

MODEL	SPECIFICATION Short-travel Keyswitches RoHS&REACH Compliant & Halogen Free	SP-001	Page
TR series Short-travel Keyswitches			1/6

Order Information

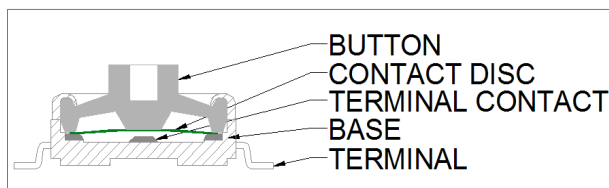
TR8	S	3	R	U	+	PLG 8.0x7.0	08
TR series TR8=8x8mm TR12=11x8mm	Terminal Type H1=Thru-hole(Inward) H2=Thru-hole(Outward) S=SMD	Package None=Tube R=Tape & Reel				Plunger PLG 8.0x6.5: (Φ)8.0x (H)6.5mm PLG 8.0x6.5: (Φ)8.0x (H)6.5mm PLG 8.0x7.0: (Φ)8.0x (H)7.0mm PLG 8.0x12.5: (Φ)8.0x (H)12.5mm PLG 11.5x6.5: (Φ)11.5x (H)6.5mm C11: 11mm Square(for Legend) C12: 11mm Square	Cap color codes 00: Blue 01: Frosted 02: Green 11: TRansparent 03: Light Grey 04: Yellow 05: Dark Grey 06: White 08: Red 09: Black
	Actuation Force 2: 250gf/ 2.5N 3: 350gf/ 3.5N (standard) 6: 650gf/ 6.5N			None: RoHS & REACH Compliant (standard) U: Halogen Free			

Specifications

◆ Contact Rating	.....42V AC/DC, 100mA
◆ Contact Resistance	.....100mΩ
◆ Insulation Resistance	.....100MΩ at 100 VDC
◆ Dielectric Strength	.....250VDC, 50Hz for the duration of 1 minute
◆ Operating Temperature	.....-40°C to+ 80°C
◆ Mechanical Life	.....5,000,000 operations
◆ Push Force	.....3.5N±0.6N
◆ Travel	.....0.60±0.20mm
◆ Mounting	.....on pc-board
◆ Waterproof	.....Meet IP67

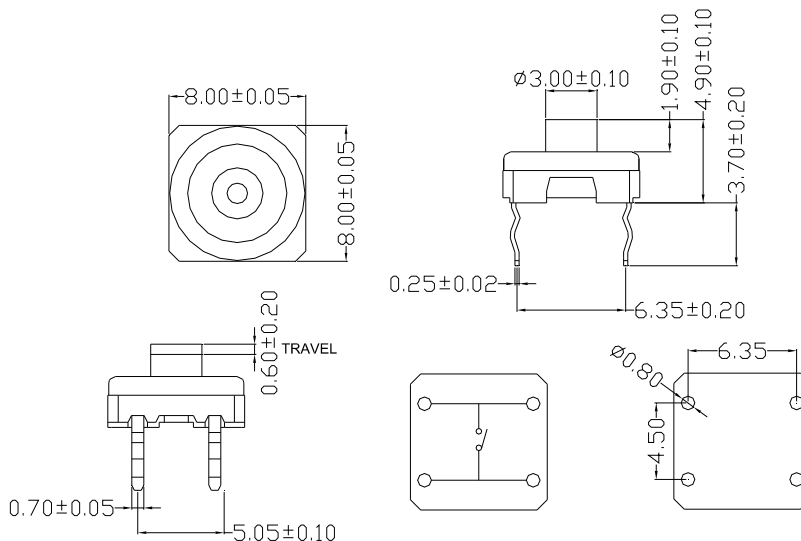
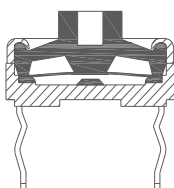
Materials:

◆ Button :	..... Silicone, Natural color
◆ Base :Thru-hole	..... Thermoplastic, meets UL 94-HB, Blue
SMD	..... Thermoplastic, meets UL 94V-0, Black
◆ Contact Disc : Stainless steel, Gold Plated over Nickel barrier
◆ Terminal Contact : Brass, 1u" Gold-plated
◆ Terminal : Brass, Tin-plated

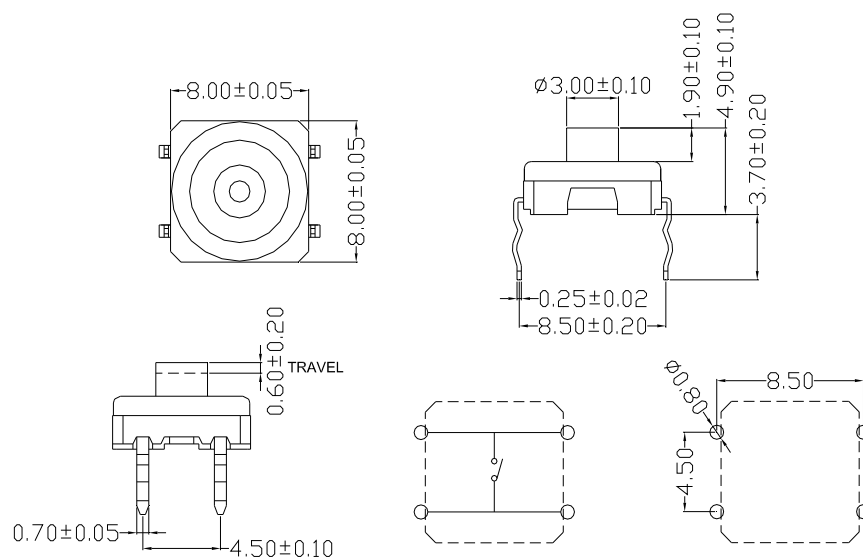
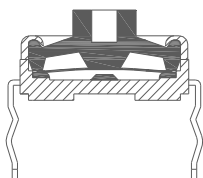


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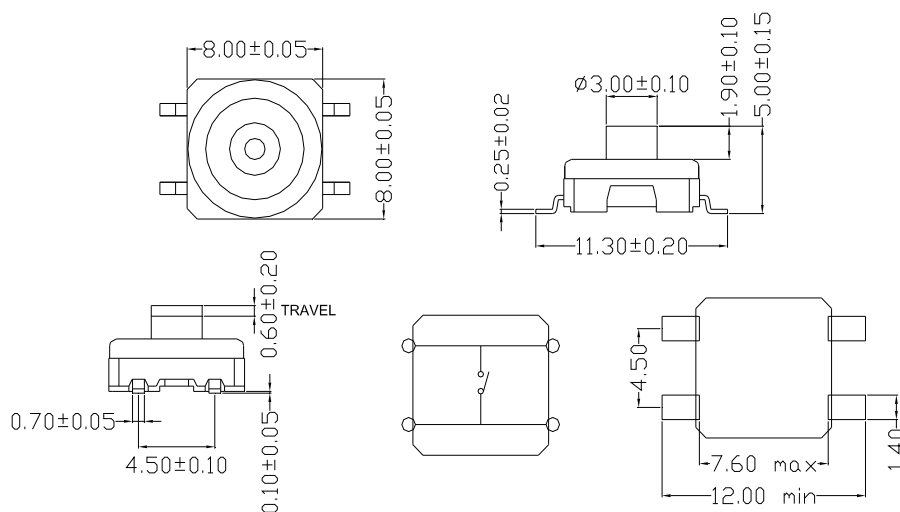
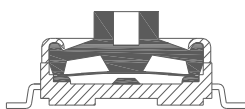
TR8H1



TR8H2

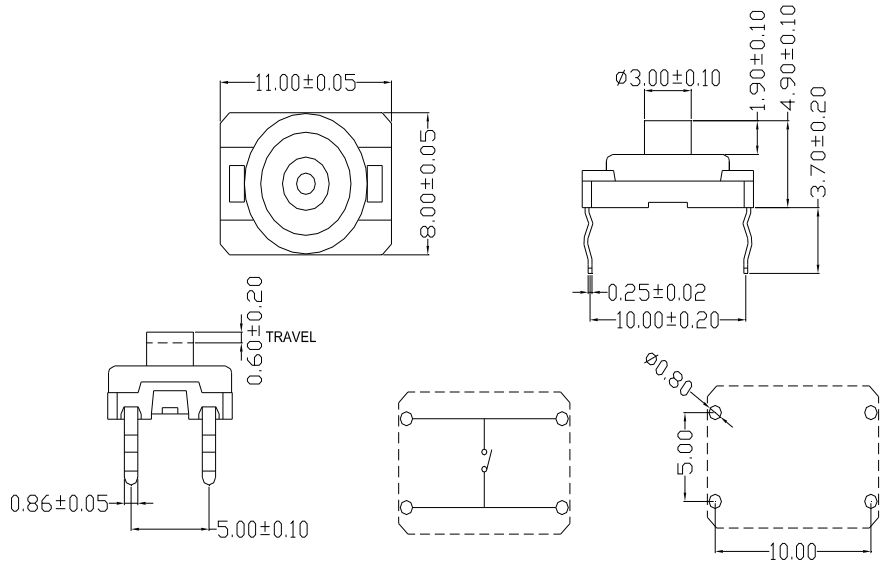
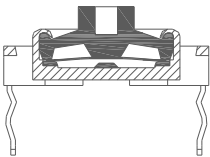


TR8S

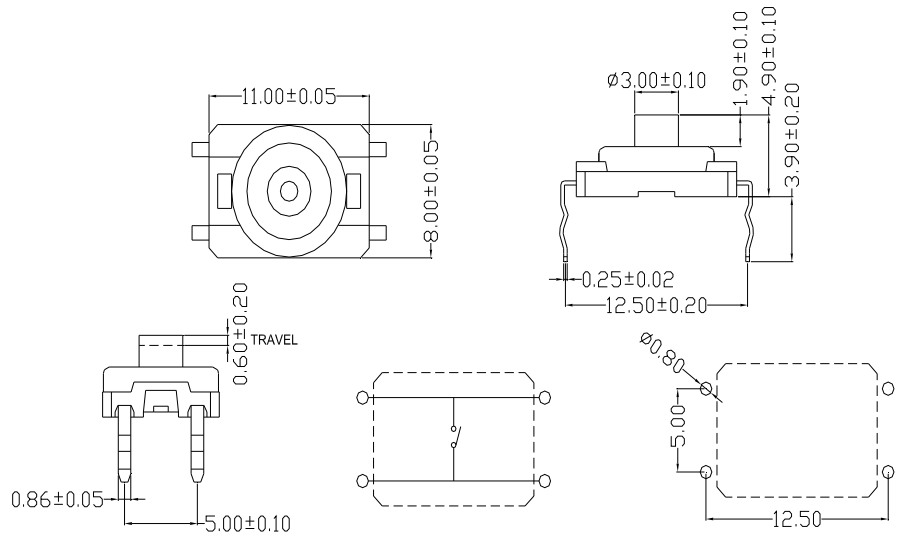
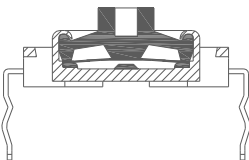


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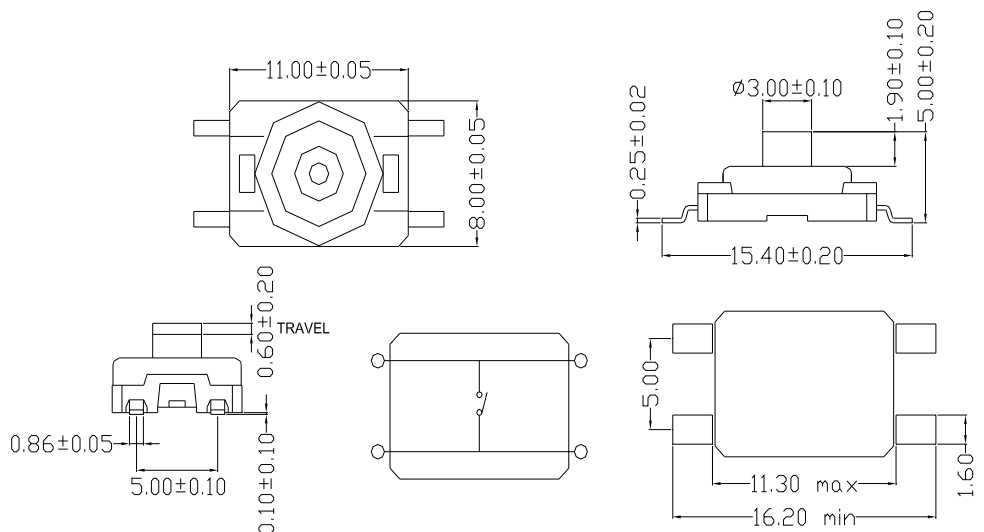
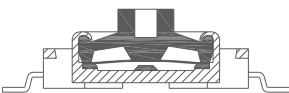
TR12H1



TR12H2



TR12S



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Soldering Information

◆ Hand Soldering

Soldering iron of 30W or under at 350°C for 3 sec max or at 270°C for 5 sec max.

◆ Reflow Soldering

Allow 1-time reflow process only.

◆ Wave Soldering

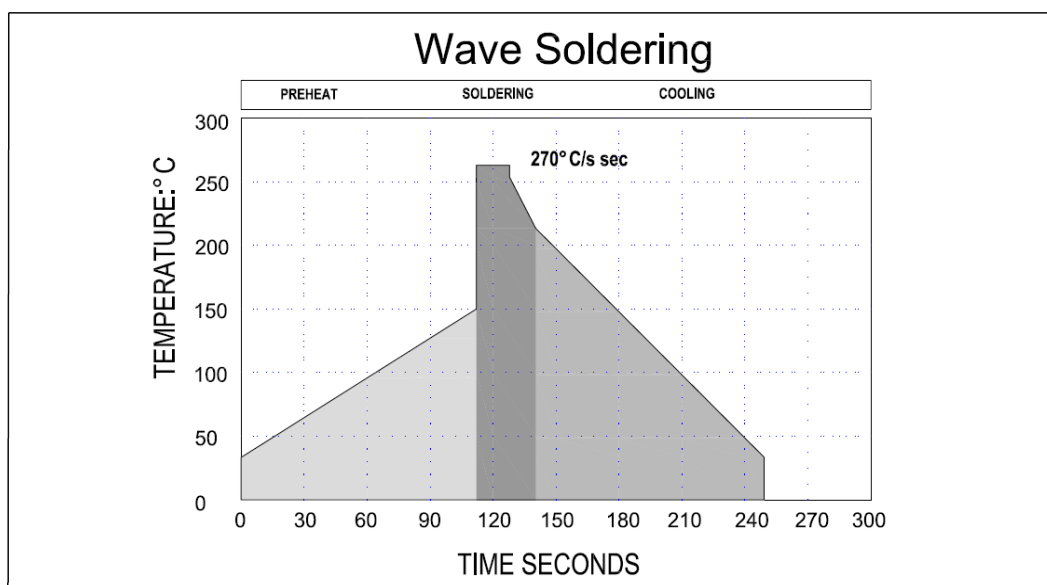
For lead free wave solder simulation of typical components, the solder bath temperature shall be maintained at 270°C max./ 5~10 seconds.

※ After reflow, the white button will turn yellow, this is the characteristics of plastic, the switch's function is not affected.

Note:

1. All plungers are not allowed to pass through the soldering process.
2. All plungers should be assembled after all soldering processes are finished.

Recommended Wave Soldering Profiles



Maximum dwell time in the solder wave (270°C) shall not exceed 10 seconds.

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Classification Reflow Soldering Profiles

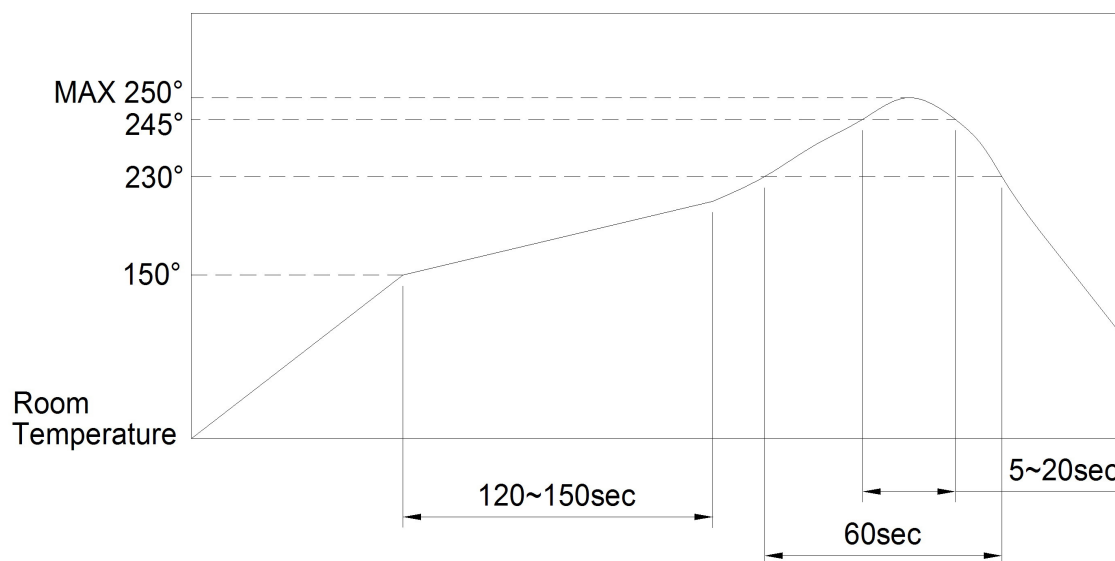
Profile Feature	Pb-Free Assembly
Preheat / Soak	
Temperature Min ($T_{s_{min}}$)	150°C
Temperature Max ($T_{s_{max}}$)	200°C
Time(ts) from ($T_{s_{min}}$ to $T_{s_{max}}$)	60 ~120 seconds
Ramp-up Rate (T_L to T_p)	3°C/second max
Liquidous temperature (T_L)	217°C
Time (t_L) maintained above to T_L	60 ~ 150 seconds
Peak package body temperature (T_p)	For users T_p must not exceed the Classification temp:260°C (Package Thickness:>2.5mm) For suppliers T_p must equal or exceed the Classification temp:250°C (Package Thickness:>2.5mm)
Time (t_p) within 5°C of specified classification Temperature (T_c)	30 seconds
Ramp-Down Rate (T_p to T_L)	6°C/second max
Time 25°C to Peak Temperature	8 minutes max
* Tolerance for peak profile temperature(T_p) is defined as a supplier minimum and a user maximum	

Note 1: All temperatures refer to topside of the package, measured on the package body surface.

Note 2: Time within 5 °C of actual peak temperature (t_p) specified for the reflow profiles is a “supplier” minimum and “user” maximum.

Source: IPC/JEDEC J-STD-020 D.1

Recommended Reflow Soldering Conditions



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Box Dimension:

- ◆ Tube 57.0cm x 13.0cm x 12.5cm
- ◆ Reel 34.0cm x 13.0cm x 35.5cm

Carton Dimension:

- ◆ Tube
 - 2 Boxes..... 58.5cm x 29.0cm x 15.0cm
 - 4 Boxes..... 58.5cm x 28.0cm x 27.0cm
- ◆ Reel
 - 2 Boxes 36.0cm x 27.5cm x 37.0cm