

**SERIES:** TS12 | **DESCRIPTION:** TACTILE SWITCH

**FEATURES**

- 7.4 x 7.4 mm
- 5-7 mm actuator
- joystick style [center push & 4-directional]
- surface mount


**SPECIFICATIONS**

parameter	conditions/description	min	typ	max	units
rated voltage		1		12	Vdc
rated current		0.01		50	mA
withstanding voltage	for 1 minute		250		Vac
contact resistance	applying load of 2 times operating force at 5 Vdc, 10 mA			100	mΩ
insulation resistance	at 100 Vdc for 1 minute	100			MΩ
operating force	see force table				
actuator travel	center push	0.05	0.15	0.25	mm
	4-directional	0.1	0.2	0.3	mm
operating temperature		-30		80	°C
storage temperature		-40		90	°C
life	rated load, 2 cycles/second, 1.5 times operating force				
	250 gf models		50,000		cycles
	360 gf models		30,000		cycles
vibration	10-55~10 Hz, 1.5 mm amplitude, 2 hours on each XYZ				
flammability rating	see material table				
RoHS	yes				

**PART NUMBER KEY**
**TS12- 74 - XX - BK - XXX - SMT - TR**

Base Number

 Actuator Height:  
 \*50 = 5.0 mm  
 60 = 6.0 mm  
 70 = 7.0 mm

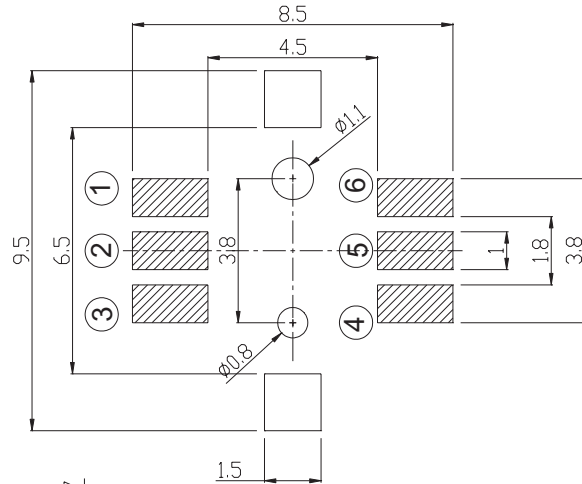
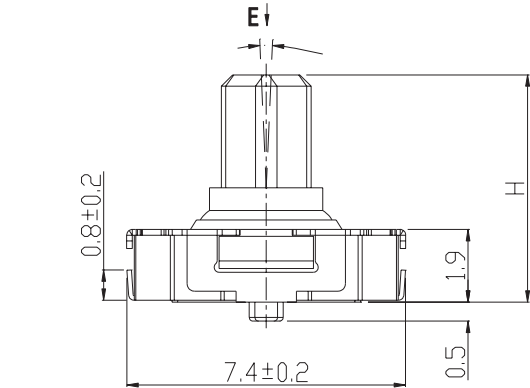
 Center Push Force:  
 250 = 250 gf  
 360 = 360 gf

Note: \*Only available with 250 gf center push force.

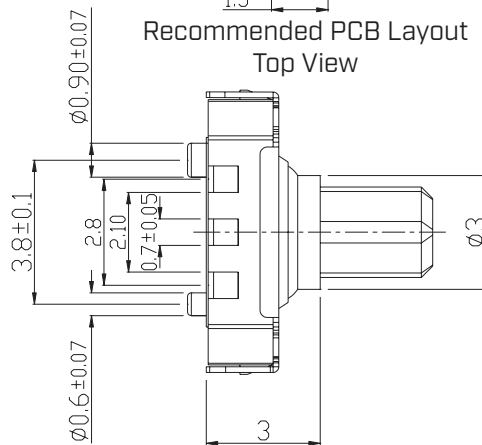
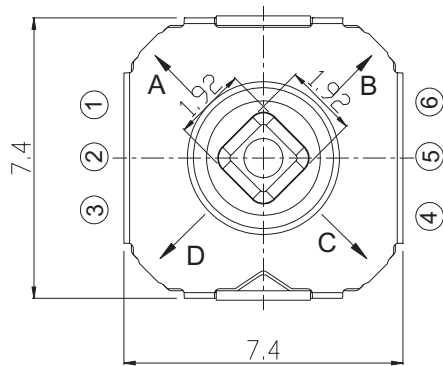
## MECHANICAL DRAWING (TS12-74-60-BK-360-SMT-TR)

units: mm  
tolerance:  $\pm 0.2$  mm  
unless otherwise noted

ITEM	DESCRIPTION	MATERIAL	PLATING/COLOR
1	case	LCP	black
2	terminal	phosphor bronze	silver
3	contacts	SUS	silver
4	button	PA6T (UL94HB)	black
5	stem	PPA (UL94V-0)	black
6	cover	SUS	nickel



Recommended PCB Layout  
Top View



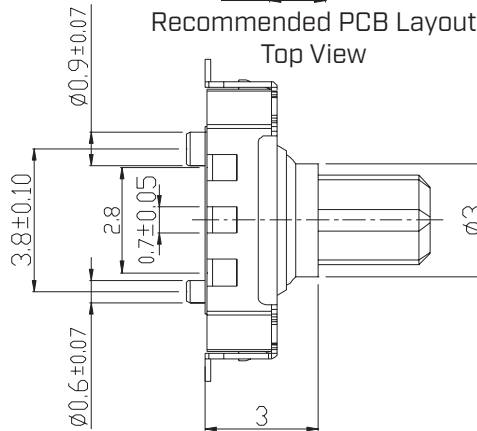
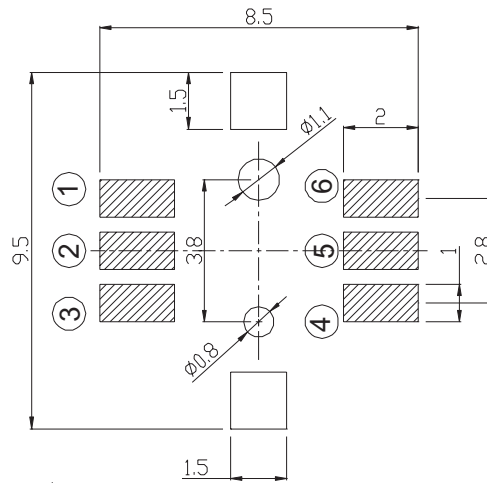
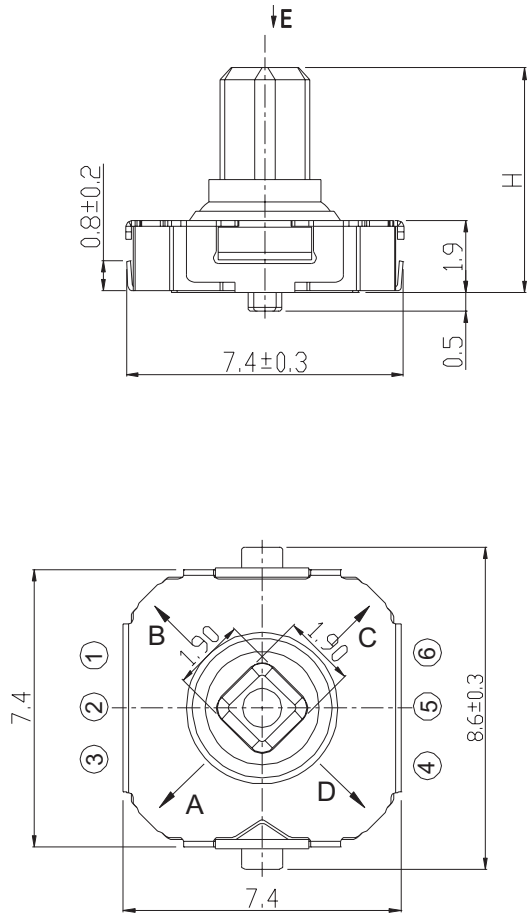
ACTUATOR POSITION [ ]: MOMENTARY	
NORMAL	DOWN
OFF	[ON]
SCHEMATIC	
F2 (1) —○—	○ (6) F3
Public (2) —○—	○ (5) F1
F4 (3) —○—	○ (4) F5

Operating Force Table			
Model	Center Press Force (gf)	4-Directional Press Force (gf)	Return Force (gf)
	PUSH 		
360	360±90	260±70	>20

## MECHANICAL DRAWING (TS12-74-50-BK-250-SMT-TR & TS12-74-60-BK-250-SMT-TR)

units: mm  
tolerance:  $\pm 0.2$  mm  
unless otherwise noted

ITEM	DESCRIPTION	MATERIAL	PLATING/COLOR
1	case	LCP	black
2	terminal	phosphor bronze	silver
3	contacts	SUS	silver
4	PI	teflon	gray
5	button	PA6T [UL94HB]	black
6	stem	PPA [UL94V-0]	black
7	cover	SUS	silver



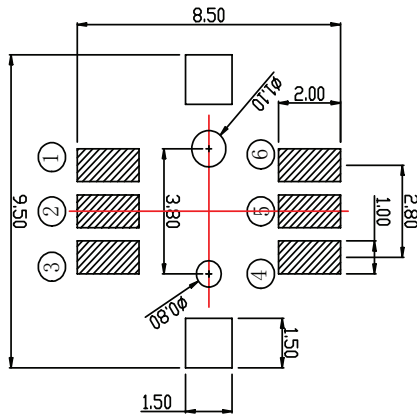
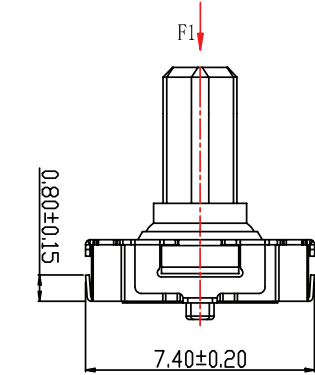
ACTUATOR POSITION [ ]: MOMENTARY	
NORMAL	DOWN
OFF	[ON]
SCHEMATIC	
F2 (1)	(6) F3
Public (2)	(5) F1
F4 (3)	(4) F5

Operating Force Table			
Model	Center Press Force (gf)	4-Directional Press Force (gf)	Return Force (gf)
	PUSH 		
250	250±70	160±50	>20

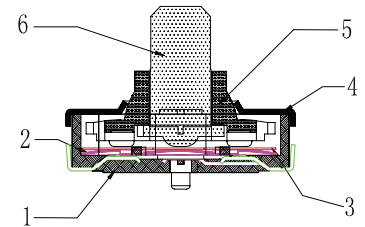
## MECHANICAL DRAWING (TS12-74-70-BK-250-SMT-TR & TS12-74-70-BK-360-SMT-TR)

units: mm  
tolerance: ±0.2 mm  
unless otherwise noted

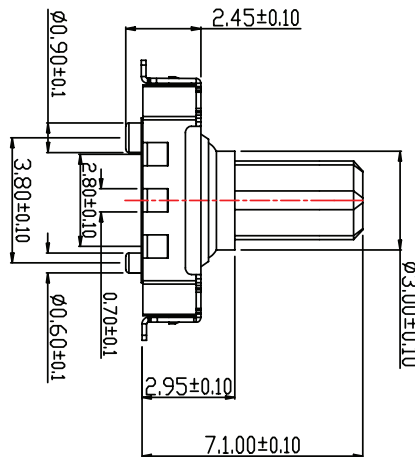
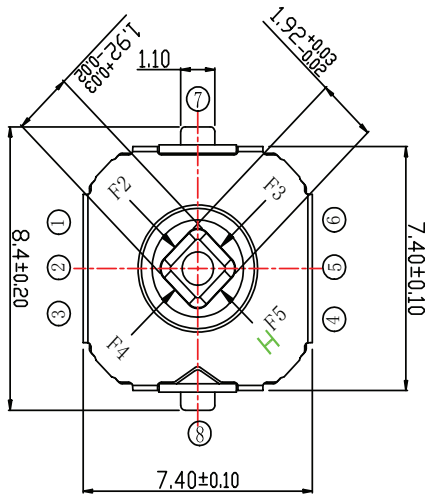
ITEM	DESCRIPTION	MATERIAL	PLATING/COLOR
1	case	LCP	black
2	contacts	phosphor bronze	silver
3	dust film	teflon	
4	button	PA6T (UL94HB)	black
5	cover	stainless steel	nickel
6	stem	PA6T (UL94V-0)	black



Recommended PCB Layout  
Top View



ACTUATOR POSITION [ ]: MOMENTARY	
NORMAL	DOWN
OFF	[ON]
SCHEMATIC	
F2 (1) —○— (6) F3	
Public (2) —○— (5) F1	
F4 (3) —○— (4) F5	

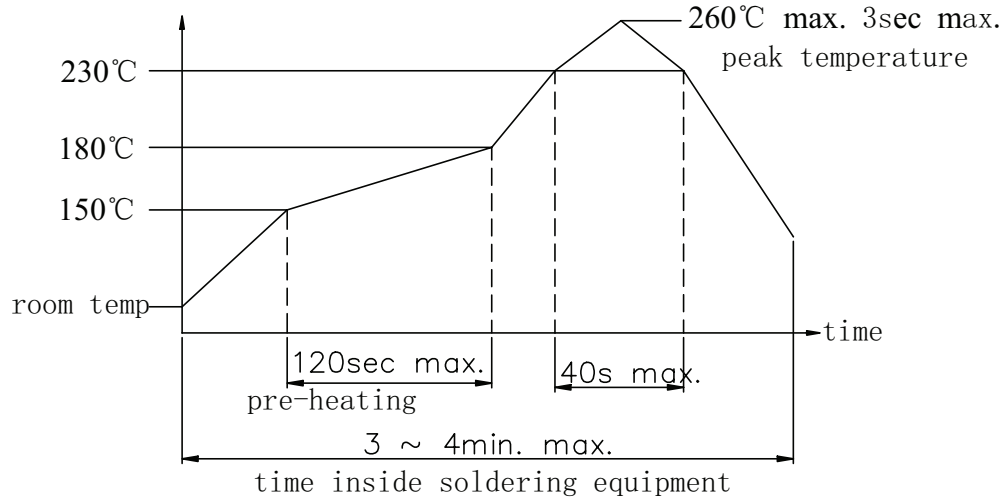


Operating Force Table			
Model	Center Press Force (gf)	4-Directional Press Force (gf)	Return Force (gf)
	PUSH 		
250	250±70	160±50	>20
360	360±80	240±70	>20

## SOLDERABILITY

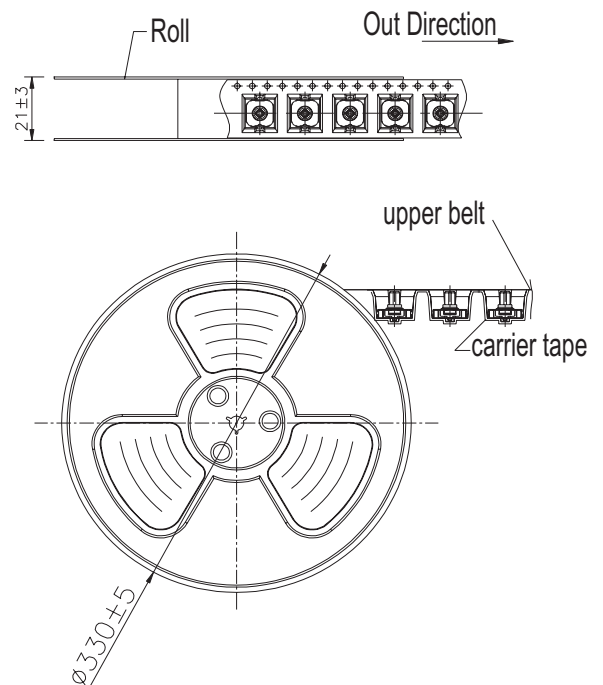
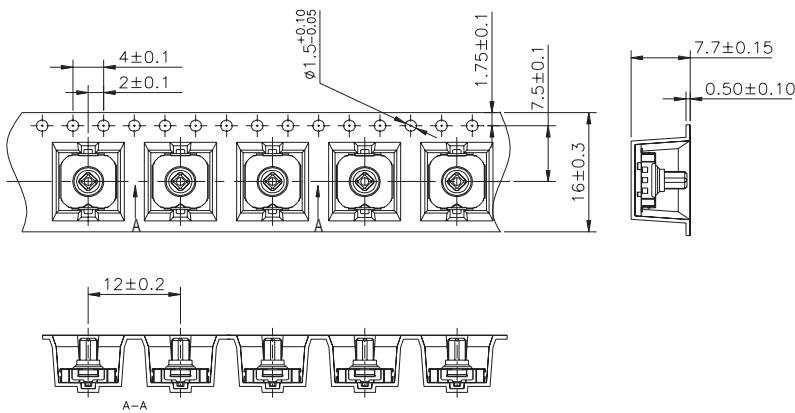
parameter	conditions/description	min	typ	max	units
hand soldering	for maximum 3 seconds			350	°C
reflow soldering <sup>1</sup>	see reflow profile			260	°C

Notes: 1. Do not exceed 2 reflow cycles.



## PACKAGING

Actuator Height Models (mm)	Reel QTY	Carton Size (XxYxZ) (mm)	Carton QTY
5	1,000	340 x 430 x 340	20,000
6	800	340 x 430 x 340	16,000
7	700	340 x 430 x 340	10,500



## REVISION HISTORY

rev.	description	date
1.0	initial release	04/14/2022
1.01	logo, datasheet style update	08/05/2022

The revision history provided is for informational purposes only and is believed to be accurate.



CUI Devices offers a one (1) year limited warranty. Complete warranty information is listed on our website.

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