

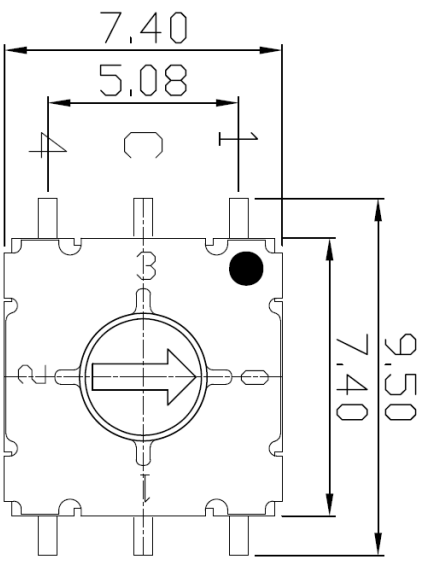
## - 规格书 -

产品型号: SKAR-04S

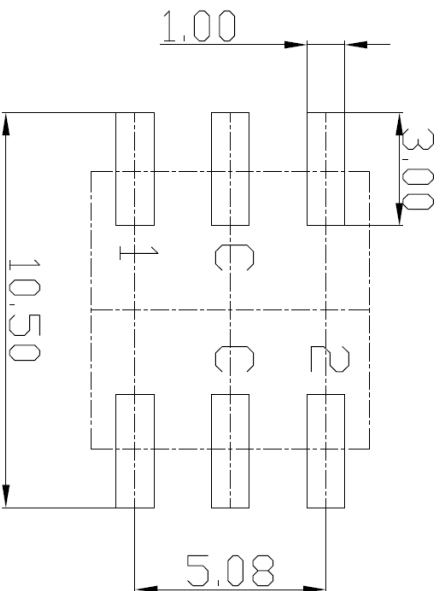
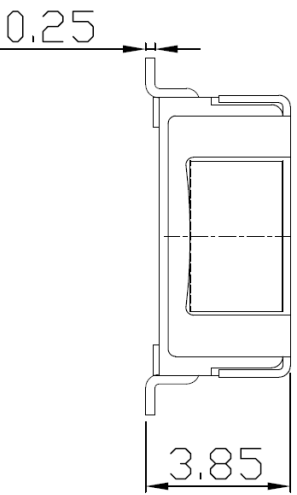
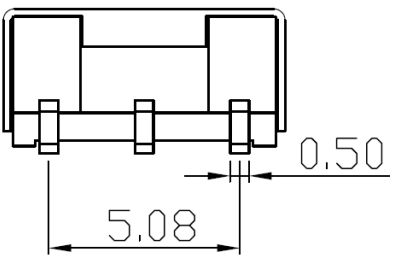
产品名称: 旋转编码开关

# SM SWITCH CO.,LTD

Add : 江苏省无锡市新吴区弘毅路8号金帛座706室  
          韩国京畿道富川市三鹊路22号富川科技园103-506栋  
TEL : +86-510-8591-9217  
H.P : 138-6177-3466  
E-mail : SMSWITCH@SIMAOKJ.COM  
Web : WWW.SIMAOKJ.CN



2 C 8



| Real Coded |       |
|------------|-------|
|            | C 1 2 |
| 0          | ●     |
| 1          | ●     |
| 2          | ●     |
| 3          | ●     |

|                     |               |                   |       |       |        |         |
|---------------------|---------------|-------------------|-------|-------|--------|---------|
| NO.                 | DESCRIPTION   | Q'TY              | MAT'L | SPEC' | FINISH | REMARKS |
| 3ANG                | UNIT M/M      | SCL.              |       |       |        |         |
| APPL. YD WANG       | CHKD. J.S KIM | D SCD H.S LEE     |       |       |        |         |
| TITLE               |               | SKAR-04S          |       |       |        |         |
| MODEL NAME          |               | ROTARY DIP SWITCH |       |       |        |         |
| DRAWG. NO.          |               | Sheet 1 / 2       |       |       |        |         |
| REV                 |               | 7                 |       |       |        |         |
| SM SWITCH CO., LTD. |               |                   |       |       |        |         |

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



# MINI ROTARY DIP SWITCH SPECIFICATION

Rev. 7  
P:1/4

**1. Style:**

This specification describes "Rotary Switch" mainly used as signal switch of electric devices with the general requirements of mechanical and electrical characteristics.

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

**2. Current Range:**

2.1 None-Switching : 400 mA, 42V

2.2 Switching : 150 mA, 42V

3. Type of Actuation : Rotating

4. Test Sequence :

| ELECTRICAL PERFORMANCE | ITEM            | DESCRIPTION  | TEST CONDITIONS  | REQUIREMENTS  |
|------------------------|-----------------|--|--|---|
|                        | 1               | Visual Examination   | By visual examination check without any out pressure & testing.  | There shall be no defects that affect the serviceability of the product |
|                        | 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.(initial)  |
|                        | 3               | Insulation Resistance  | 250V DC, 1minute ±5seconds   | 100MΩ min   |
|                        | 4               | Dielectric withstanding Volotage   | 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                      | Operation Force | Applied in the direction of operation<br> | 120gf ±30gf  |   |



# MINI ROTARY DIP SWITCH SPECIFICATION

Rev. 7  
P: 2/4

|   |    |                                   |   |   |
|---|----|-----------------------------------|---|---|
| <b>M<br/>A<br/>C<br/>H<br/>I<br/>N<br/><br/>P<br/>E<br/>R<br/>F<br/>O<br/>R<br/>M<br/>A<br/>N<br/>C<br/>E</b> | 6  | Operation<br>Life                 | <p>Measurements shall be made following the test set forth below:</p> <p>1)100mA, 42V DC resistive load<br/>2)Rate of operation: 15~20 cycles/ minute<br/>3)Step of operation: 25,000 steps</p>   | <p>1)As shown in item 3,4<br/>2)Contact Resistance:<br/>200mΩ max<br/>3)Final-after test</p>                  |
|   | 7  | Resistance<br>Low<br>Temperature  | <p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made:</p> <p>1)Temperature: -60℃ ±3℃<br/>2)Time: 96 hours</p>                                | As shown in item 2~5  |
|   | 8  | Resistance<br>High<br>Temperature | <p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made:</p> <p>1)Temperature: 125℃ ±2℃<br/>2)Time: 96 hours</p>                                | <p>1)As shown in item 3~5<br/>2)Contact Resistance:<br/>200mΩ max</p>   |
|   | 9  | Resistance<br>Humidity            | <p>Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made:</p> <p>1)Temperature: 40℃ ±2℃<br/>2)Relative humidity: 90~95%<br/>3)Time: 96 hours</p> | <p>1)As shown in item 4<br/>2)Contact Resistance:<br/>200mΩ max<br/>3)Insulation Resistance:<br/>10MΩ min</p> |
|   | 10 | Solder<br>Condition               | <p>1. Iron Soldering 3s / 350℃<br/>2. Wave Soldering 5s / 280℃<br/>3. Reflow Soldering 10s / 260℃</p>   |   |



# MINI ROTARY DIP SWITCH SPECIFICATION

Rev. 7  
P: 3/4

## 5. Reflow Soldering Conditions:



### 1) Classification Reflow Profiles

| Profile Feature   | Pb-Free Assembly                |
|---|---------------------------------|
| Average Ramp-UP Rate( $T_s \text{ max}$ to $T_P$ )  | 3°C/second max                  |
| <b>Preheat</b><br>- Temperature Min( $T_s \text{ min}$ )<br>- Temperature Max( $T_s \text{ max}$ )<br>- Time ( $t_s \text{ min}$ to $t_s \text{ max}$ ) | 150°C<br>200°C<br>60-180seconds |
| Time maintained above:<br>- Temperature ( $T_L$ )<br>- Time ( $t_L$ )   | 217°C<br>60-150seconds          |
| Peak/Classification Temperature( $T_P$ )  | 260°C +0°C/ -5°C                |
| Time within 5°C of actual Peak Temperature( $T_P$ )   | min 30 seconds                  |
| <b>Ramp-Down Rate</b>   | 6°C/sec max                     |
| <b>Time 25°C to Peak Temperature</b>  | <b>8 minutes max</b>            |

6. This item is "ROHS" Compliant



# MINI ROTARY DIP SWITCH SPECIFICATION

Rev. 7  
P: 4/4

## 7. Part List

| NO | Part Name    | Q'ty | Materials       | Treatment     | Remark                                    |
|----|--------------|------|-----------------|---------------|---|
| 1  | Cover        | 1    | Stainless Steel |               | Laser                                     |
| 2  | Spring Plate | 1    | Stainless Steel |               |   |
| 3  | Guide Plate  | 1    | Stainless Steel |               |   |
| 4  | Contact      | 1    | Phosphor Bronze | Plating: Gold | Au 0.03 $\mu$ m Min<br>Ni 0.1 $\mu$ m Min |
| 5  | Terminal     | 1    | Phosphor Bronze | Plating: Gold | Au 0.03 $\mu$ m Min<br>Ni 0.3 $\mu$ m Min |
| 6  | Rotor        | 1    | LCP             |               |   |
| 7  | Base         | 1    | LCP             |               |   |
| 8  | O-Ring       | 1    | Silicone        |               |   |