

DATA SHEET

SUNGMUN CODE : MADR-10H
DESCRIPTION : MINI ROTARY DIP SWITCH

SUNGMUN ELECTRONICS CO., LTD.

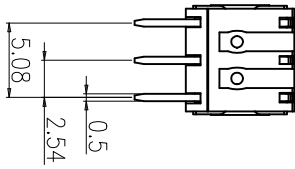
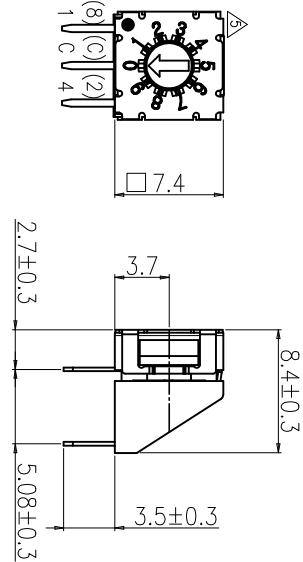
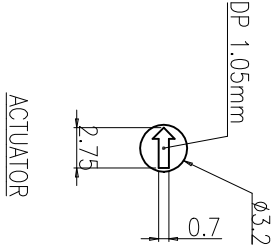
Address 301-302,Bucheon Technopark 345, Seokcheon-ro, Ojeong-gu
Bucheon-si, Gyeonggi-do, Korea
TEL. +82-32-328-1941~4
FAX +82-32-328-1945
E-mail sungmun@sungmun.co.kr
Website www.sungmun.com



REV. NO.	DATE	REVISION		DR	CH	APP
	23.10.13	DIN ISO-2768-1m tolerance applied		H.S LEE	K.N KIM	W.J LEE
	26.01.13	Cover Upgrade Changing Operating Force 120 ± 30gf cm -> 250gf cm Max		M.W SHIN	K.N KIM	W.J LEE

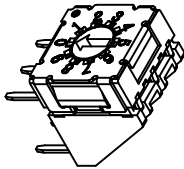
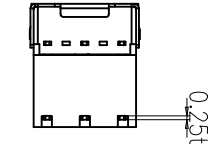
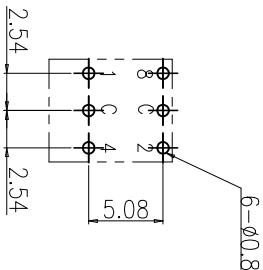
SPECIFICATION

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



Real Coded					
C	1	2	4	8	
0	●				0
1	●	●			1
2	●		●		2
3	●	●	●		3
4	●			●	4
5	●	●		●	5
6	●		●	●	6
7	●	●	●		7
8	●			●	8
9	●	●		●	9

P.C.B DIMENSION (Top View)



DRAW/DESIGNED	CHECKED	APPROVED		G.TOL	TITLE	
J.S YANG	W.J LEE	K.I LEE		± 0.3 	MINI ROTARY DIP SWITCH	
2021-10-20	2021-10-20	2021-10-20	UNIT	SCALE	MODEL	REV.
			mm	N:S	NO.	
				SIZE	DRAW	
				A4	NO.	
					MADR-10H-05	05



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

SUNG MUN ELECTRONICS CO.,LTD

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

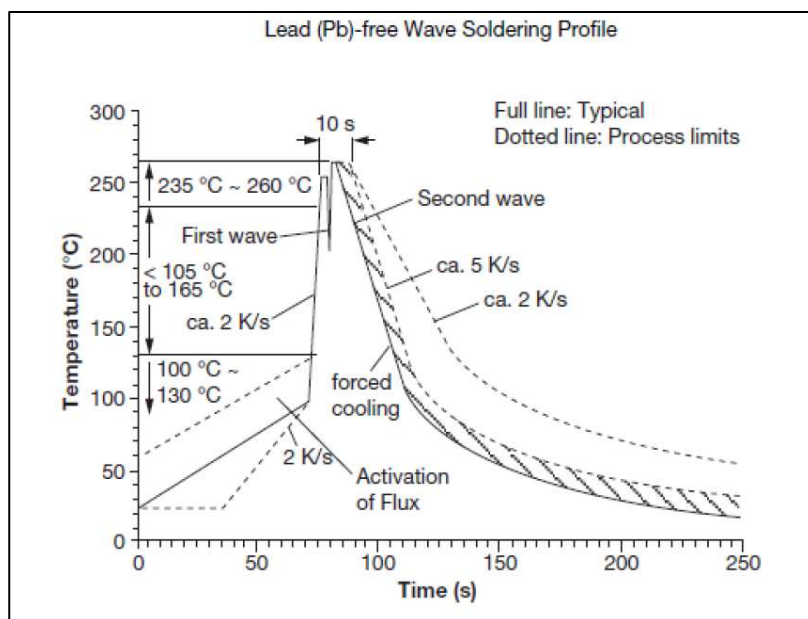
6. Environmental Characteristics

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

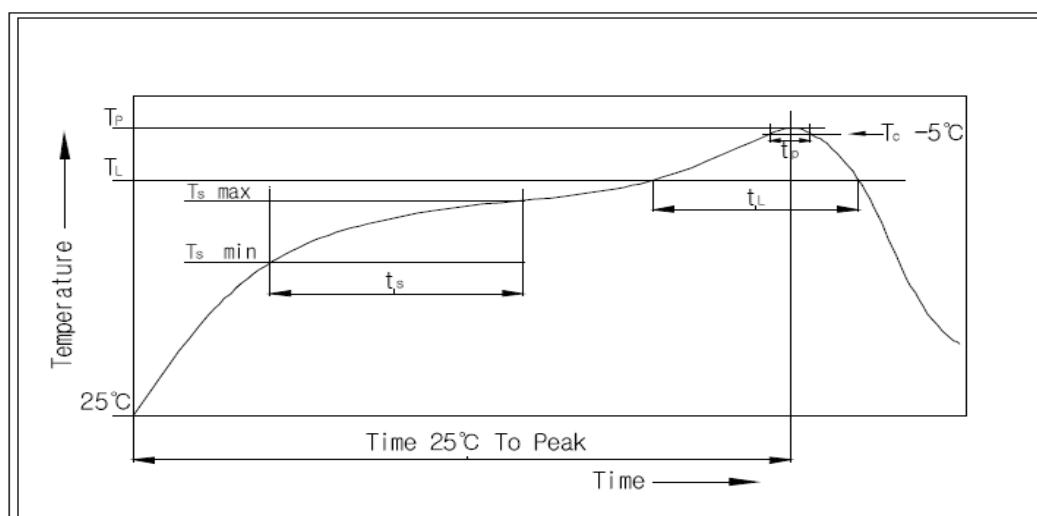
7. This item is "RoHS" Compliant

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