

**SERIES:** TS16 | **DESCRIPTION:** TACTILE SWITCH

**FEATURES**

- black and red actuator options
- surface mount
- 7.5-9.5 mm actuator


**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       |   | 0.25 | 0.35                        | 0.45 | mm                         |
| operating temperature |   | -30  |                             | 80   | °C                         |
| storage temperature   |   | -40  |                             | 90   | °C                         |
| life                  | rated load, 2 cycles/second, 1.5 times operating force<br>100 gf models<br>160 gf models<br>260 gf models |      | 100,000<br>80,000<br>60,000 |      | cycles<br>cycles<br>cycles |
| vibration             | 10-55-10 Hz, 1.5 mm amplitude, 2 hours on each XYZ  |      |                             |      |                            |
| flammability rating   | see material table  |      |                             |      |                            |
| RoHS                  | yes   |      |                             |      |                            |

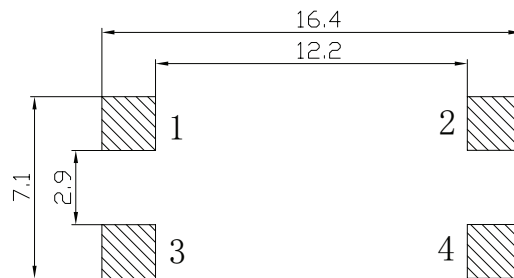
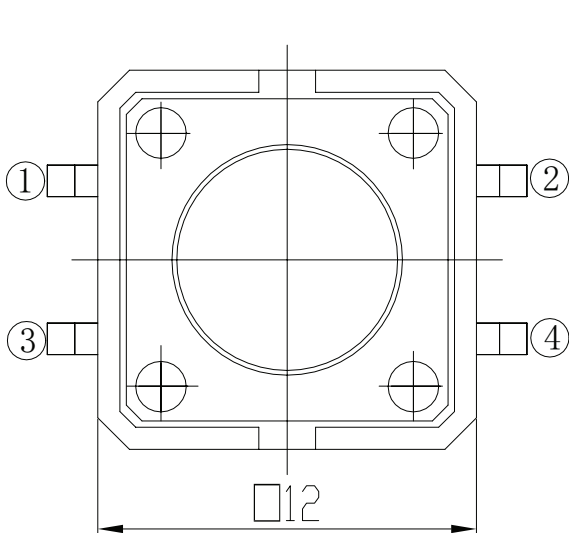
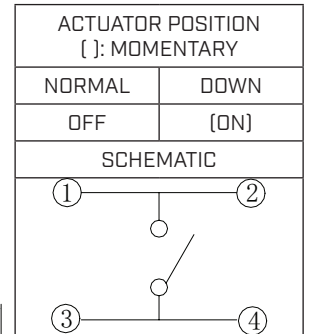
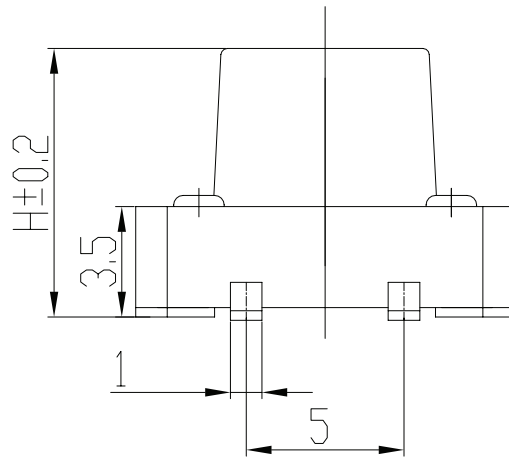
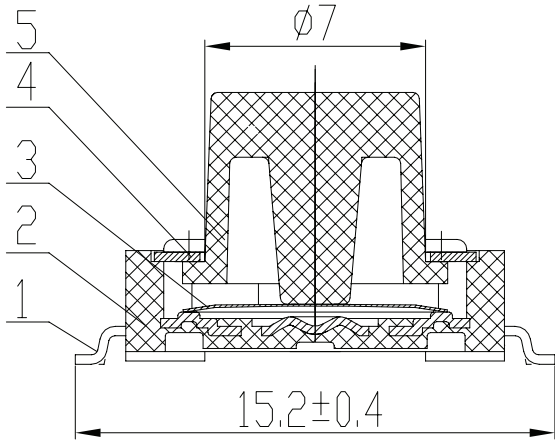
**PART NUMBER KEY**

|   |   |  |   |
|---|---|--|---|
| <b>TS16 - 1212 - XX - XX - XXX - SMT - TR</b> |   |  |   |
| Base Number                                   | Actuator Height:<br>75 = 7.5 mm<br>85 = 8.5 mm<br>95 = 9.5 mm | Actuator Color:<br>R = red<br>BK = black | Push Force:<br>100 = 100 gf<br>160 = 160 gf<br>260 = 260 gf |

## MECHANICAL DRAWING

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

| ITEM | DESCRIPTION | MATERIAL        | PLATING/COLOR |
|------|-------------|-----------------|---------------|
| 1    | terminals   | brass           | silver        |
| 2    | housing     | FR52 (UL94V-0)  | black         |
| 3    | contacts    | phosphor bronze | silver        |
| 4    | cover       | stainless steel |               |
| 5    | stem        | FR52 (UL94V-0)  |               |



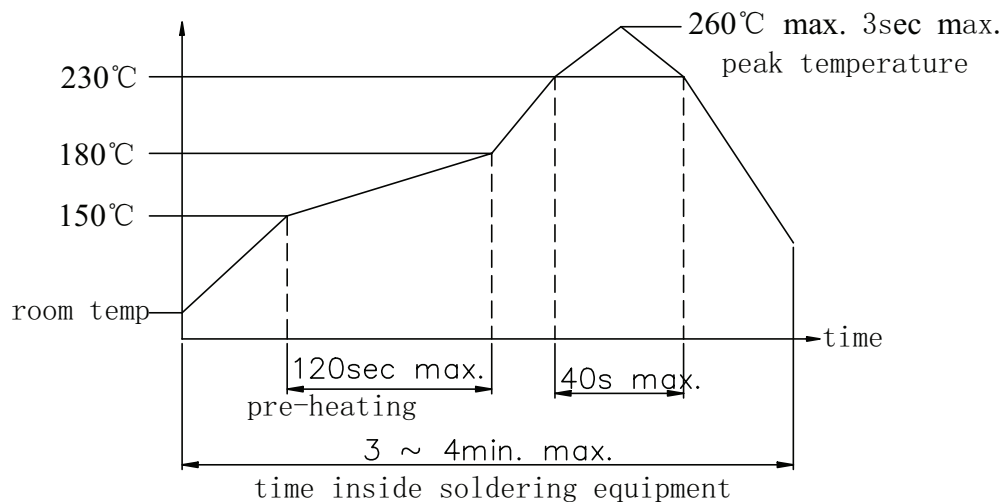
Recommended PCB Layout  
Top View

| Operating Force Table |                  |                   |
|-----------------------|------------------|-------------------|
| Model                 | Press Force [gf] | Return Force [gf] |
| 100                   | 100 $\pm$ 30     | >20               |
| 160                   | 160 $\pm$ 50     | >20               |
| 260                   | 260 $\pm$ 50     | >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    |

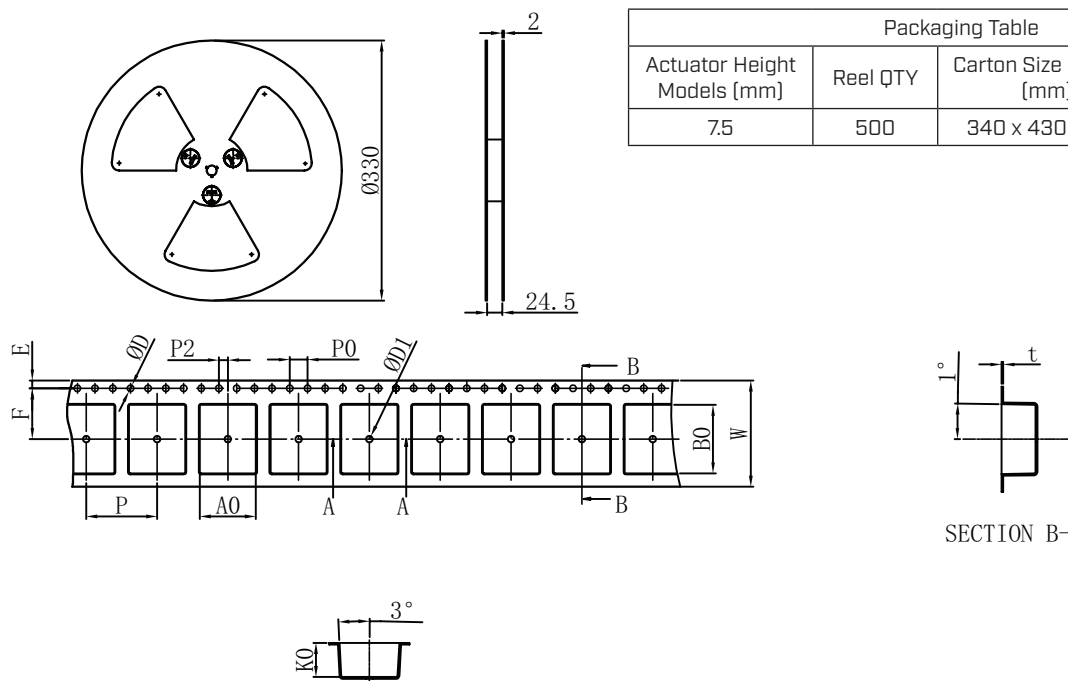
Notes: 1. Do not exceed 2 reflow cycles.



## PACKAGING (7.5 HEIGHT MODEL)

|         |                             |                             |                             |                            |                             |
|---------|-----------------------------|-----------------------------|-----------------------------|----------------------------|-----------------------------|
| Item    | W                           | A0                          | B0                          | K0                         | P                           |
| DIM(mm) | 24.0 <sup>+0.30/-0.10</sup> | 12.2 <sup>+0.10/-0.10</sup> | 15.5 <sup>+0.10/-0.10</sup> | 7.7 <sup>+0.10/-0.10</sup> | 16.0 <sup>+0.10/-0.10</sup> |
| Item    | F                           | E                           | D                           | D1                         | P0                          |
| DIM(mm) | 11.5 <sup>+0.10/-0.10</sup> | 1.75 <sup>+0.10/-0.10</sup> | 1.50 <sup>+0.10/-0.0</sup>  | 1.50 <sup>+0.10/-0.0</sup> | 4.0 <sup>+0.10/-0.10</sup>  |
| Item    | P2                          | t                           | --                          | --                         | --                          |
| DIM(mm) | 2.0 <sup>+0.10/-0.10</sup>  | 0.4 <sup>+0.05/-0.05</sup>  | --                          | --                         | --                          |

| Packaging Table             |          |                          |            |
|-----------------------------|----------|--------------------------|------------|
| Actuator Height Models (mm) | Reel QTY | Carton Size (XxYxZ) (mm) | Carton QTY |
| 7.5                         | 500      | 340 x 430 x 340          | 7,000      |

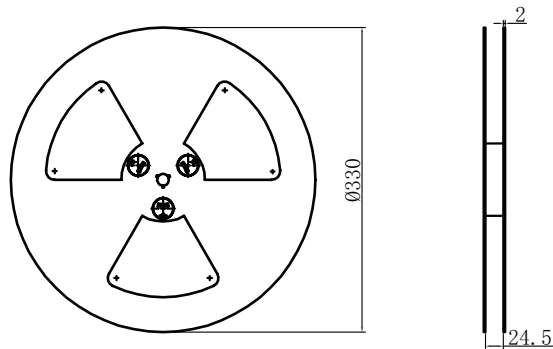


SECTION B-B

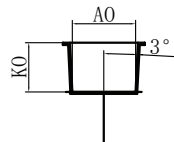
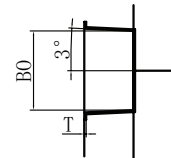
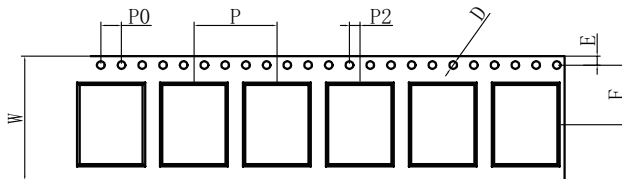
SECTION A-A

## PACKAGING (8.5 & 9.5 HEIGHT MODELS)

|         |                             |                             |                             |                            |                             |
|---------|-----------------------------|-----------------------------|-----------------------------|----------------------------|-----------------------------|
| Item    | W                           | A0                          | B0                          | K0                         | P                           |
| DIM(mm) | 24.0 <sup>+0.30/-0.30</sup> | 12.3 <sup>+0.10/-0.10</sup> | 15.6 <sup>+0.10/-0.10</sup> | 9.5 <sup>+0.10/-0.10</sup> | 16.0 <sup>+0.10/-0.10</sup> |
| Item    | F                           | E                           | D                           | P0                         | P2                          |
| DIM(mm) | 11.5 <sup>+0.10/-0.10</sup> | 1.75 <sup>+0.10/-0.10</sup> | 1.50 <sup>+0.10/-0.10</sup> | 4.0 <sup>+0.10/-0.10</sup> | 2.0 <sup>+0.10/-0.10</sup>  |
| Item    | t                           | --                          | --                          | --                         | --                          |
| DIM(mm) | 0.4 <sup>+0.05/-0.05</sup>  | --                          | --                          | --                         | --                          |



| Actuator Height Models (mm) | Reel QTY | Carton Size (XxYxZ) (mm) | Carton QTY |
|-----------------------------|----------|--------------------------|------------|
| 8.5~ 9.5                    | 400      | 340 x 430 x 340          | 5,600      |



## REVISION HISTORY

| rev. | description                  | date       |
|------|------------------------------|------------|
| 1.0  | initial release              | 04/13/2022 |
| 1.01 | logo, datasheet style update | 08/05/2022 |

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



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