

# DATA SHEET

**SUNGMUN CODE :** TDR-08H  
**DESCRIPTION :** ROTARY DIP SWITCH

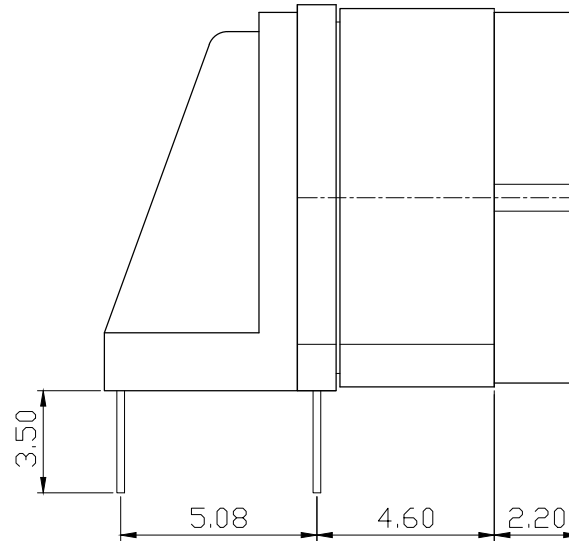
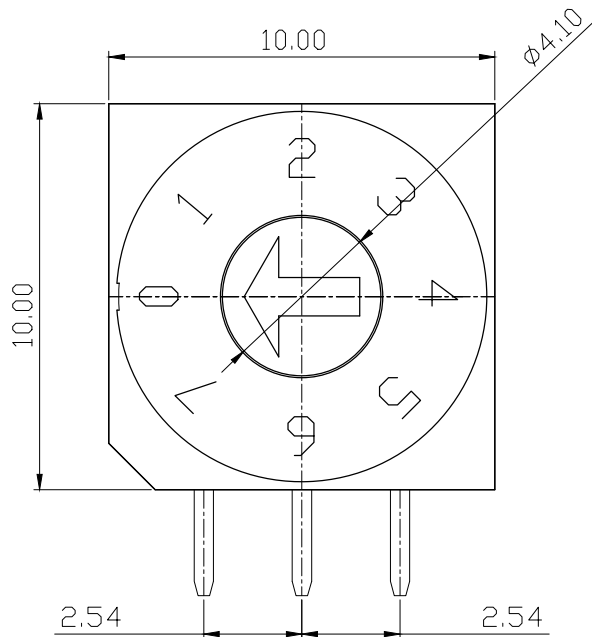
## **SUNGMUN ELECTRONICS CO., LTD.**

Address 301-302, Bucheon Technopark 345, Seokcheon-ro, Ojeong-gu  
Bucheon-si, Gyeonggi-do, Korea  
TEL. +82-32-328-1941~4  
FAX +82-32-328-1945  
E-mail [sungmun@sungmun.co.kr](mailto:sungmun@sungmun.co.kr)  
Website [www.sungmun.com](http://www.sungmun.com)



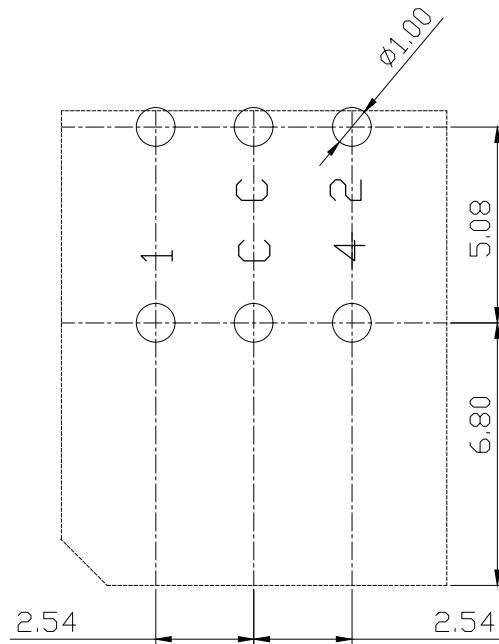
**SUNGMUN**  
ELECTRONICS

| MARK | DATE | REMARKS |
|------|------|---------|
| △    |      |         |
| △    |      |         |



### SPECIFICATION

- Rating : 150mA, 24V DC (Switching)  
200mA, 24V DC (None-Switching)
- Contact Resistance : 80mΩ Max
- Insulation Resistance : 100MΩ Min
- Operating Force : 700gf Max
- Life cycle : 10,000 steps



P.C.B DIMENSION

|   |   | Real Coded |   |   |   |   |
|---|---|------------|---|---|---|---|
|   |   | C          | 1 | 2 | 4 | 8 |
| 8<br>P<br>o<br>s<br>i<br>t<br>i<br>o<br>n | 0 | ●          |   |   |   |   |
|   | 1 | ●          | ● |   |   |   |
|   | 2 | ●          |   | ● |   |   |
|   | 3 | ●          | ● | ● |   |   |
|   | 4 | ●          |   |   | ● |   |
|   | 5 | ●          | ● |   | ● |   |
|   | 6 | ●          |   | ● | ● |   |
|   | 7 | ●          | ● | ● | ● |   |

| APPD                          | CHKD    | D'SGD   | TITLE.    | ROTARY DIP SWITCH |       |
|-------------------------------|---------|---------|-----------|-------------------|-------|
| K.L LEE                       | J.P ROH | J.S SIN | MODEL NO. | TDR-08H           | REV A |
| SUNGMUN ELECTRONICS CO., LTD. |         |         |           |                   |       |

**1. Description:**

This specification describes "10X10 size of Rotary Dip Switches" which are S, T, F and Q series.

1-1 Operating / Storage Temperature Range : -40°C ~ +85°C

**2. Rating:**

2-1 None-Switching : 200 mA, DC 24V

2-2 Switching : 150 mA, DC 24V

3. Type of Actuation : Rotating

**4. Electrical Characteristics**

| ITEM | DESCRIPTION                     | TEST CONDITIONS  | REQUIREMENTS   |
|------|---------------------------------|--|--|
| 4-1  | Visual Examination              | By visual examination check without any out pressure & testing.  | There shall be no defects that affect the serviceability of the product. |
| 4-2  | Contact Resistance              | ① To be measured between the two terminals associated with each switch pole.<br>② Measurements shall be made with a 1kHz shall current contact resistance meter. | 80mΩ max.  |
| 4-3  | Insulation Resistance           | 250V DC, 1minute ±5seconds   | 100 MΩ min.  |
| 4-4  | Dielectric withstanding Voltage | 250V AC(50Hz or 60Hz)shall be applied between all the adjacent terminal and between the terminal and the frame for 1 minute.                                     | There shall be no breakdown or flashover.                                |

## 5. Mechanical Characteristics

| ITEM | DESCRIPTION     | TEST CONDITIONS  | REQUIREMENTS  |
|------|-----------------|--|---|
| 5-1  | Operation Force | Operating direction shall be clockwise or counter clockwise direction  | 700gf·cm max  |
| 5-2  | Operation Life  | Measurements shall be made following the test set forth below:<br>1)150mA, 24V DC resistive load<br>2)Rate of operation: 15~20 cycles/ minute<br>3)Step of operation: 10,000 steps | 1)As shown in item 4-3, 4-4<br>2)Contact Resistance:<br>200mΩ max |

## 6. Environmental Characteristics

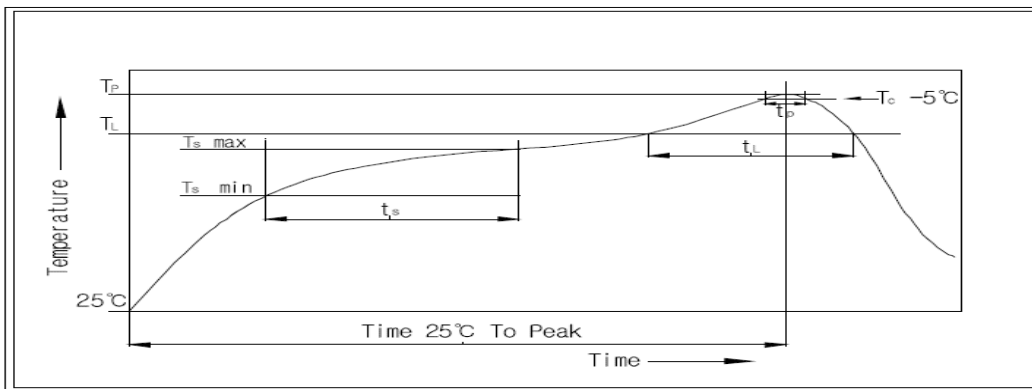
| ITEM | DESCRIPTION                 | TEST CONDITIONS  | REQUIREMENTS   |
|------|-----------------------------|--|--|
| 6-1  | Resistance Low Temperature  | Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made:<br>1)Temperature: -40°C ±3°C<br>2)Time: 96 hours                               | 1)As shown in item 4-3, 4-4, 5-1<br>2)Contact Resistance:<br>200mΩ max                                     |
| 6-2  | Resistance High Temperature | Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made:<br>1)Temperature: 85°C ±2°C<br>2)Time: 96 hours                                | 1)As shown in item 4-3, 4-4, 5-1<br>2)Contact Resistance:<br>200mΩ max                                     |
| 6-3  | Resistance Humidity         | Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made:<br>1)Temperature: 40°C ±2°C<br>2)Relative humidity: 90~95%<br>3)Time: 96 hours | 1)As shown in item 4-4, 5-1<br>2)Contact Resistance:<br>200mΩ max<br>3)Insulation Resistance:<br>10 MΩ min |

7. This item is "RoHS" Compliant

8. Manual Soldering : Max 350°C, 3 sec.

9. Wave Soldering : Max 280°C, 5 sec.

10. Reflow Soldering Conditions: (SMD type only)



### 10-1 Condition for Soldering

| Profile Feature                                | Pb-Free Assembly |
|--|------------------|
| Average Ramp-UP Rate(Ts max to TP)             | 3°C/second max   |
| Preheat  |                  |
| - Temperature Min(Ts min)                      | 150°C            |
| - Temperature Max(Ts max)                      | 200°C            |
| - Time (ts min to ts max)                      | 60-180seconds    |
| Time maintained above:                         |                  |
| - Temperature (TL)                             | 217°C            |
| - Time (tL)                                    | 60-150seconds    |
| Peak/Classification Temperature(TP)            | 260°C +0°C/ -5°C |
| Time within 5°C of actual Peak Temperature(TP) | 5~10 seconds     |
| Ramp-Down Rate                                 | 6°C/sec max      |
| Time 25°C to Peak Temperature                  | 8 minutes max    |