

**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

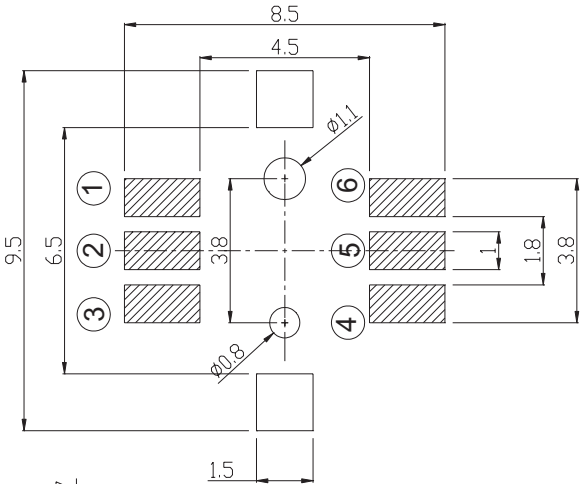
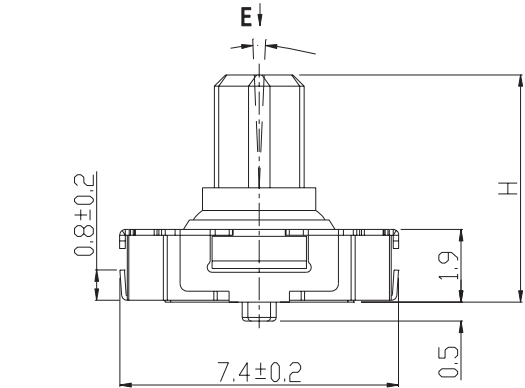
Actuator Height:  
\*50 = 5.0 mm  
60 = 6.0 mm  
70 = 7.0 mmCenter Push Force:  
250 = 250 gf  
360 = 360 gf

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

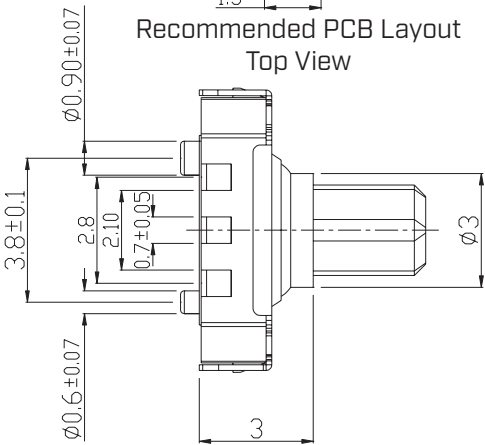
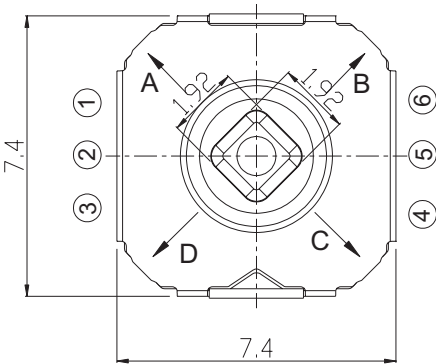
MECHANICAL DRAWING (TS12-74-60-BK-360-SMT-TR)

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



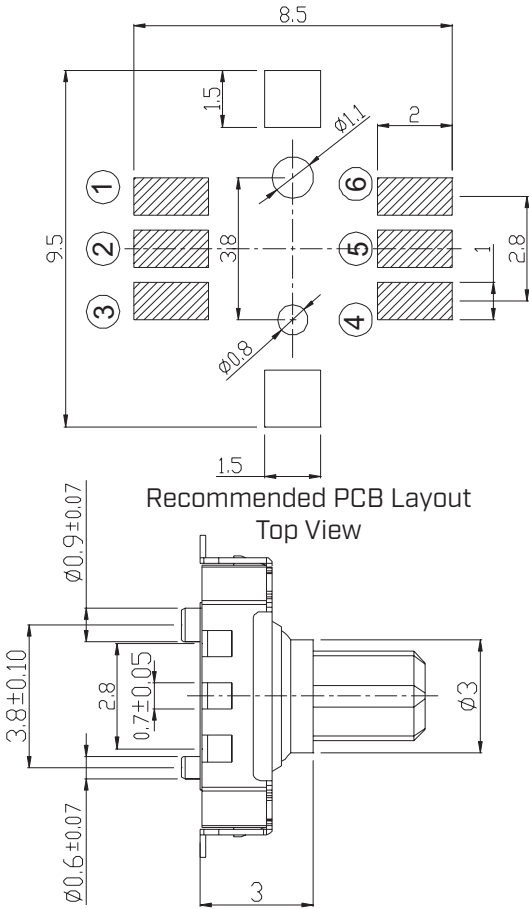
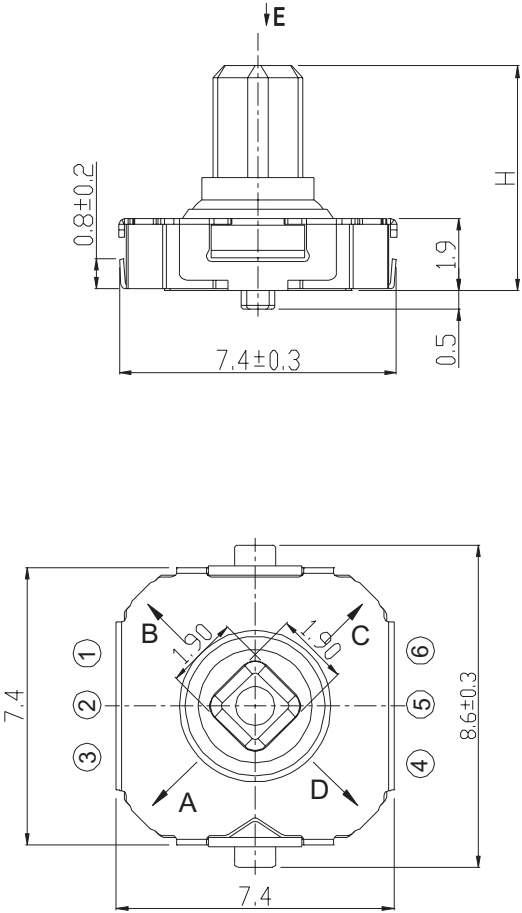
| ACTUATOR POSITION<br>[ ]: MOMENTARY |        |
|-------------------------------------|--------|
| NORMAL                              | DOWN   |
| OFF                                 | [ON]   |
| SCHEMATIC                           |        |
| F2 (1)                              | F3 (6) |
| Public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

| Operating Force Table |                            |                                   |                   |
|-----------------------|----------------------------|-----------------------------------|-------------------|
| Model                 | Center Press Force<br>(gf) | 4-Directional Press<br>Force (gf) | Return Force (gf) |
|                       | PUSH<br>                   |                                   |                   |
| 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        |



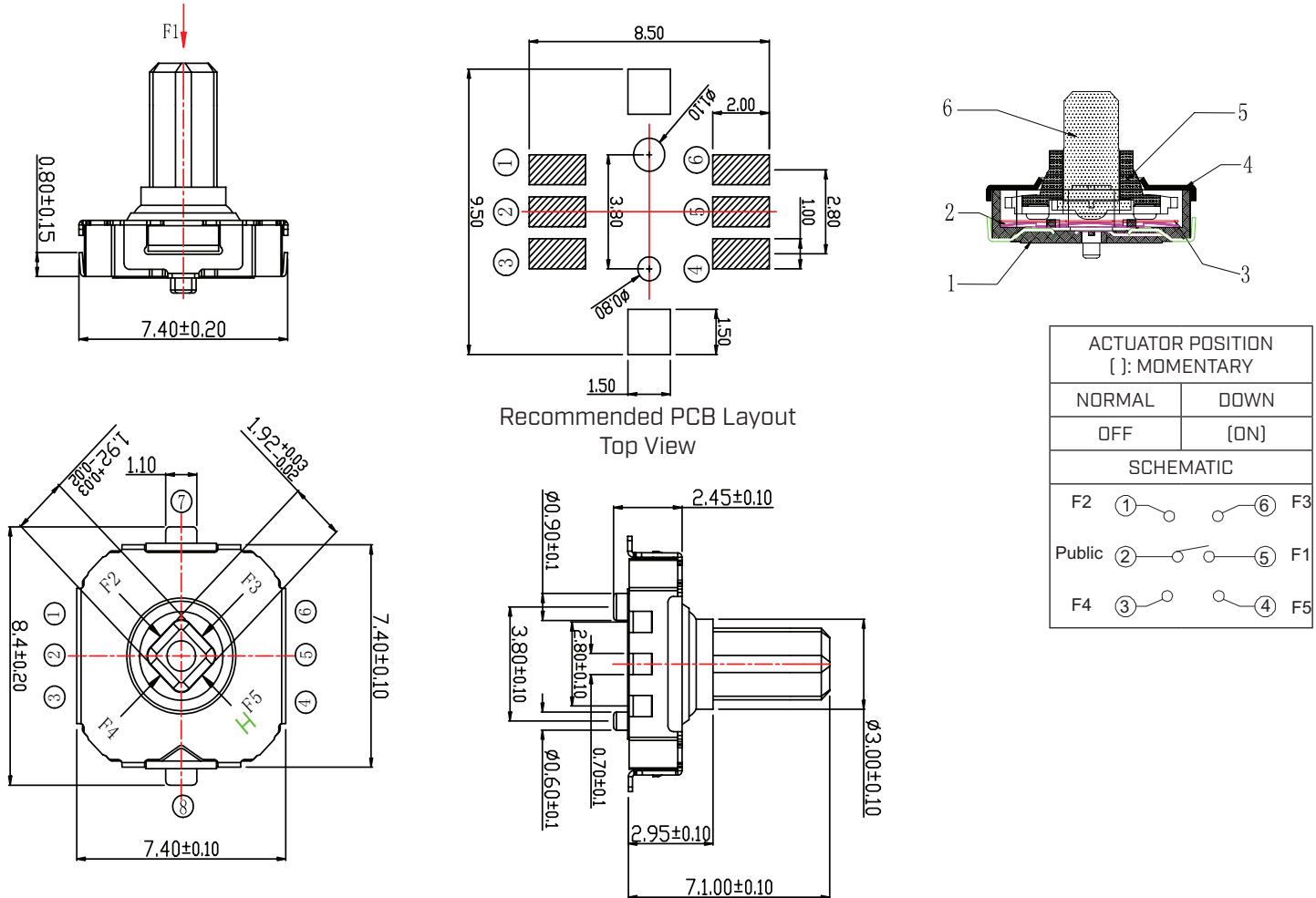
| ACTUATOR POSITION<br>[ ]: MOMENTARY |          |
|-------------------------------------|----------|
| NORMAL                              | DOWN     |
| OFF                                 | [ON]     |
| SCHEMATIC                           |          |
| F2                                  | ① — ⑥ F3 |
| Public                              | ② — ⑤ F1 |
| F4                                  | ③ — ④ F5 |

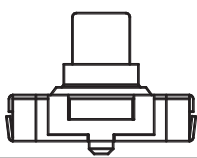
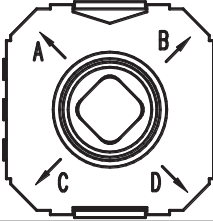
| Operating Force Table |                            |                                   |                   |
|-----------------------|----------------------------|-----------------------------------|-------------------|
| Model                 | Center Press Force<br>(gf) | 4-Directional Press<br>Force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

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

units: mm  
tolerance:  $\pm 0.2$  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         |

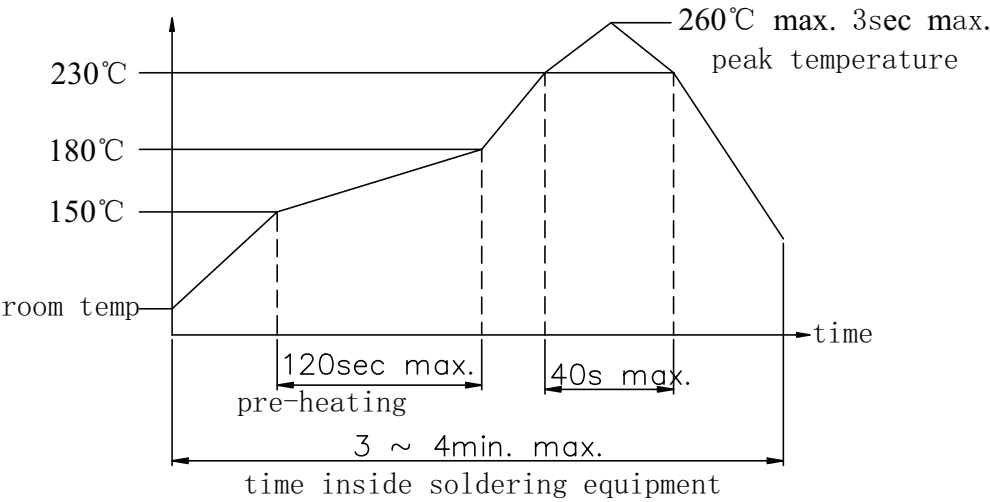


| Operating Force Table |                                                                                             |                                                                                      |                   |
|-----------------------|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-------------------|
| Model                 | Center Press Force (gf)                                                                     | 4-Directional Press Force (gf)                                                       | Return Force (gf) |
|                       | PUSH<br> |  |                   |
| 250                   | 250 $\pm$ 70                                                                                | 160 $\pm$ 50                                                                         | >20               |
| 360                   | 360 $\pm$ 80                                                                                | 240 $\pm$ 70                                                                         | >20               |

SOLDERABILITY

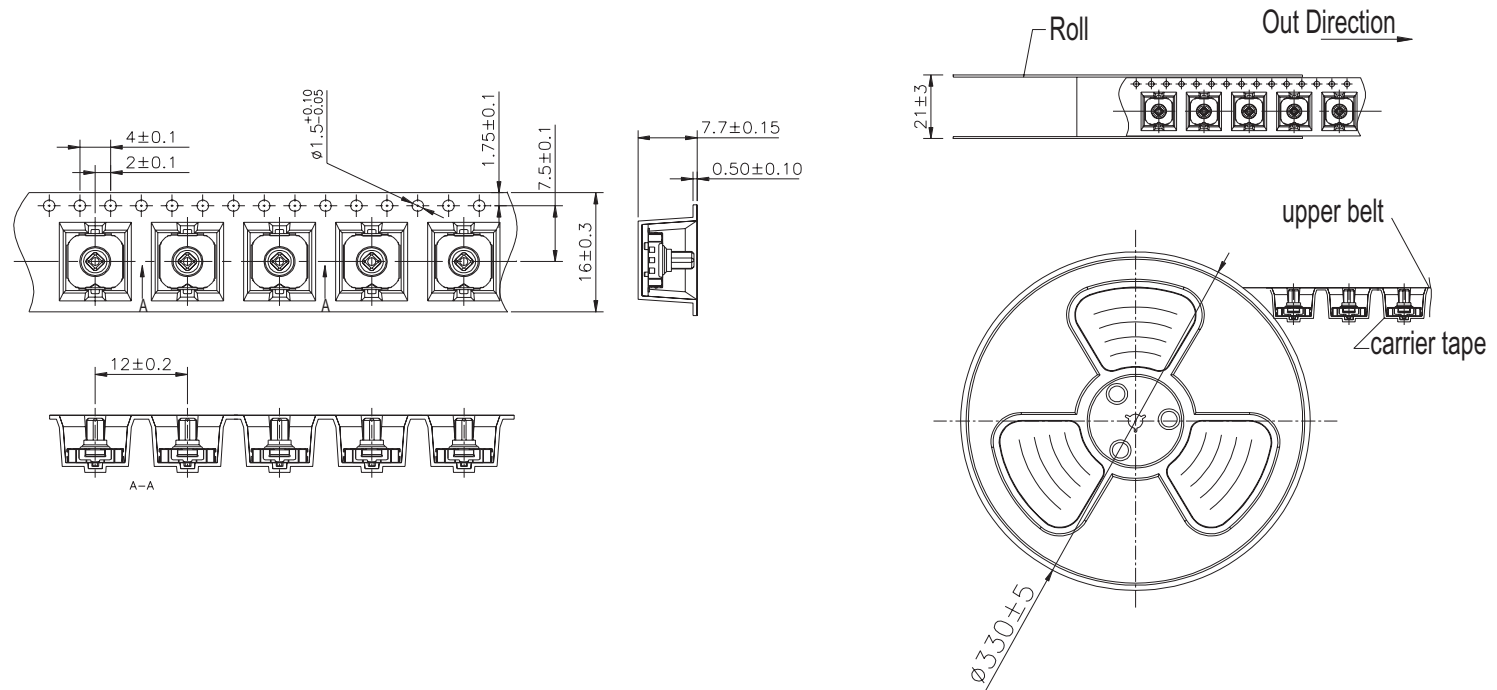
| parameter                     | conditions/description | min | typ | max | units |
|-------------------------------|------------------------|-----|-----|-----|-------|
| hand soldering                | for maximum 3 seconds  |     |     | 350 | °C    |
| reflow soldering <sup>1</sup> | see reflow profile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

Notes: 1. Do not exceed 2 reflow cycles.



PACKAGING

| 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 |
| 1.01 | logo, datasheet style update      | 08/05/2022 |
| 1.02 | CUI Devices rebranded to Same Sky | 09/12/2024 |

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



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

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