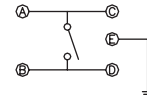
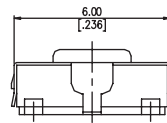
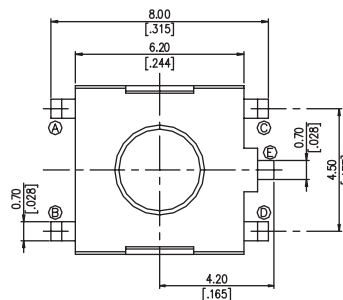
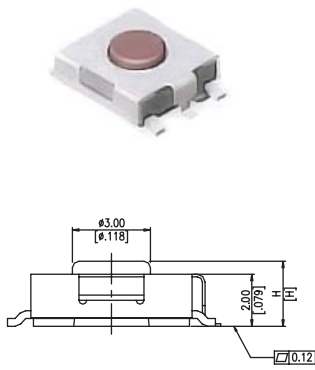


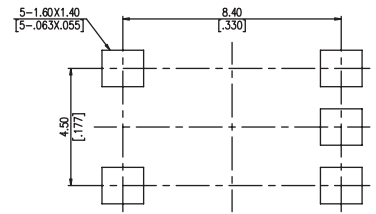
Tactile Switches

6x6 mm Thinner Type Tactile Switches (Pitch 4.5 mm)

TP46 Series

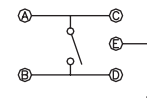
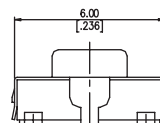
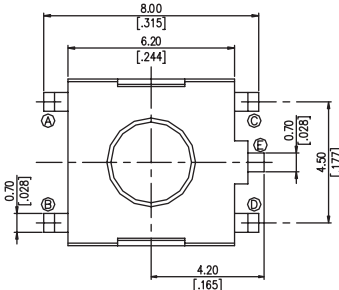
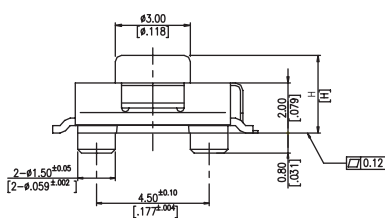


CIRCUIT DIAGRAMM

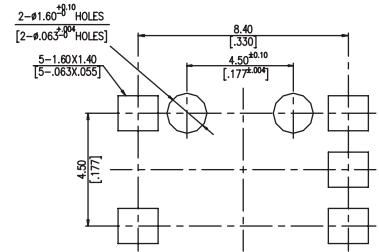


P.C.B LAYOUT

TP46GM...

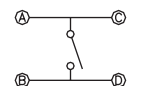
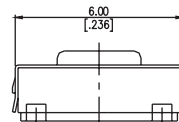
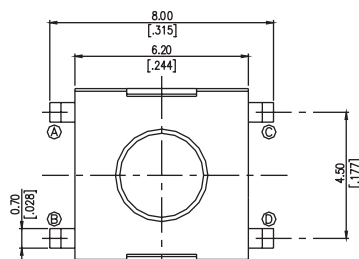
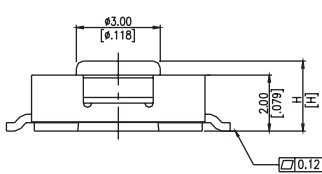


CIRCUIT DIAGRAMM

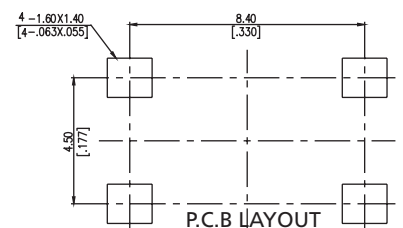


P.C.B LAYOUT

TP46GMB...



CIRCUIT DIAGRAMM



P.C.B LAYOUT

TP46M...

General Tolerance : ±0.2mm

How to order:



1 GROUND TERMINAL:

Blank Without Ground Terminal
G With Ground Terminal

2 TERMINAL TYPE:

M Gull Wing Terminals

3 BASE POST:

Blank Without Base Post
B With Base Post

4 HEIGHT "H":

25 H = 2.5 mm
31 H = 3.1 mm
35 H = 3.5 mm
52 H = 5.25 mm

5 ACTUATOR COLOR & OPERATING FORCE:

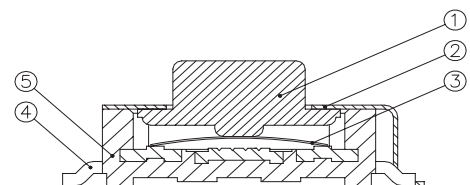
A Black, 100gf
K Brown, 160gf
C Red, 260gf

6 ROHS:

Blank RoHS & Lead Free Solderable
H Halogen Free

7 PACKAGING:

BK Bulk
TB Tube(only for Without Base Post)
TR Tape & Reel



ITEM	DESC.	Q'TY	MATERIALS	TREATMENT	REMARK
1.	STEM	1	HIGH-TEMP THERMOPLASTIC PA9T UL 94V-0	-	-
2.	COVER	1	NICKEL SILVER	NONE	-
3.	CONTACT	1	STAINLESS STEEL	WITH SILVER CLADDING	-
4.	TERMINAL	1	BRASS	WITH SILVER PLATING	-
5.	BASE	1	HIGH - TEMP THERMOPLASTIC 1 PA9T UL 94V-0 2 LCP	MOLDED BLACK	-

General Specifications

1. Style

This specification describes "TACTILE SWITCH", mainly used as signal switch of electric devices, with the general requirements of mechanical and electrical characteristic.

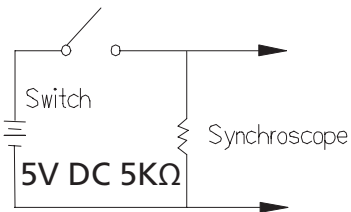
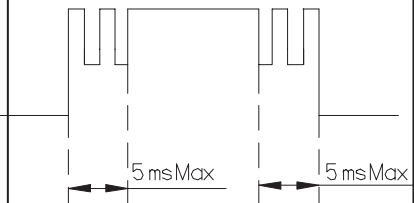
1.1 Operating Temperature Range: -25°C to +70°C

1.2 Storage Temperature Range: -30°C to +80°C

2. Current Range: 50mA, 12 VDC

3. Type of Actuation: Tactile Feedback


4. Test Sequence:

	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
APPEARANCE	1	Visual Examination	By visual examination check without any out pressure & testing.	There shall be no defects that affect the serviceability of the product.
	ELECTRIC PERFORMANCE			
ELECTRIC PERFORMANCE	2	Contact Resistance	Applying a static load 1.5~2 times the operating force to the center made with a 1 kHz small current contact resistance meter.	100mΩ Max.
	3	Insulation Resistance	Measurements shall be made following application of 500 V DC potential across terminals and cover for 1 minute ±5 seconds.	100MΩ Min.
	4	Dielectric Withstanding Voltage	250 V AC(50Hz or 60Hz) shall be applied across terminals and cover for 1 minute	There shall be no breakdown or flashover.
	5	Capacitance	1 MHz ±10kHz	5 pF Max.
	6.	Bounce	3 to 4 operations at a rate of 1 cycles per second 	5 m seconds Max. 

Tactile Switches

6x6 mm Thinner Type Tactile Switches (Pitch 4.5 mm)

TP46 Series

MECHANICAL PERFORMANCE	7.	Operating Force	Applied in the direction of operation. 	OF	100±50g (.98±.49N)	160±50g (1.568N±.49N)	260±50g (2.548N±.49N)
	8.	Stroke	Placing the switch such that the direction of switch operation is vertical and then gradually increasing the load applied to the stem, the stroke distance for the stem to come to a stop shall be measured.		0.25 +0.2/-0.1 mm		
	9.	Stop Strength	Placing the switch such that the direction of switch operation is vertical, a static load of 3 kgf (29.4N) shall be applied in the direction of stem operation for a period of 15 seconds		1.As shown in item 4~7 2.Contact Resistance: 200mΩ Max 3.Insulation Resistance: 10MΩ Min		
	10.	Solder Heat Resistance	■ TP46 Series		1.Shall be free from pronounced backlash and falling-off or breakage terminals 2.As shown in item 4、5 3.Contact Resistance: 200mΩ Max 4.Insulation Resistance: 10MΩ min		
	11.	Vibration	Shall be vibrated in accordance with Method 201A of MIL-STD-202F 1.Frequency: 10-55-10Hz in 1-min/cycle. 2.Direction: 3 vertical directions including the directions of operation 3.Test time: 2 hours each direction. 4.Swing distance=1.5mm		1.As shown in item 4~7 2.Contact Resistance: 200mΩ Max 3.Insulation Resistance: 10MΩ Min		

Tactile Switches

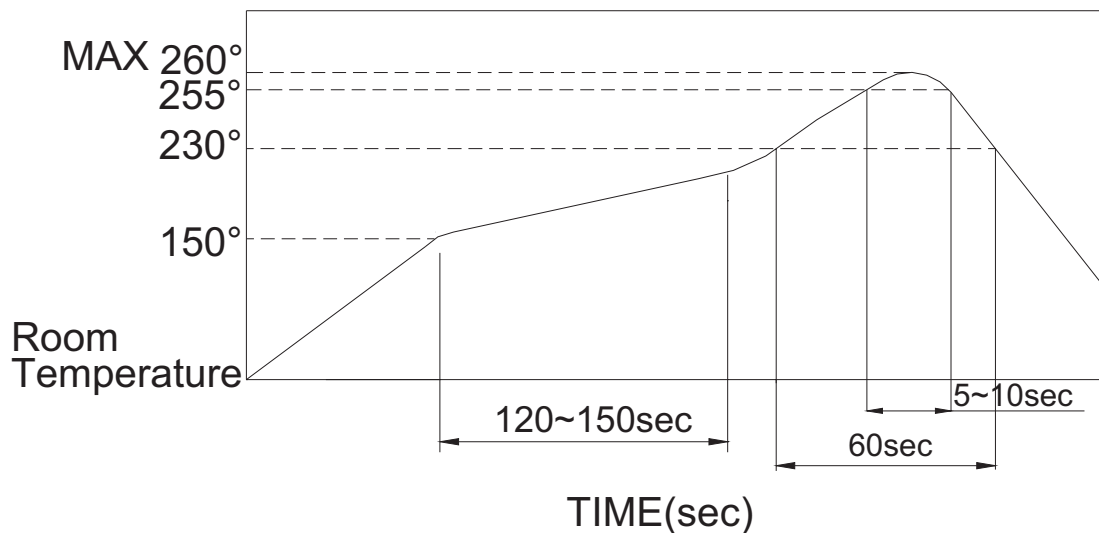
6x6 mm Thinner Type Tactile Switches (Pitch 4.5 mm)

TP46 Series

MECHANICAL PERFORMANCE	12	Shock	<p>Shall be shocked in accordance with Method 213B condition A of MIL-STD-202F</p> <ol style="list-style-type: none"> 1.Acceleration; 50G 2.Action time:11±1m seconds 3.Testing Direction: 6 sides 4.Test Cycle: 3 times in each direction 	<ol style="list-style-type: none"> 1.As shown in item 4~7 2.Contact Resistance: 200mΩ Max 3.Insulation Resistance: 10MΩ Min 	
	DURABILITY	13	Operating Life	<p>Measurements shall be made following the test forth below:</p> <ol style="list-style-type: none"> 1.5 mA,5 VDC resistive load 2.Applying a static load the operating force to the center of the stem in the direction of operation Static Load = OF Max. 3.Cycle of Operation: 200,000 cycle's Min. For 100gf 、 160gf 100,000 cycle's Min. For 260gf 	<ol style="list-style-type: none"> 1.As shown in item 4 、 5 2.Operating force: ±50% of initial force. 3.Contact Resistance: 10Ω Max 4.Insulation Resistance: 10MΩ Min 5.Bounce: 10 m seconds Max
WEATHER-PROOF		14	Resistance Low Temperature	<p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before the measurements are made:</p> <ol style="list-style-type: none"> 1.Temperature:-25±3°C 2.Time: 96 hours 	<ol style="list-style-type: none"> 1.As shown in item 4~7 2.Contact Resistance: 200mΩ Max 3.Insulation Resistance: 10MΩ Min
		15	Resistance High Temperature	<p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before the measurements are made:</p> <ol style="list-style-type: none"> 1.Temperature:80±2°C 2.Time: 96 hours 	Ditto
	16	Resistance Humidity	<p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before the measurements are made:</p> <ol style="list-style-type: none"> 1.Temperature:40±2°C 2.Relative Humidity:90~95% 3.Time: 96 hours 	Ditto	

5. SOLDERING CONDITIONS:

» Condition for Reflow Soldering – TP46 Series



The condition mentioned above is the temperature on the Cu foil of the PCB surface. There are cases where board's temperature greatly differs from switch's surface be used not to allow switch's surface temperature to exceed 260°C.

» Manual Soldering

Soldering Temperature	Max. 350°C
Continuous Soldering Time	Max. 5 seconds

» Precautions in Handling

1. Care should be exercised so that flux from the upper part of the printed circuit board does not adhere to the switch.
2. Except for washable type do not wash the switch body.