

# DATA SHEET

**SUNGMUN CODE :** HAMR-10S  
**DESCRIPTION :** ROTARY DIP SWITCH

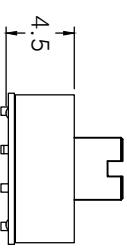
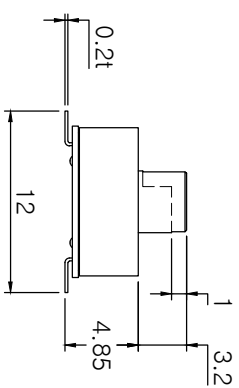
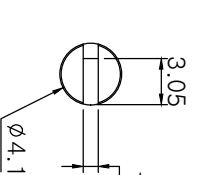
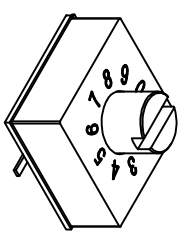
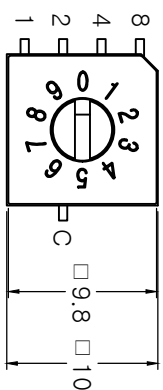
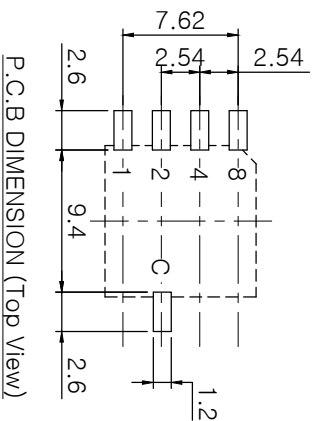
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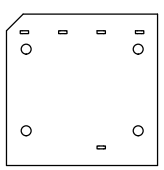
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|------|------|----------|------|
| MRK. | DATE | REVISION | SIGN |
|------|------|----------|------|

## SPECIFICATION

1. Rating : 25mA, DC 12V (Switching)  
25mA, DC 24V (None-Switching)
2. Contact Resistance : 100mΩ Max
3. Insulation Resistance : 100MΩ Min at DC 250V
4. Operating Force : 700gf Max
5. Life cycle : 10,000 steps
6. Sealing : IP67 (Dust & Water proof)
7. Packing : 50pcs Tube



| Real Code |         |
|-----------|---------|
| C         | 1 2 4 8 |
| 0         | ●       |
| 1         | ●       |
| 2         | ●       |
| 3         | ●       |
| 4         | ●       |
| 5         | ●       |
| 6         | ●       |
| 7         | ●       |
| 8         | ●       |
| 9         | ●       |



|               |            |            |       |             |                   |
|---------------|------------|------------|-------|-------------|-------------------|
| DRAW/DESIGNED | CHECKED    | APPROVED   |       | G.TOL       | TITLE             |
| J.S YANG      | W.J LEE    | K.I LEE    |       | ±0.3        | ROTARY DIP SWITCH |
| 2022-01-06    | 2022-01-06 | 2022-01-06 | UNIT  | MODEL NO.   | REV.              |
|               |            |            | mm    | HAMR-10S    | 03                |
|               |            |            | SCALE | DRAW NO.    |                   |
|               |            |            | 2:1   | HAMR-10S-03 |                   |
|               |            |            | SIZE  |             |                   |
|               |            |            | A4    |             |                   |



### 1. Description:

This specification describes "10X10 slim size of Rotary Dip Switches" which is U&H series.

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

### 2. Rating:

2-1 None-Switching : 25 mA, DC 24V

2-2 Switching : 25 mA, DC 12V

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. | 100mΩ 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.                                |



# "U/H" SERIES ROTARY DIP SWITCH SPECIFICATION (10X10)

## 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 260°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    |