

DATA SHEET

SUNGMUN CODE : MADR-16H (LG)

DESCRIPTION : ROTARY DIP SWITCH

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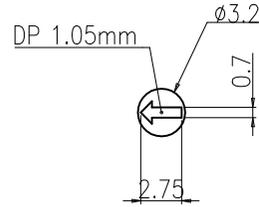
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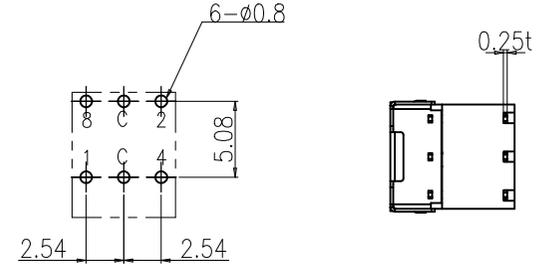
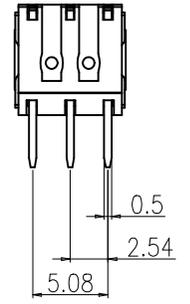
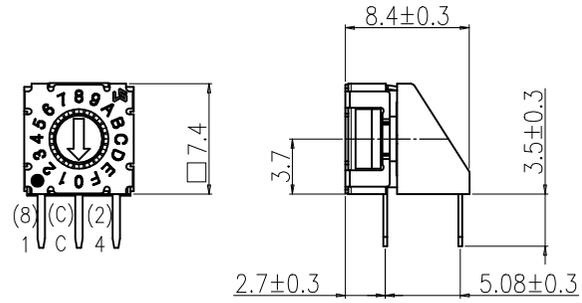
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SPECIFICATION

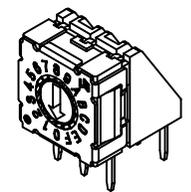
1. Rating : 100mA, DC 42V (Switching)
400mA, DC 42V (None-Switching)
2. Contact Resistance : 80mΩ Max
3. Insulation Resistance : 100MΩ Min
4. Operating Force : 250gf·cm Max
5. Life cycle : 25,000 steps
6. Sealing : IP67 (Dust & Water proof)
7. Packing : 65pcs Tube



ACTUATOR



P.C.B DIMENSION (Top View)



		Real Coded					
		C	1	2	4	8	
16 Positions	0	●					0
	1	●	●				1
	2	●		●			2
	3	●	●	●			3
	4	●			●		4
	5	●	●		●		5
	6	●		●	●		6
	7	●	●	●	●		7
	8	●				●	8
	9	●	●			●	9
	10	●		●		●	A
	11	●	●	●		●	B
	12	●			●	●	C
	13	●	●		●	●	D
	14	●		●	●	●	E
	15	●	●	●	●	●	F

Din ISO-2768-1m					
Ranges	0.5~3	3~6	6~30	30~120	120~400
Tolerance	±0.1	±0.1	±0.2	±0.3	±0.5

DRAW/DESIGNED	CHECKED	APPROVED		G.TOL	TITLE	MINI ROTARY DIP SWITCH	
H.S LEE	K.N KIM	W.J LEE		--			
			UNIT	SCALE	MODEL NO.	MADR-16H (LG)	REV.
			mm	N:S			
				SIZE	DRAW NO.	MADR-16H(LG)-01	01
				A4			



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

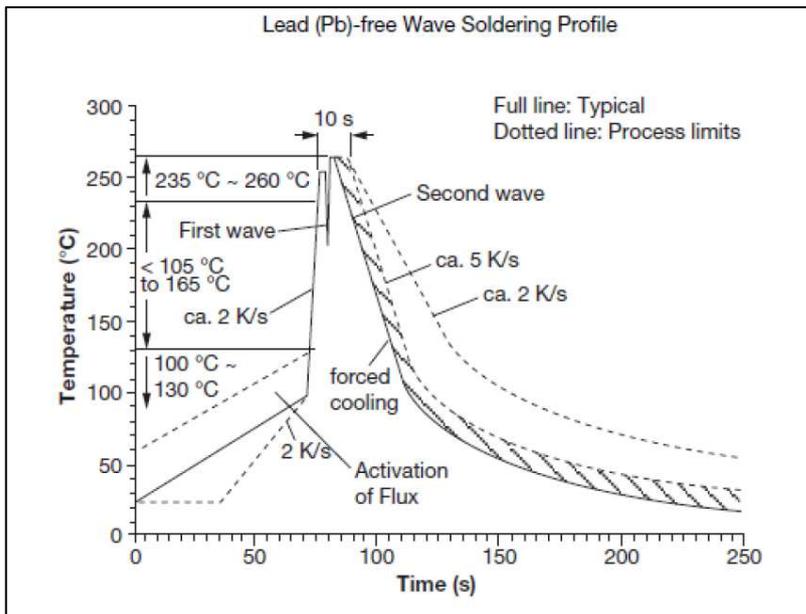
6. Environmental Characteristics

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

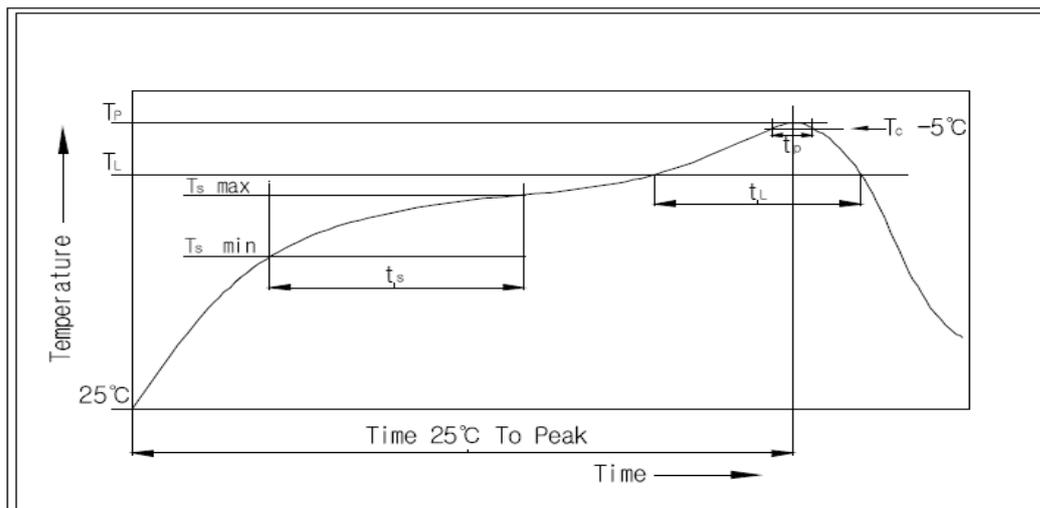
7. This item is "RoHS" Compliant

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)	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)	Min 30 seconds
Ramp-Down Rate	6°C/sec max
Time 25°C to Peak Temperature	8 minutes max