

# DATA SHEET

**SUNGMUN CODE :** MADR-10S (LG)

**DESCRIPTION :** ROTARY DIP SWITCH

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

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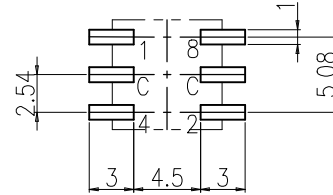


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ELECTRONICS

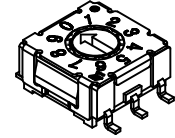
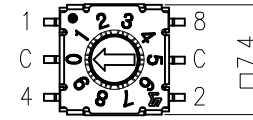
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## SPECIFICATION

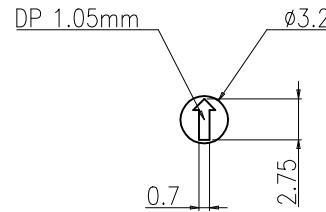
- Rating : 100mA, DC 42V (Switching)  
400mA, DC 42V (None-Switching)
- Contact Resistance : 80mΩ Max
- Insulation Resistance : 100MΩ Min
- Operating Force : 250gf·cm Max
- Life cycle : 25,000 steps
- Sealing : IP67 (Dust & Water proof)
- Packing : 70pcs Tube / 1,300pcs Reel Packing



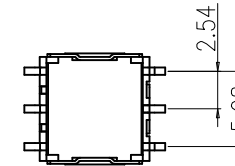
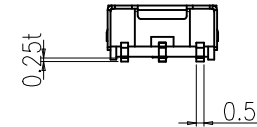
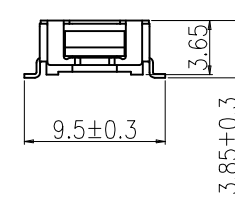
P.C.B DIMENSION (Top View)



		Real Coded					
		C	1	2	4	8	
10 P o s i t i o n	0	●					0
	1	●	●				1
	2	●		●			2
	3	●	●	●			3
	4	●			●		4
	5	●	●		●		5
	6	●		●	●		6
	7	●	●	●	●		7
	8	●				●	8
	9	●	●			●	9



ACTUATOR



Din ISO-2768-1m						DRAW/DESIGNED	CHECKED	APPROVED	UNIT	G.TOL	TITLE	MODEL NO.	DRAW NO.	REV.
Ranges	0.5~3	3~6	6~30	30~120	120~400	H.S LEE	K.N KIM	W.J LEE		SCALE	MINI ROTARY DIP SWITCH			
Tolerance	±0.1	±0.1	±0.2	±0.3	±0.5	2024-03-11	2024-03-11	2024-03-11	mm	N:S	MADR-10S (LG)			
						SUNGMUN ELECTRONICS CO.,LTD			A4	SIZE	MADR-10S(LG)-01		01	

## 1. Style:

This specification describes "7.4X7.4 size of Mini Rotary Dip Switch" which is M series.

1.1 Operating / Storage Temperature Range : -60°C ~ +125°C

## 2. Rating:

2.1 None-Switching : 400 mA, DC 42V

2.2 Switching : 100 mA, DC 42V

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. ② Measurements shall be made with a 1kHz shall current contact resistance meter.	80mΩ max. (initial)
4-3	Insulation Resistance	250V DC	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	250gf·cm max
5-2	Operation Life	Measurements shall be made following the test set forth below: 1)Rate of operation: 15~20 cycles/ minute 2)Step of operation: 25,000 steps	1)As shown in item 4-3,4-4 2)Contact Resistance: 200mΩ max 3)Final-after test

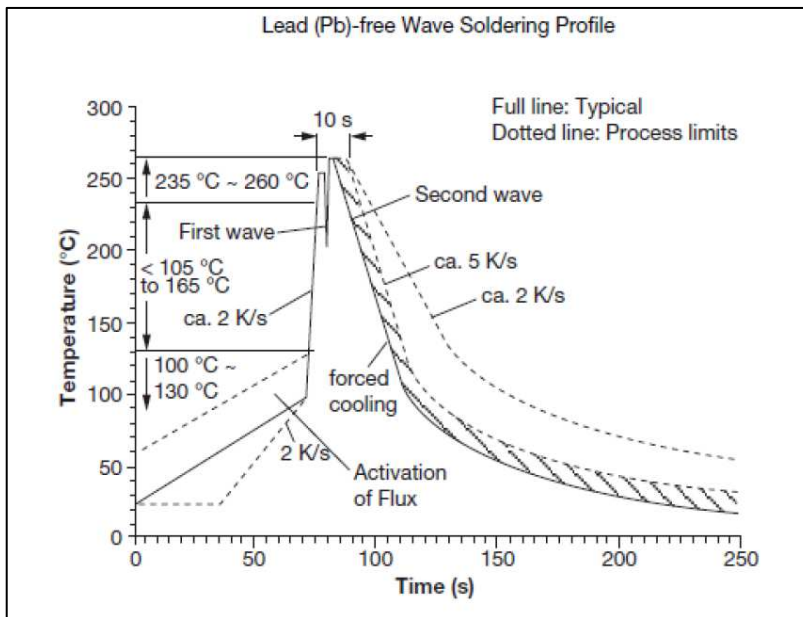
**6. Environmental Characteristics**

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: 1)Temperature: -60°C ±3°C 2)Time: 96 hours	1)As shown in item 4-3, 4-4, 5-1 2)Contact Resistance: 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: 1)Temperature: 125°C ±2°C 2)Time: 96 hours	1)As shown in item 4-3, 4-4, 5-1 2)Contact Resistance: 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: 1)Temperature: 40°C ±2°C 2)Relative humidity: 90~95% 3)Time: 96 hours	1)As shown in item 4-4, 5-1 2)Contact Resistance: 200mΩ max 3)Insulation Resistance: 10 MΩ min

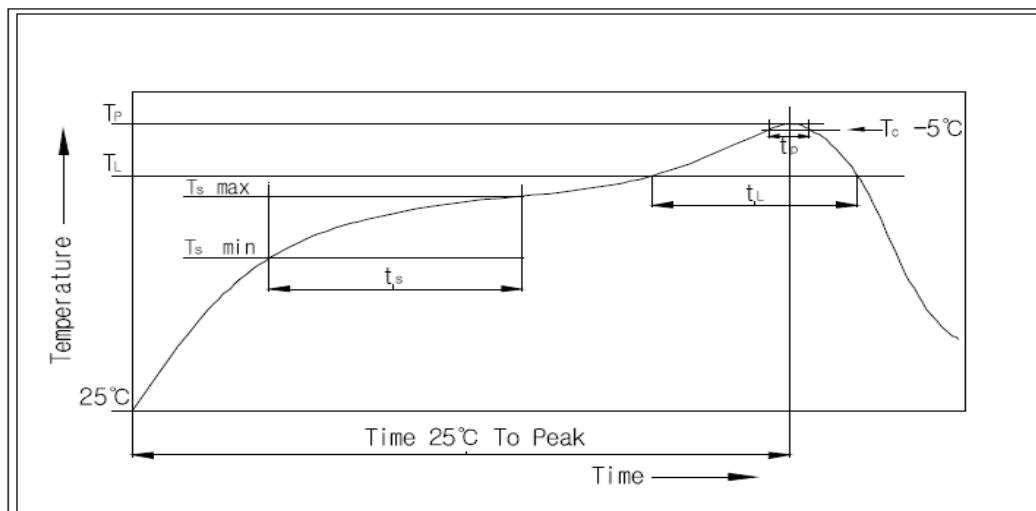
**7. This item is "RoHS" Compliant**

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

**9. Wave Soldering Conditions:**



**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) - Temperature Max(Ts max) - Time (ts min to ts max)	150°C 200°C 60-180seconds
Time maintained above: - Temperature (TL) - Time (tL)	217°C 60-150seconds
Peak/Classification Temperature(TP)	260°C +0°C/ -5°C
Time within 5°C of actual Peak Temperature(TP)	Min 30 seconds
Ramp-Down Rate	6°C/sec max
Time 25°C to Peak Temperature	8 minutes max