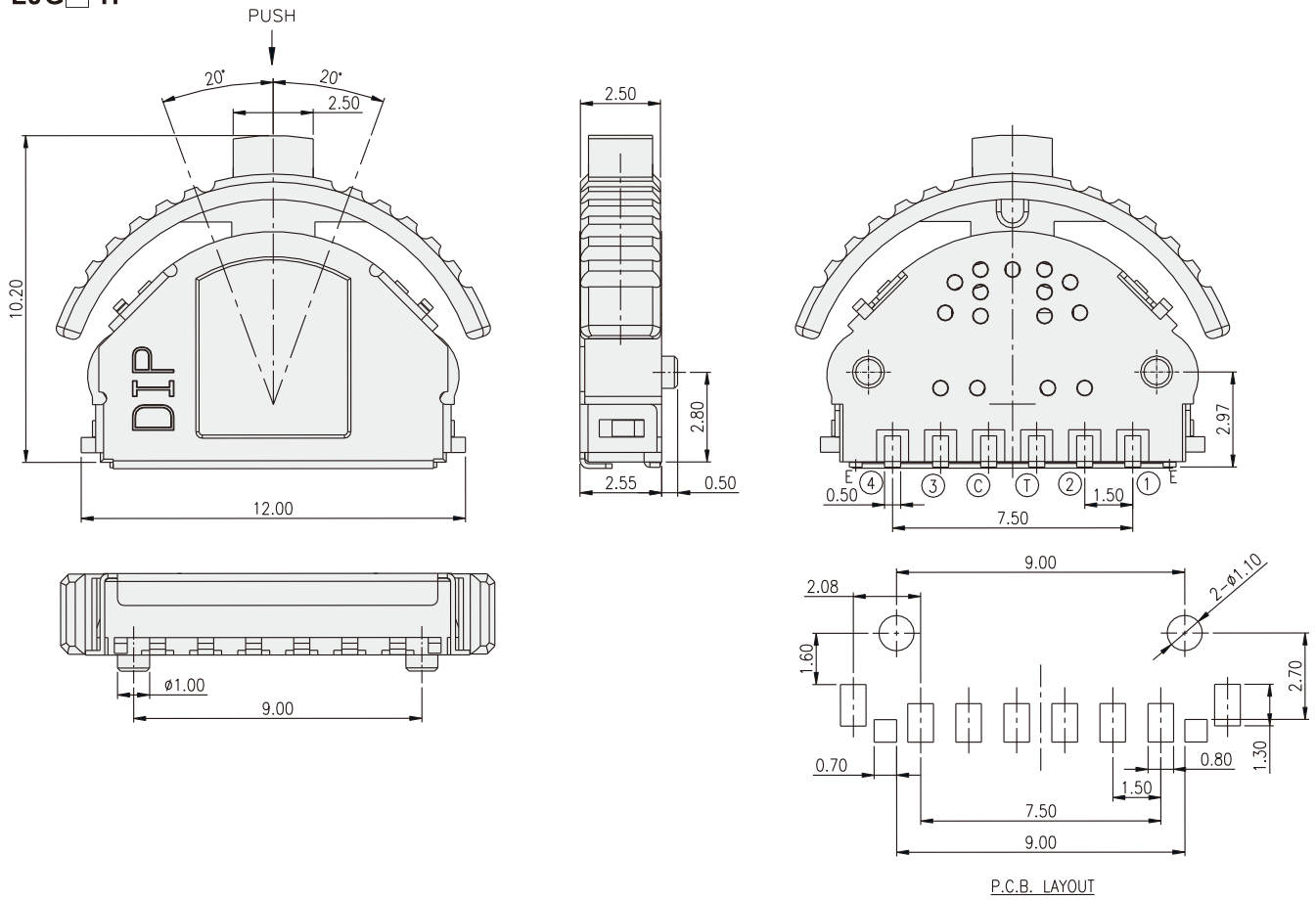


MULTI FUNCTION SWITCH  
**PL SERIES**

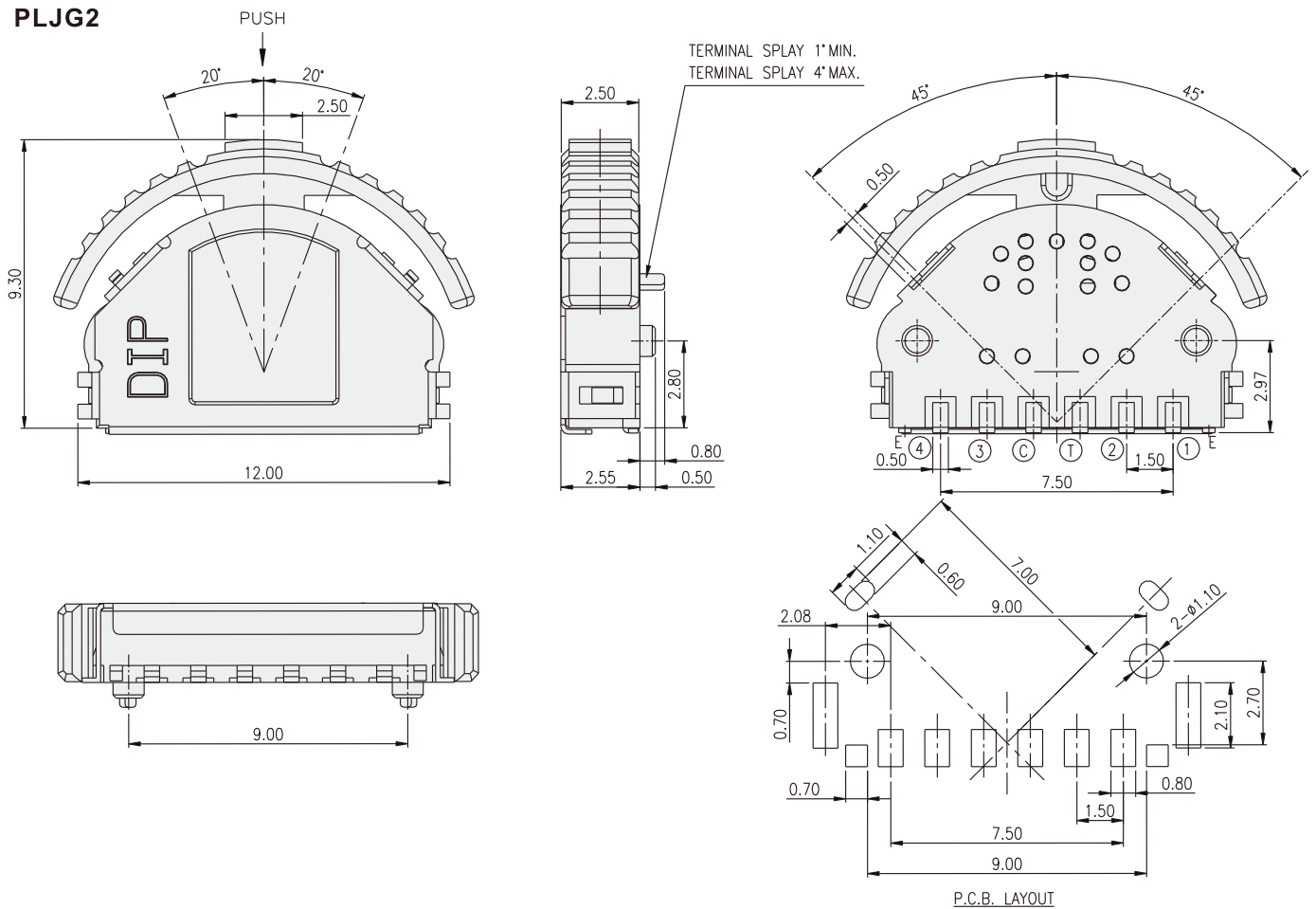
Push & Lever  
Type



**PLJG□-H**

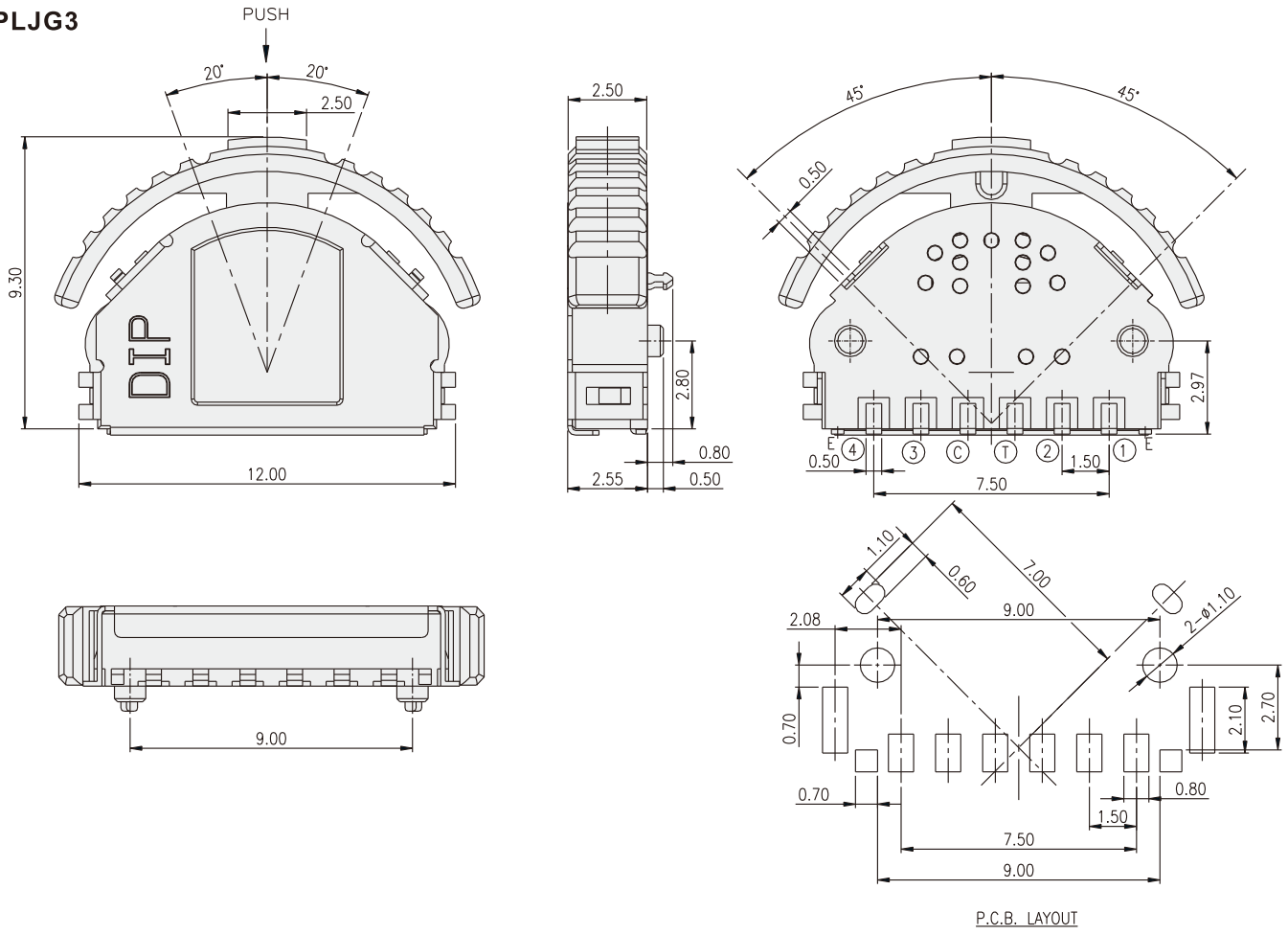


**PLJG2**

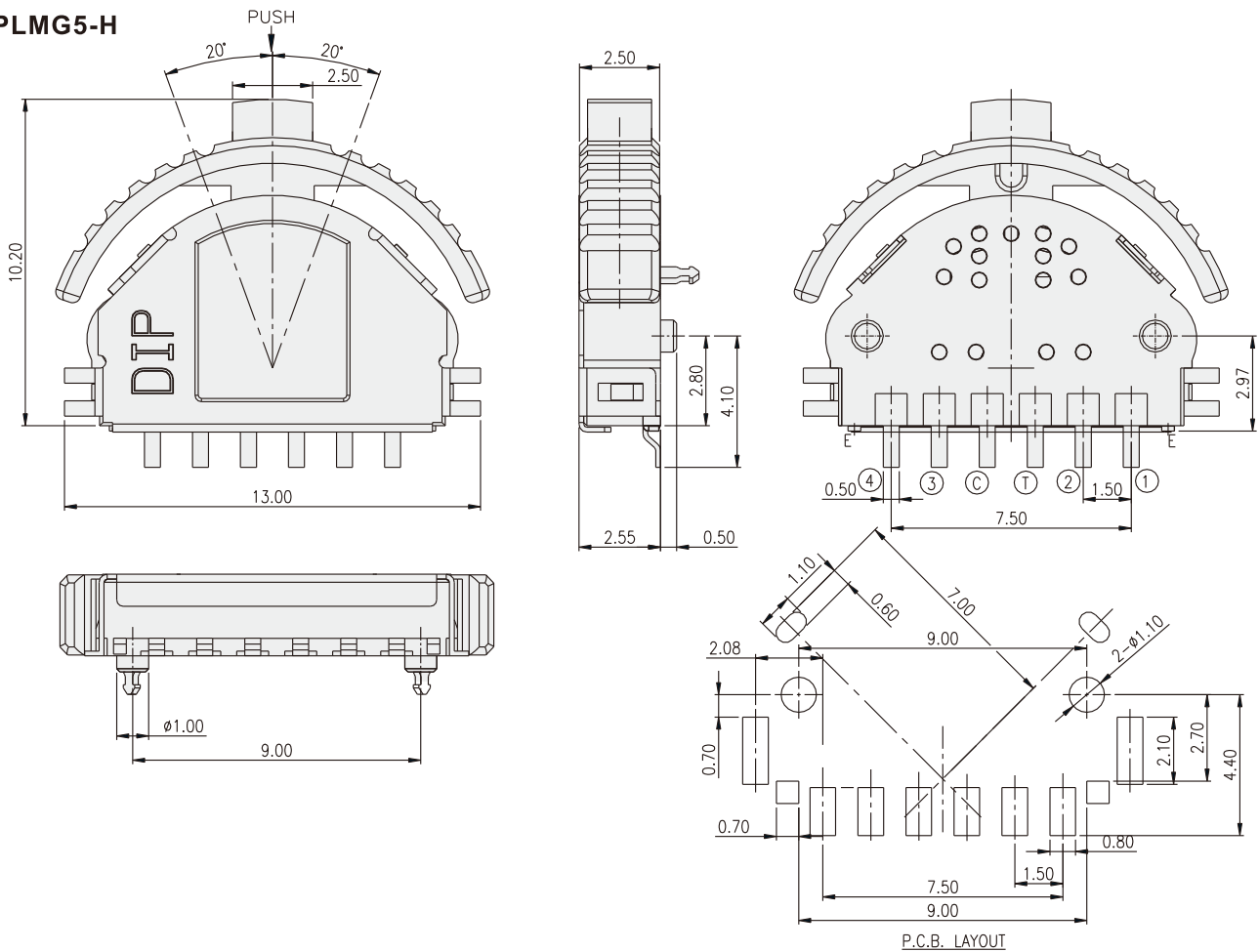


MULTI FUNCTION SWITCH

**PLJG3**

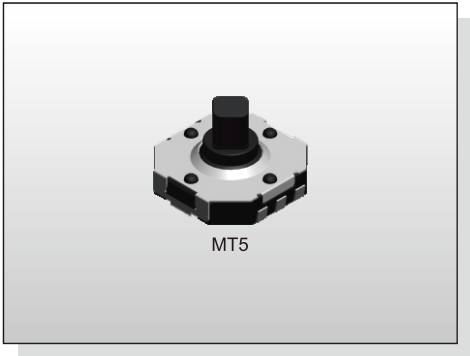


**PLMG5-H**



# MULTI FUNCTION SWITCH MT(4)(5) SERIES

Multi-direction  
Type



## FEATURES

- ※7.4x7.7mm
- ※Variety of height options
- ※Reflow solderable

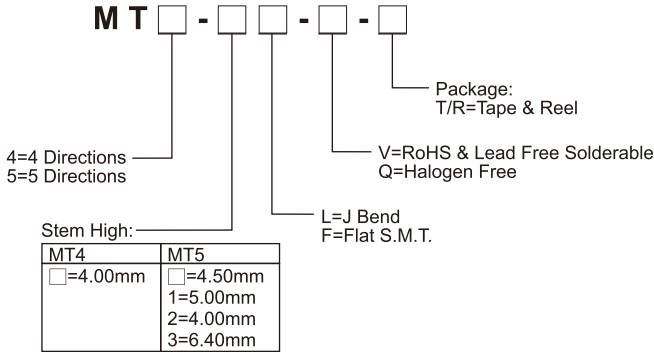
## APPLICATION

- ※Medical device
- ※Consumer electronics
- ※Security device

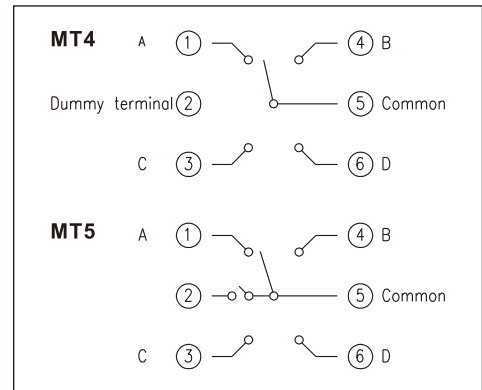
## SPECIFICATION

Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 100V DC
Dielectric Strength	250V AC/1 minute
Operating Force	160gf, 4-direction 360gf, Center push
Travel	0.25mm, 4-direction 0.15mm, Center push
Operating Life	100,000 cycles
Operating Temp.	-25°C ~ +70°C
Storage Temp.	-40°C ~ +85°C

## HOW TO ORDER



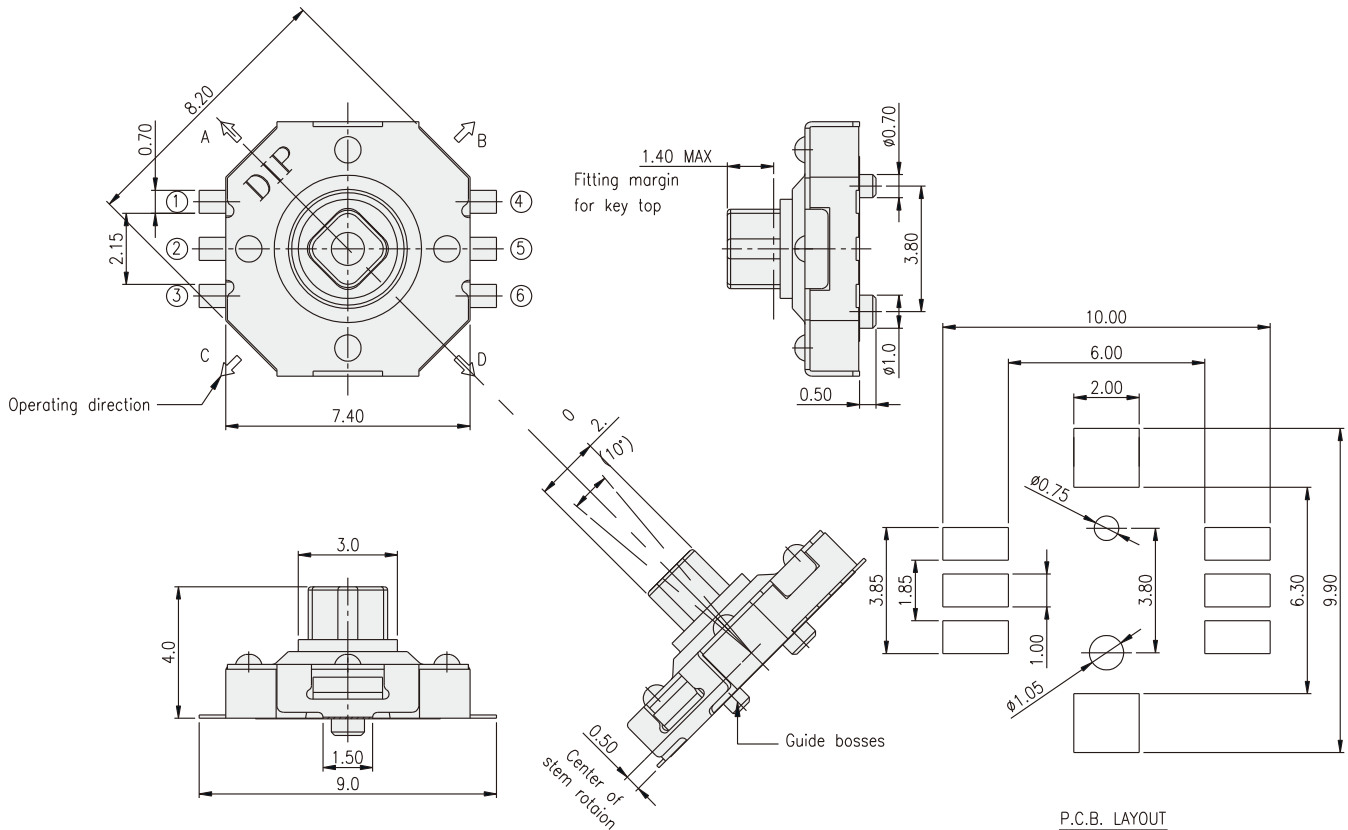
## CIRCUIT



## PACKAGE

<Tape & Reel>  
850 pcs  
MT5-3: 800 pcs

## MT4-F



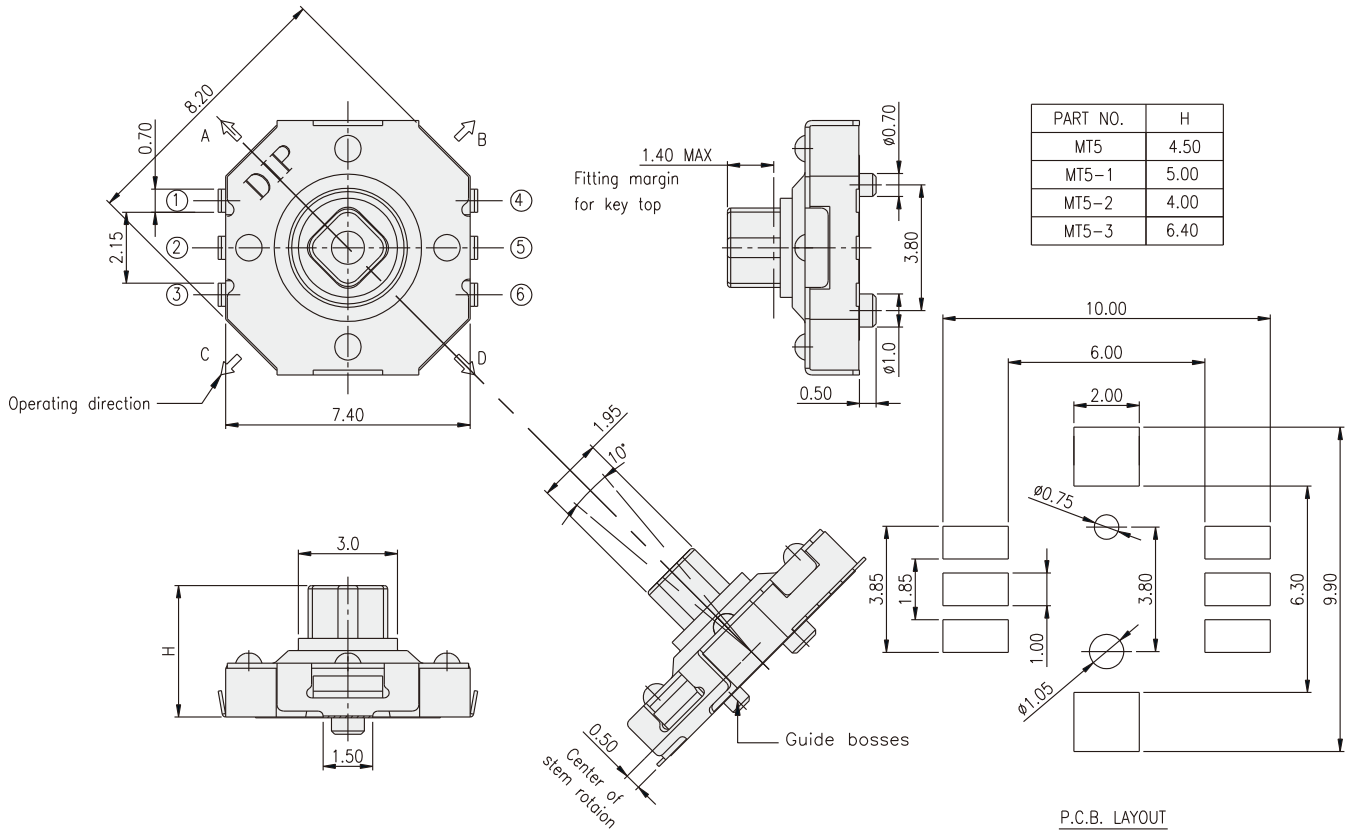
MULTI FUNCTION SWITCH

MULTI FUNCTION SWITCH  
**MT(4)(5) SERIES**

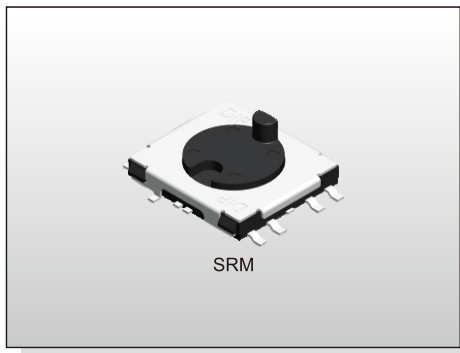
*Multi-direction  
Type*



**MT5-L**







**FEATURES**

- ※Low profile
- ※Mode switching with maximum 8-direction
- ※Non-click structure applicable

**APPLICATION**

- ※Thermal controller
- ※Camera
- ※Audio

**SPECIFICATION**

Contact Rating	25mA, 24V DC
Contact Resistance	200mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	300V AC/1 minute
Operating Force	40±30gf, B 130±50gf, N
Operating Life	10,000 cycles
Operating Temp.	-25°C ~ +80°C
Storage Temp.	-40°C ~ +85°C

**HOW TO ORDER**

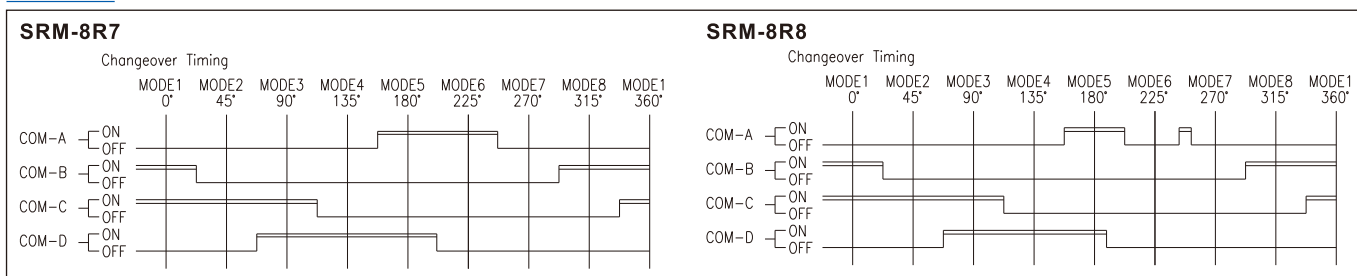
**S R M - 8 R**     **- V -**

8 Direction  
 Circuit:  
 7=7 Circuit, Base: Black  
 8=8 Circuit, Base: Brown  
=Without Ground Pin  
 G=With Ground Pin  
 Package:  
 T/R=Tape & Reel  
 RoHS & Lead Free Solderable  
=Non-click, Black  
 B=40gf, Blue  
 N=130gf, Brown

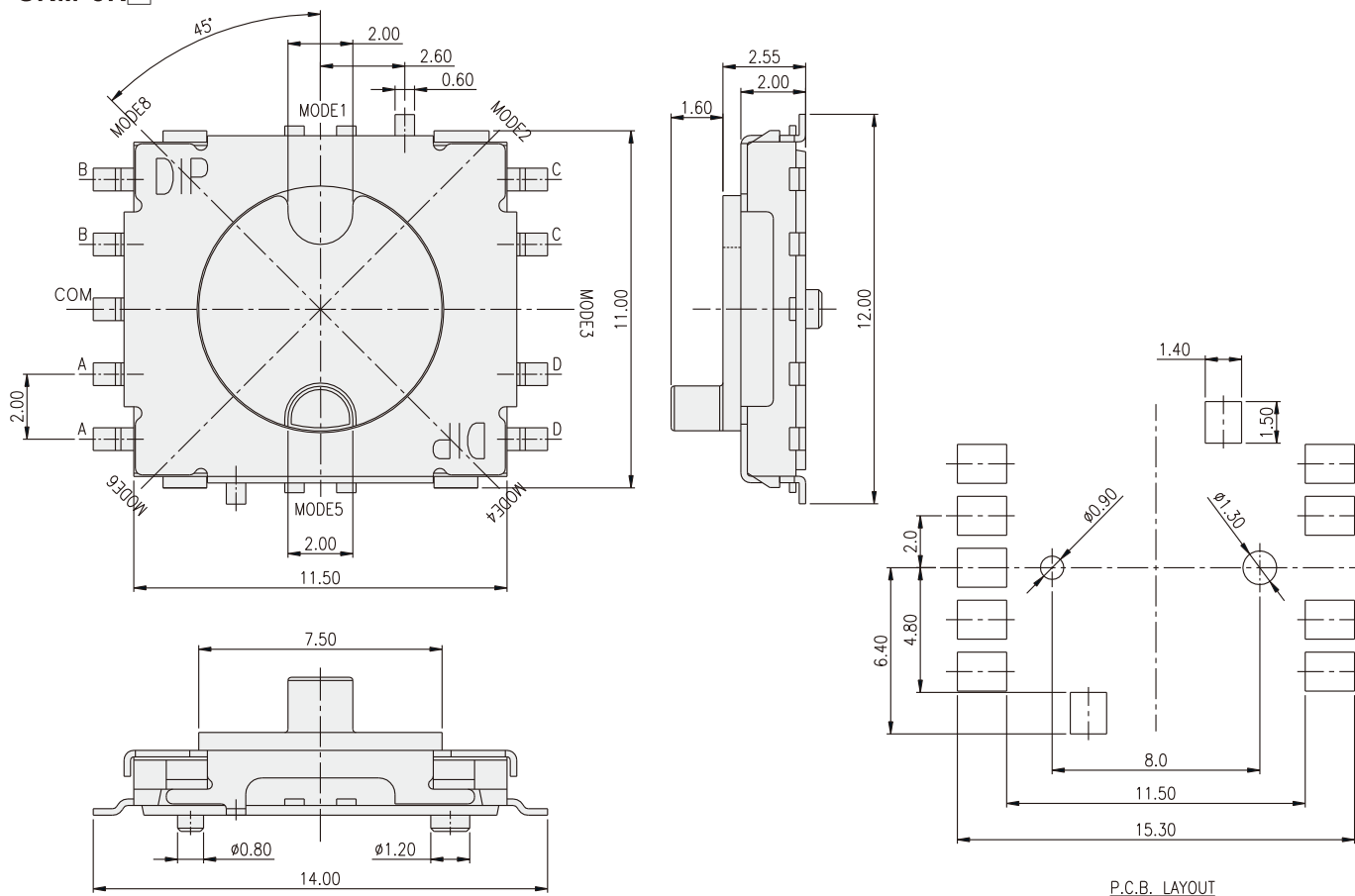
**PACKAGE**

<Tape & Reel>  
 900 pcs

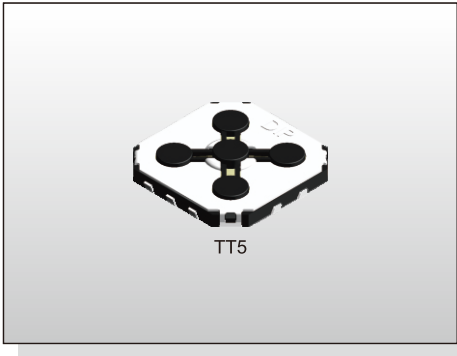
**CIRCUIT**



**SRM-8R**



MULTI FUNCTION SWITCH



TT5

### FEATURES

- ※Low-Profile of height 1.55mm
- ※Sharp operation feeling

### APPLICATION

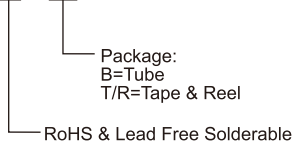
- ※Portable electronic devices
- ※Remote control
- ※Industrial applications

### SPECIFICATION

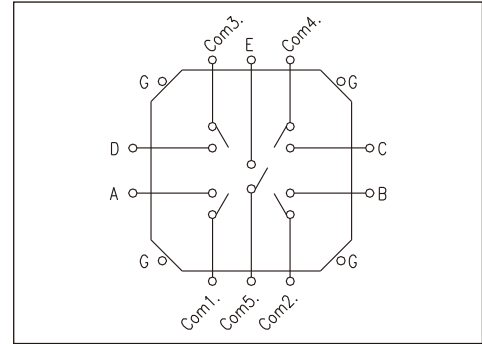
Contact Rating	50mA, 12V DC
Contact Resistance	100mΩ max.
Insulation Resistance	100MΩ min. 500V DC
Dielectric Strength	250V AC/1 minute
Operating Force	180±60gf, Side 320+80/-60gf, Center
Travel	0.25mm
Operating Life	200,000 cycles
Operating Temp.	-20°C ~ +70°C
Storage Temp.	-40°C ~ +85°C

### HOW TO ORDER

TT5-V-



### CIRCUIT



### PACKAGE

- <Tube>  
47 pcs
- <Tape & Reel>  
2500 pcs

## TT5

