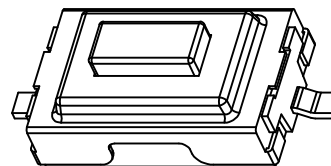


Order information:  
TS-A07GS-3-W-S085

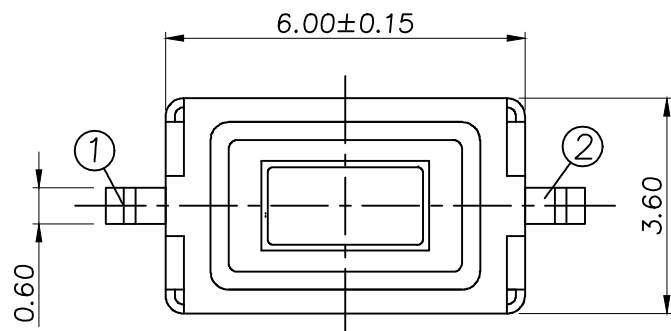
Case color: White

Force: 250gf

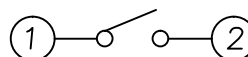


**RoHS**  
Compatible

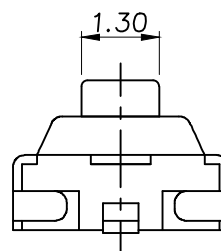
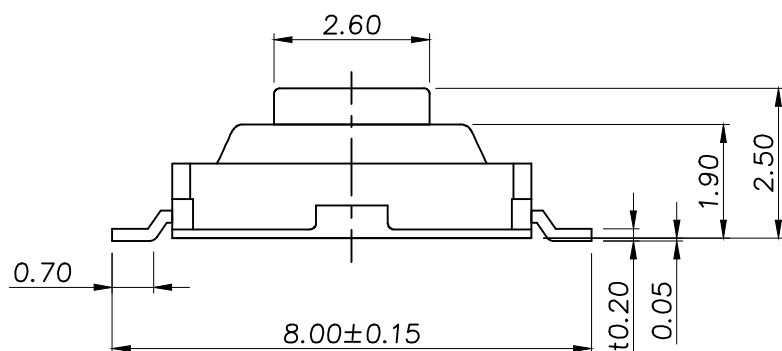
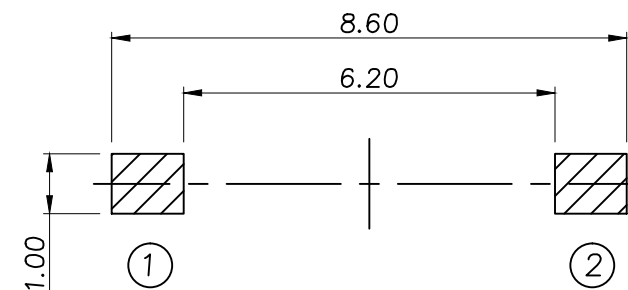
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|------|-----|-------------|------|-------|
| △    |     |             |      |       |
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| △    |     |             |      |       |
| ZONE | REV | DESCRIPTION | DATE | APPD. |



CIRCUIT DIAGRAM



RECOMMENED P.C.B MOUNTING  
PATTERN DIMENSION



Specifications

1. Rating : DC 12V, 50mA.
2. Travel : 0.30±0.15mm
3. Contact resistance : 100mΩ Max.
4. Insulation resistance : 100MΩ Min.
5. Operating force : 250±80gf
6. Operating life : 30,000 cycles Min.

|     |            |                 |      |           |
|-----|------------|-----------------|------|-----------|
| 6   | Dust Cover | Pi film         | 1    | —         |
| 5   | Terminal   | Brass           | 1    | Ag Plated |
| 4   | Contact    | Stainless steel | 1    | Ag Clad   |
| 3   | Cover      | Stainless steel | 1    | —         |
| 2   | Knob       | LCP             | 1    | White     |
| 1   | Case       | LCP             | 1    | White     |
| No. | Part Name  | Material        | Q'ty | Finishing |

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|          |       |         |             |  |
|----------|-------|---------|-------------|--|
| DESIGN   | Will  | SCALE   |             |  |
| DRAWING  | Eason | UNIT    | mm          |  |
| CHECK    | Eason | SIZE    | A4: 210*297 |  |
| APPROVAL | Honda | VERSION | 03          |  |

|                                          |            |                   |
|------------------------------------------|------------|-------------------|
| TOLERANCE UNLESS<br>OTHERWISE STATED(mm) | PART NAME  | TACT SWITCH       |
| 0 — ±0.50                                | PART NO    | TS-A07GS-3-W-S085 |
| 0.0 — ±0.40                              | DRAWING NO |                   |
| 0.00 — ±0.30                             | DATE       | 2019/04/09        |
| ANGLE — ±3°                              |            |                   |

# TACT SWITCH SPECIFICATION

## 1. General

1.1 Appearance and dimensions : Refer to drawing spec

1.2 Operation temperature range : -20°C ~ +85°C

1.3 Preservative temperature range : -40°C ~ +85°C

1.4 Switch rating : DC 12V, 50mA

1.5 Standard conditions : Unless otherwise specified, the test and measurements shall be carried out as follows :

Ambient temperature : 5 ~ 35°C

Relative humidity : 45 ~ 85%RH

Air pressure : 86 ~ 106kpa (860 ~ 1060mbar)

However, if doubt arises on the decision based on the measured value under the above-mentioned conditions, The following conditions shall be employed.

Ambient temperature : 20 ± 2°C

Relative humidity : 65 ± 5%RH

Air pressure : 86 ~ 106kpa (860 ~ 1060mbar)



## 2. Performance

### 2.1 Electrical characteristics

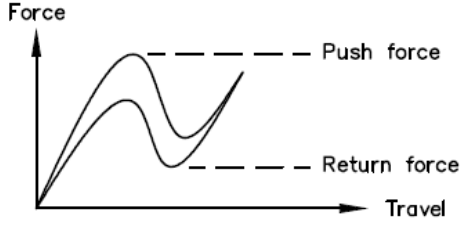
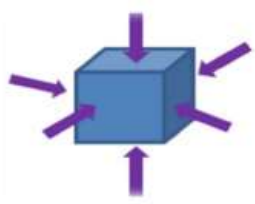
| No    | Items                                  | Test Conditions                                                         | Performance                               |
|-------|----------------------------------------|-------------------------------------------------------------------------|-------------------------------------------|
| 2.1.1 | <b>Contact Resistance</b>              | Measurement shall be made with a 1kHz current contact resistance meter. | 100mΩ Max.                                |
| 2.1.2 | <b>Insulation Resistance</b>           | DC 250V (Between terminals) frame for 1 minute.                         | 100MΩ Min.                                |
| 2.1.3 | <b>Dielectric Withstanding Voltage</b> | AC 250V (Between terminals) frame for 1 minute.                         | No insulation destruction                 |
| 2.1.4 | <b>Bounce</b>                          | <p>Operation speed : 3 ~ 4 times/s</p>                                  | <p>ON : 3ms Max.</p> <p>OFF: 8ms Max.</p> |

|      |            |      |       |        | APPROVAL | CHECK | DESIGN | TITLE   | Tact Switch       |     |
|------|------------|------|-------|--------|----------|-------|--------|---------|-------------------|-----|
| 01   | 2019/04/09 |      |       |        | Honda    | Eason | Eason  | DRAWING | TS-A07GS-3-W-S085 | 1/4 |
| MARK | DATE       | APPR | CHECK | DESIGN |          |       |        | NO      |                   |     |



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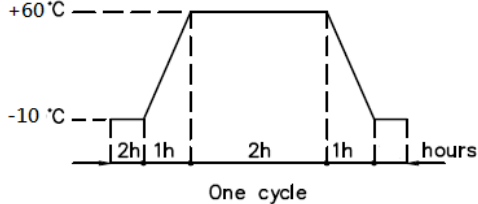
## 2.2 Mechanical characteristics

| No    | Items               | Test Conditions                                                                                                                                                                                                                     | Performance                                                                                                                                                     |
|-------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2.2.1 | Operation Force     | Push by recommended operating condition<br>                                                                                                        | <br>Push force ( 250 ± 80gf )                                                |
| 2.2.2 | Travel              | Push by recommended operating condition<br>$F = (\text{Operation force}) \times 2$                                                                                                                                                  | See drawing spec                                                                                                                                                |
| 2.2.3 | Push strength       | A static load of 30N (3kgf) shall be applied in the direction of stem operation for a period of 60 seconds.                                                                                                                         | No damage<br>(Electrical and Mechanical)                                                                                                                        |
| 2.2.4 | Vibration Test      | (1) Amplitude : 1.5mm<br>(2) Sweep rate : 10-55-10Hz for 1 minute.<br>(3) Sweep method : Logarithmic frequency sweep rate.<br>(4) Vibration direction : X.Y.Z (3 directions).<br>(5) Time : Each direction 2 hours (Total 6 hours). | No. 2.1 and 2.2.1 to 2.2.2 shall be satisfied.                                                                                                                  |
| 2.2.5 | Shock               | Peak acceleration : 500m/S <sup>2</sup><br>Pulse duration : 11ms<br>Test time-6direction,each 3 times total 18 times<br>                         | Contact resistance :<br>200mΩ Max.<br>Insulation resistance :<br>100MΩ Min.<br>Withstand voltage :<br>No destruction.<br>No. 2.2.1 to 2.2.2 shall be satisfied. |
| 2.2.6 | Solderability       | After sprayed flux<br>Temperature : 245 ± 5°C<br>Soldering time : 3 ± 0.5 sec                                                                                                                                                       | 90% or more of surface area of the portion immersed in solder shall be covered by new solder                                                                    |
| 2.2.7 | Soldering heat test | Soldering temperature : 260 ± 5°C<br>Soldering time : 3 ± 0.5 sec                                                                                                                                                                   | No damage<br>(Electrical and Mechanical)                                                                                                                        |

|      |            |      |       |        | APPROVAL | CHECK | DESIGN | TITLE   | Tact Switch       |     |
|------|------------|------|-------|--------|----------|-------|--------|---------|-------------------|-----|
|      |            |      |       |        | Honda    | Eason | Eason  |         |                   |     |
| 01   | 2019/04/09 |      |       |        |          |       |        | DRAWING | TS-A07GS-3-W-S085 | 2/4 |
| MARK | DATE       | APPR | CHECK | DESIGN |          |       |        | NO      |                   |     |



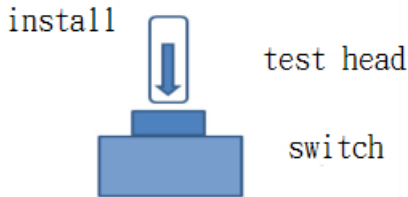
### 2.3 Climatic characteristics

| No    | Items             | Test Conditions                                                                                                                                                                                 | Performance                                                                                                                                                                                                                                                |
|-------|-------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2.3.1 | Cold test         | (1) Temperature : $-40 \pm 2^{\circ}\text{C}$<br>(2) Duration of test : 96 hours<br>(3) Take off a drop water<br>(4) Standard conditions after test : 1 hour                                    | <br><br>Contact Resistance :<br>200mΩ Max.<br>Insulation resistance :<br>100MΩ Min.<br>Withstand voltage :<br>No destruction.<br>No. 2.2.1 to 2.2.2 shall be satisfied. |
| 2.3.2 | Heat test         | (1) Temperature : $80 \pm 2^{\circ}\text{C}$<br>(2) Duration of test : 96 hours<br>(3) Standard conditions after test : 1 hour                                                                  |                                                                                                                                                                                                                                                            |
| 2.3.3 | Temperature Cycle | (1) Test cycles : 5 cycles<br>(2) Standard conditions after test : 1 hour<br>                                  |                                                                                                                                                                                                                                                            |
| 2.3.4 | Humidity Test     | (1) Temperature : $60 \pm 2^{\circ}\text{C}$<br>(2) Relative humidity : 90 ~ 95%<br>(3) Duration of test : 96 hours<br>(4) Take off a drop water<br>(5) Standard conditions after test : 1 hour |                                                                                                                                                                                                                                                            |
| 2.3.5 | Withstand H2S     | (1) Density : $3 \pm 1\text{ppm}$<br>(2) Temperature : $40 \pm 2^{\circ}\text{C}$<br>(3) Relative humidity: 90 ~ 95%<br>(4) Duration of test : 12h<br>(5) Standard conditions after test : 1h   |                                                                                                                                                                                                                                                            |
| 2.3.6 | Salt mist         | At 5% Nacl liquor for 8 hours depend on $35^{\circ}\text{C}$ ,<br>After washing, Keep in normal condition.                                                                                      | No remarkable corrosion shall be recognized in metal part.                                                                                                                                                                                                 |

|      |            |      |       |        | APPROVAL     | CHECK        | DESIGN       | TITLE   | Tact Switch       |     |
|------|------------|------|-------|--------|--------------|--------------|--------------|---------|-------------------|-----|
| 01   | 2019/04/09 |      |       |        | <i>Honda</i> | <i>Eason</i> | <i>Eason</i> | DRAWING | TS-A07GS-3-W-S085 | 3/4 |
| MARK | DATE       | APPR | CHECK | DESIGN |              |              |              | NO      |                   |     |



## 2.4 Durability characteristics

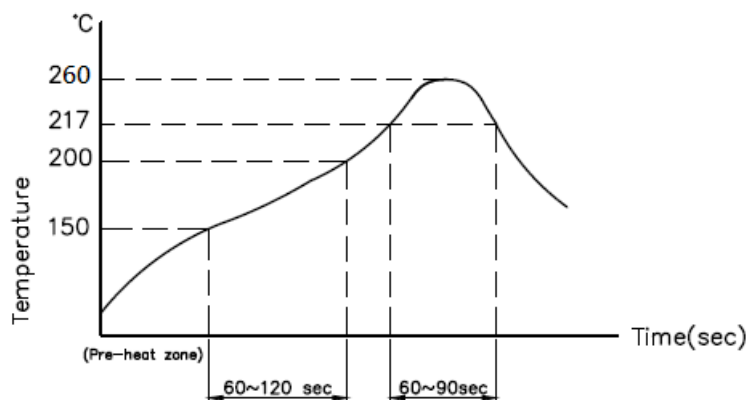
| No    | Items          | Test Conditions                                                                                                                                                                                                        | Performance                                                                                                                                                                                                                                                       |
|-------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2.4.1 | Endurance Test | <p>(1) Operation speed : 1 time/s<br/>(2) Push force : Maximum value of operation force<br/>(3) Operation number : 30,000 Cycles</p>  | <p>Contact resistance : 200mΩ Max.<br/>Insulation resistance : 100MΩ Min.<br/>Withstand voltage : No destruction.<br/>Variations rate of operation force shall be within <math>\pm 30\%</math> to the value before testing.<br/>No. 2.2.2 shall be satisfied.</p> |



## 3. SOLDERING

### 3.1 Reflow soldering conditions

| ITEM                  | CONDITION                                                           |
|-----------------------|---------------------------------------------------------------------|
| Preheat temperature   | 150°C Max (Environmental temperature of soldering surface of P.C.B) |
| Preheat time          | 60 sec Max.                                                         |
| Temperature of solder | 260°C Max.                                                          |
| Time of immersion     | Within 5 sec                                                        |



|      |            |      |       |        |          |       |        |         |                   |     |
|------|------------|------|-------|--------|----------|-------|--------|---------|-------------------|-----|
|      |            |      |       |        | APPROVAL | CHECK | DESIGN | TITLE   | Tact Switch       |     |
| 01   | 2019/04/09 |      |       |        | Honda    | Eason | Eason  | DRAWING | TS-A07GS-3-W-S085 | 4/4 |
| MARK | DATE       | APPR | CHECK | DESIGN |          |       |        | NO      |                   |     |



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| △    |     |             |      |       |
| ZONE | REV | DESCRIPTION | DATE | APPD. |

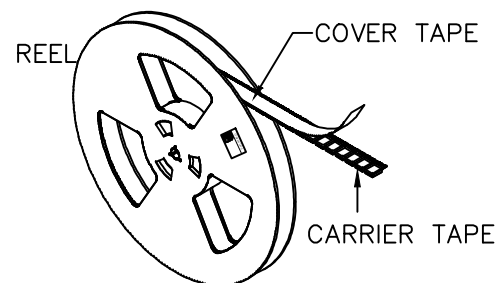


**RoHS**  
**Compatible**



# STRUCTURE AND MATERIALS :

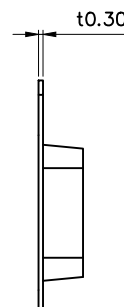
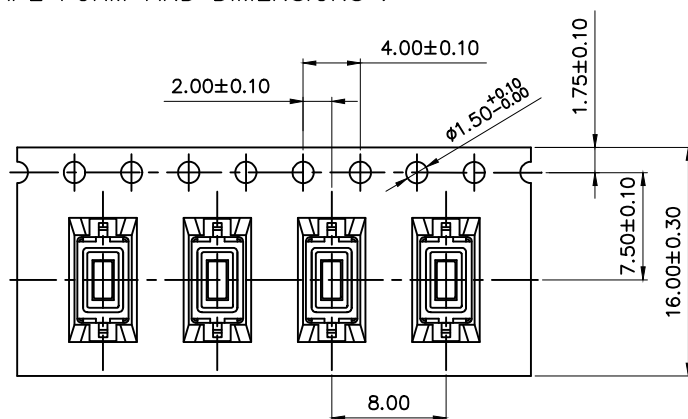
| ITEM         | DESCRIPTION |
|--------------|-------------|
| COVER TAPE   | Polyester   |
| CARRIER TAPE | Polystyrene |
| REEL         | Polystyrene |



# PACKING QUANTITY:

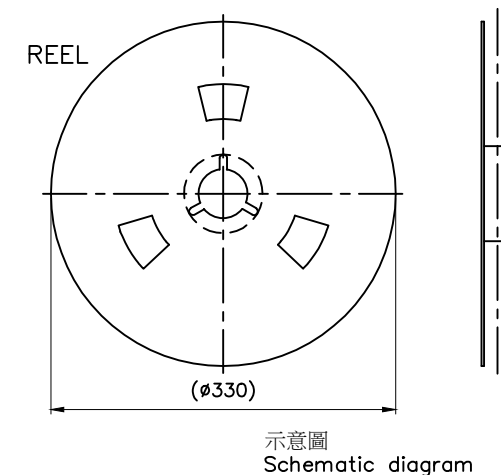
1. Part conforms to EIA-481 standards.
2. Component packing : 3,000 PCS/Reel

# TAPE FORM AND DIMENSIONS :



PULLING-OUT DIRECTION →

# REEL FORM AND DIMENSIONS :



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|          |       |         |             |
|----------|-------|---------|-------------|
| DESIGN   | Eason | SCALE   |             |
| DRAWING  | Eason | UNIT    | mm          |
| CHECK    | Eason | SIZE    | A4: 210*297 |
| APPROVAL | Honda | VERSION | 01          |

| TOLERANCE UNLESS OTHERWISE STATED(mm) |       |
|---------------------------------------|-------|
| less than 30                          | ±0.20 |
| 30~50                                 | ±0.30 |
| 50~100                                | ±0.50 |
| ANGIE                                 | ±2°   |

| PART NAME  | PACKING SPEC      |
|------------|-------------------|
| PART NO    |                   |
| DRAWING NO | TS-A07GS-3-W-S085 |
| DATE       | 2019/04/09        |