

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 4-directional	0.05 0.1	0.15 0.2	0.25 0.3	mm 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 360 gf models		50,000 30,000		cycles 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

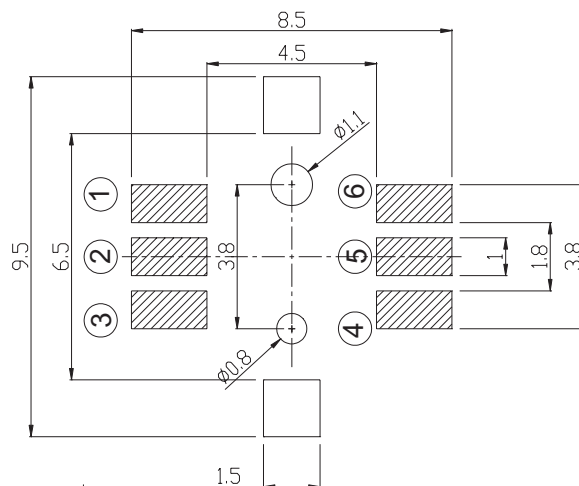
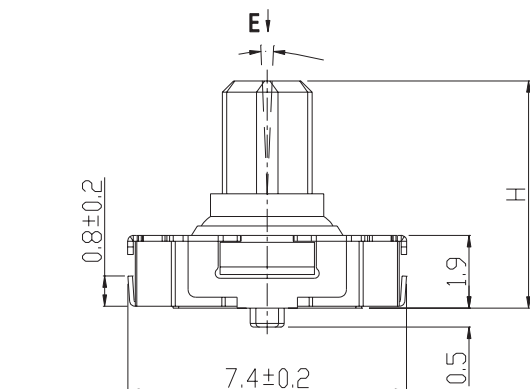
Center Push Force:
250 = 250 gf
360 = 360 gf

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

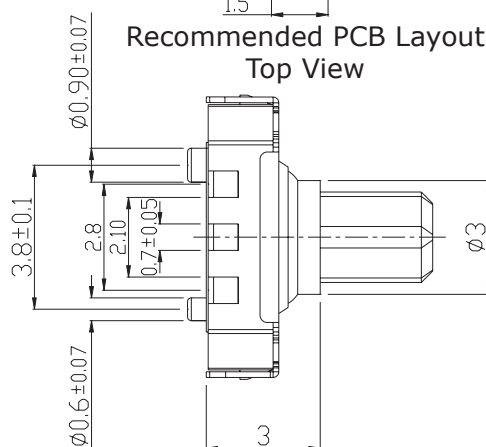
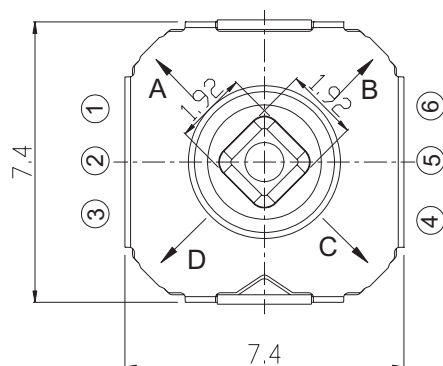
MECHANICAL DRAWING (TS12-74-60-BK-360-SMT-TR)

units: mm
tolerance: ± 0.2 mm
unless otherwise noted

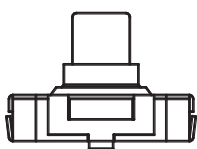
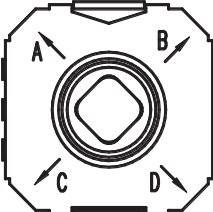
ITEM	DESCRIPTION	MATERIAL	PLATING/COLOR
1	case	LCP	black
2	terminal	phosphor bronze	silver
3	contacts	SUS	silver
4	button	PA6T (UL94HB)	black
5	stem	PPA (UL94V-0)	black
6	cover	SUS	nickel



Recommended PCB Layout
Top View



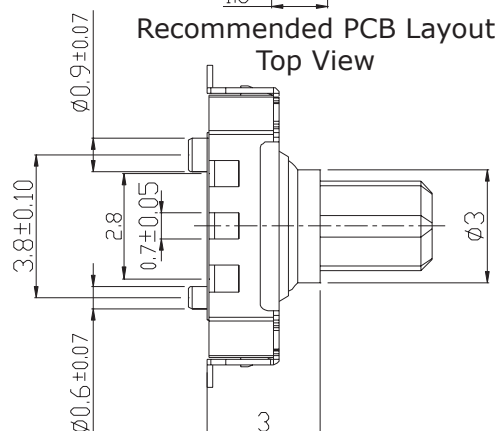
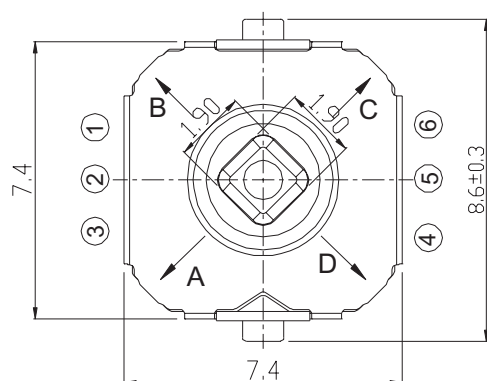
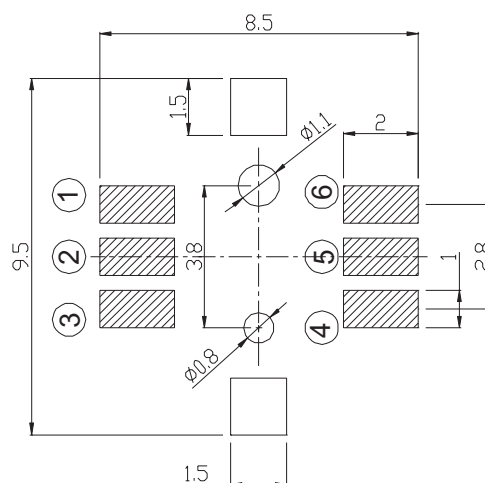
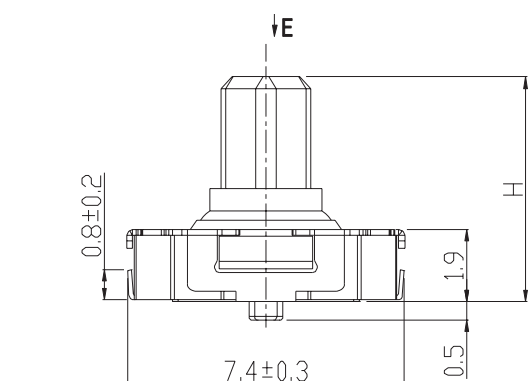
ACTUATOR POSITION (): MOMENTARY	
NORMAL	DOWN
OFF	(ON)
SCHEMATIC	
F2 (1)	F3 (6)
Public (2)	F1 (5)
F4 (3)	F5 (4)

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

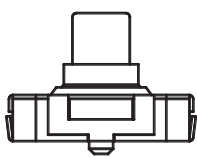
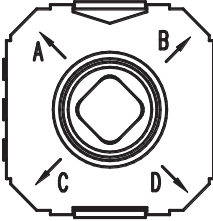
MECHANICAL DRAWING (TS12-74-50-BK-250-SMT-TR & TS12-74-60-BK-250-SMT-TR)

units: mm
tolerance: ± 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



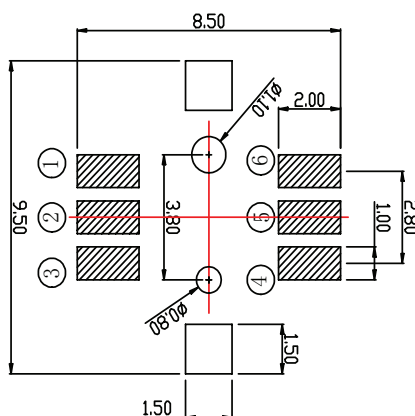
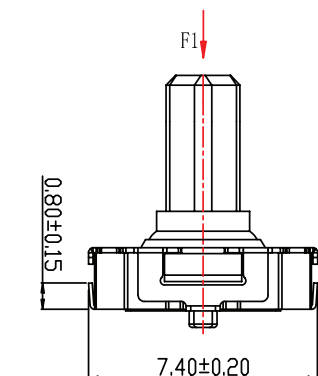
ACTUATOR POSITION (): MOMENTARY	
NORMAL	DOWN
OFF	(ON)
SCHEMATIC	
F2	① — ⑥ F3
Public	② — ⑤ F1
F4	③ — ④ F5

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

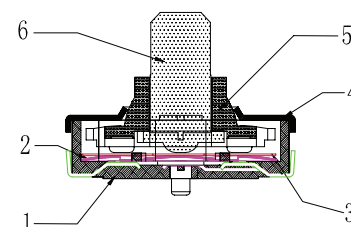
MECHANICAL DRAWING (TS12-74-70-BK-250-SMT-TR & TS12-74-70-BK-360-SMT-TR)

units: mm
tolerance: ± 0.2 mm
unless otherwise noted

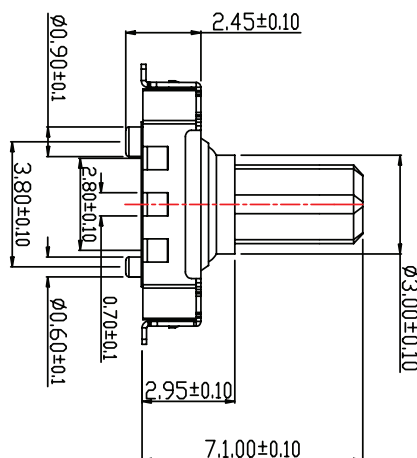
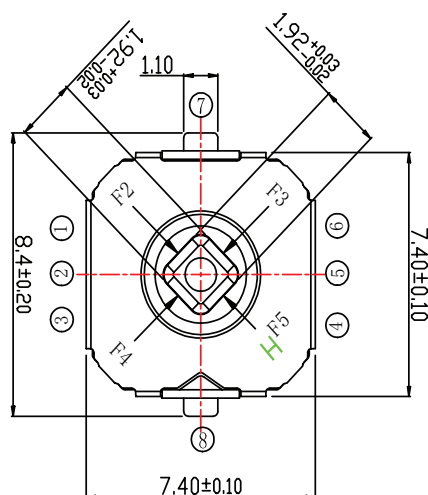
ITEM	DESCRIPTION	MATERIAL	PLATING/COLOR
1	case	LCP	black
2	contacts	phosphor bronze	silver
3	dust film	teflon	
4	button	PA6T (UL94HB)	black
5	cover	stainless steel	nickel
6	stem	PA6T (UL94V-0)	black

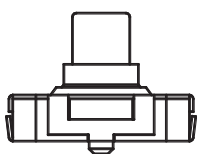
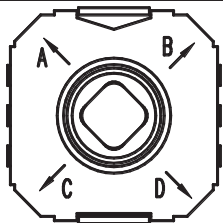


Recommended PCB Layout
Top View



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

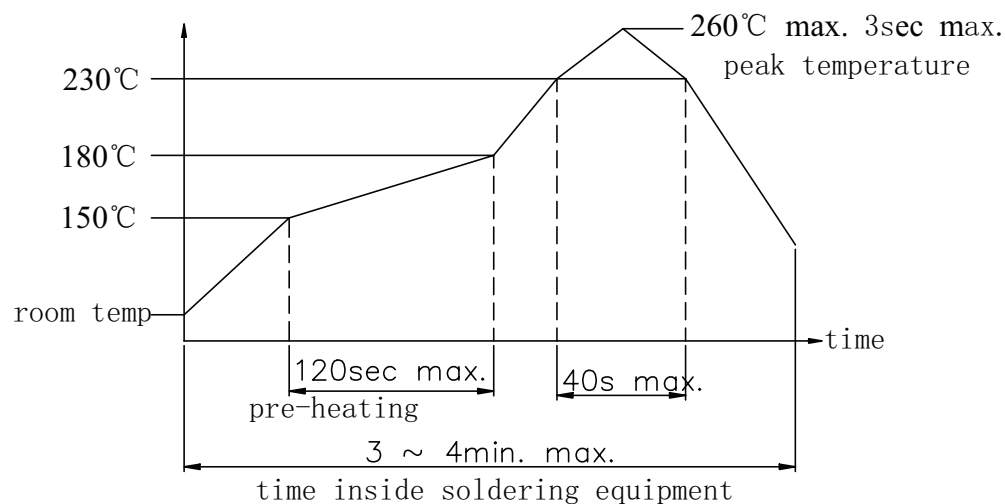


Operating Force Table			
Model	Center Press Force (gf)	4-Directional Press Force (gf)	Return Force (gf)
	PUSH 		
250	250±70	160±50	>20
360	360±80	240±70	>20

SOLDERABILITY

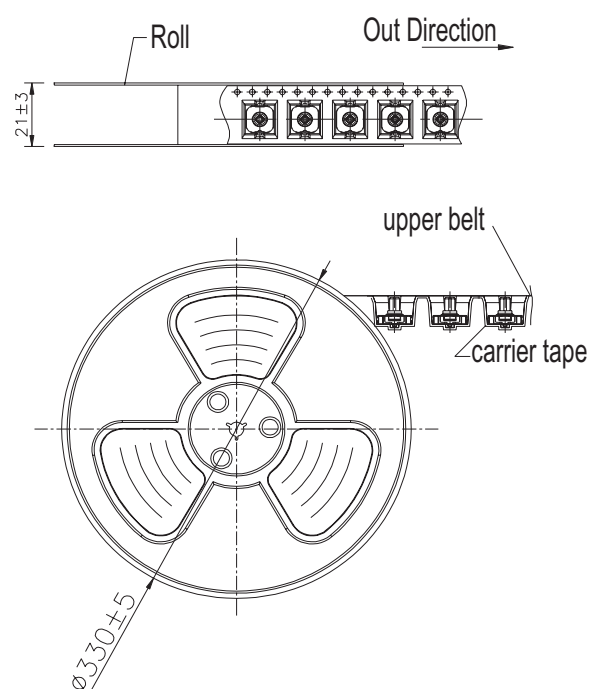
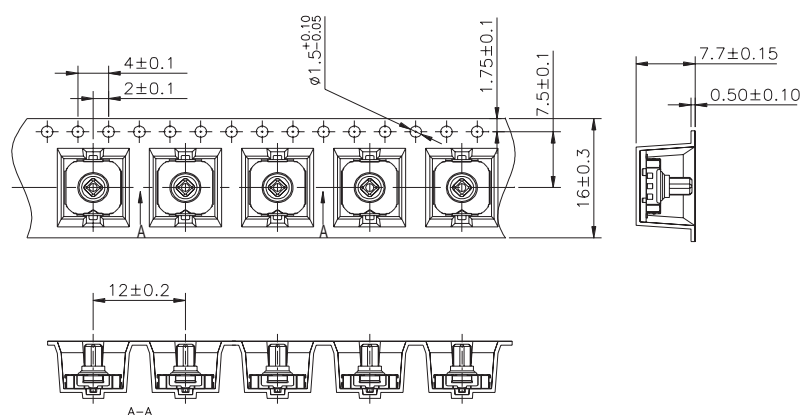
parameter	conditions/description	min	typ	max	units
hand soldering	for maximum 3 seconds			350	°C
reflow soldering ¹	see reflow profile			260	°C

Notes: 1. Do not exceed 2 reflow cycles.



PACKAGING

Packaging Table			
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

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

CUI DEVICES

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