

## - 规格书 -

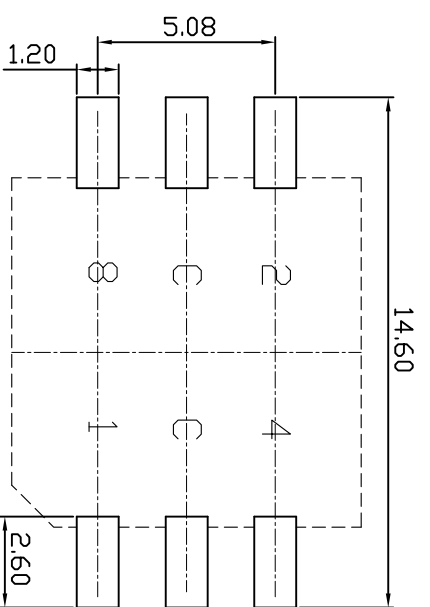
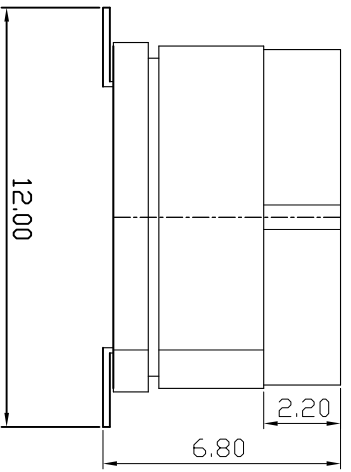
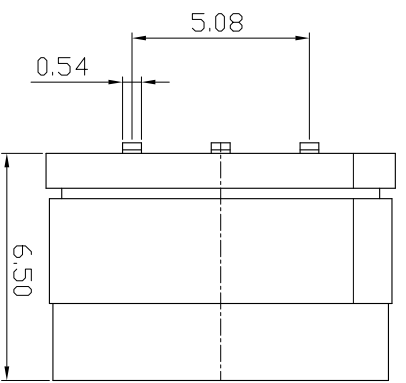
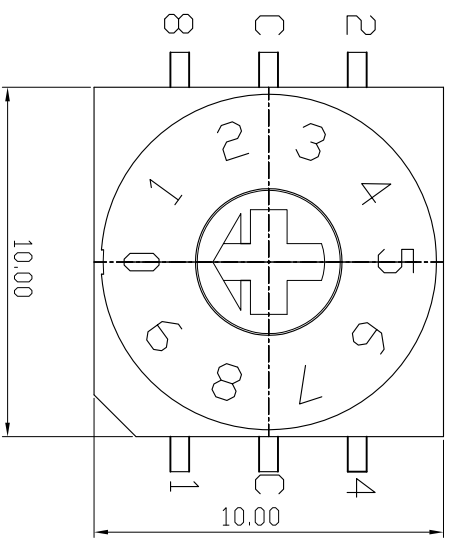
产品型号: MDR-10S

产品名称: 旋转编码开关

# SM SWITCH CO.,LTD

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WORK	DATE	REMARKS
△		
△		



P.C.B DIMENSION

Position		Real Code							
		C	1	2	4	8			
0		●	●	●	●	●			
1		●	●	●	●	●			
2		●	●	●	●	●			
3		●	●	●	●	●			
4		●	●	●	●	●			
5		●	●	●	●	●			
6		●	●	●	●	●			
7		●	●	●	●	●			
8		●	●	●	●	●			
9		●	●	●	●	●			
A		●	●	●	●	●			
B		●	●	●	●	●			
C		●	●	●	●	●			
D		●	●	●	●	●			
E		●	●	●	●	●			
F		●	●	●	●	●			

APPD	CHKD	D'SGD	TITLE
YD WANG	J.S. KIM	H.S. LEE	ROTARY DIP SWITCH
MODEL NO.			MDR-10S
SM SWITCH CO., LTD.			REV. A



# ROTARY DIP SWITCH SPECIFICATION

Rev. B  
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**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 : 200 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 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 	700gf/cm. max	



# ROTARY DIP SWITCH SPECIFICATION

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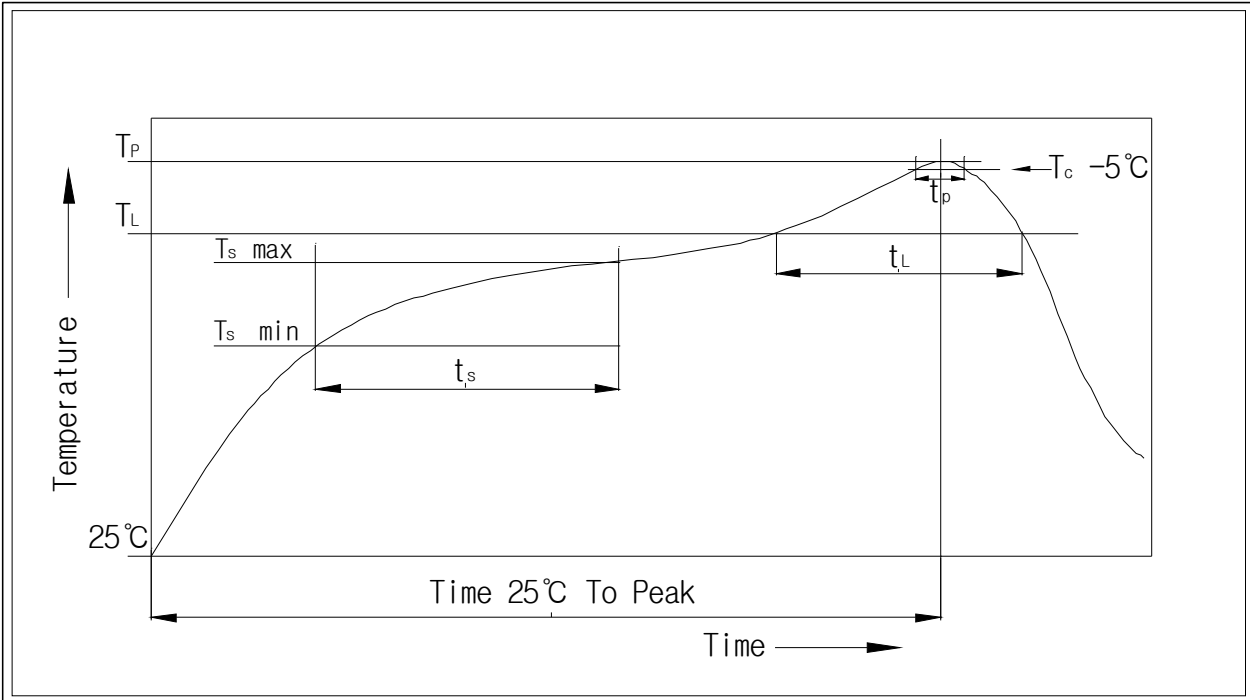
<b>M A C H I N  P E R F O R M A N C E</b>	<b>6</b>	<b>Operation Life</b>	<p>Measurements shall be made following the test set forth below:</p> <p>1)150mA, 42V DC resistive load 2)Rate of operation: 15~20 cycles/ minute 3)Step of operation: 10,000 steps</p>	<p>1)As shown in item 3,4 2)Contact Resistance: 200mΩ max 3)Final-after test</p>
	<b>7</b>	<b>Resistance Low Temperature</b>	<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℃ 2)Time: 96 hours</p>	<p>1)As shown in item 3~5 2)Contact Resistance: 200mΩ max</p>
	<b>8</b>	<b>Resistance High Temperature</b>	<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℃ 2)Time: 96 hours</p>	<p>1)As shown in item 3~5 2)Contact Resistance: 200mΩ max</p>
	<b>9</b>	<b>Resistance Humidity</b>	<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℃ 2)Relative humidity: 90~95% 3)Time: 96 hours</p>	<p>1)As shown in item 4 2)Contact Resistance: 200mΩ max 3)Insulation Resistance: 10MΩ min</p>



# ROTARY DIP SWITCH SPECIFICATION

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## 6. Reflow Soldering Conditions:



### 1) Classification Reflow Profiles

Profile Feature	Pb-Free Assembly
Average Ramp-UP Rate( $T_s$ max to $T_P$ )	3°C/second max
<b>Preheat</b> - Temperature Min( $T_s$ min) - Temperature Max( $T_s$ max) - Time ( $t_s$ min to $t_s$ max)	150°C 200°C 60-180seconds
Time maintained above: - Temperature ( $T_L$ ) - Time ( $t_L$ )	217°C 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>	<b>6°C/sec max</b>
<b>Time 25°C to Peak Temperature</b>	<b>8 minutes max</b>

7. This item is "ROHS" Compliant



# ROTARY DIP SWITCH SPECIFICATION

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## 8. Part List

NO	PART NAME	Q'TY	MATERIALS	TREATMENT	REMARK
1	COVER	1	LCP		Print
2	BASE	1			
3	ACTUATOR	1	PA66, STS		
4	CONTACT & TERMINAL	1	PHOSPHOR BRONZE	CONTACT AND TERMINAL PLATING: GOLD PLATING OVER NICKEL	Au 0.03 $\mu$ m Min Ni 0.1 $\mu$ m Min
5	PCB	1	EPOXY	PLATING: GOLD PLATING	Au 0.05 $\mu$ m Min
6	O-Ring	1	SILICONE		