

DATA SHEET

SUNGMUN CODE : FSR-16S

DESCRIPTION : ROTARY DIP SWITCH

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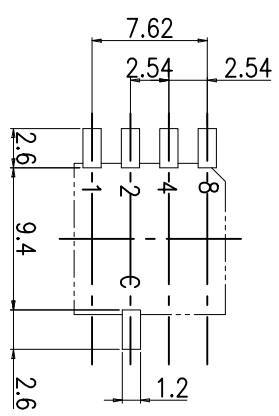
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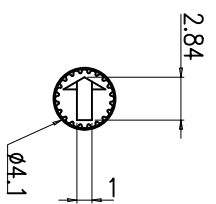
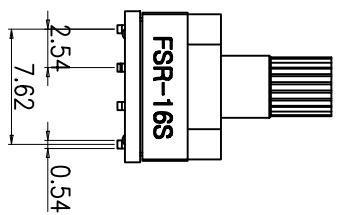
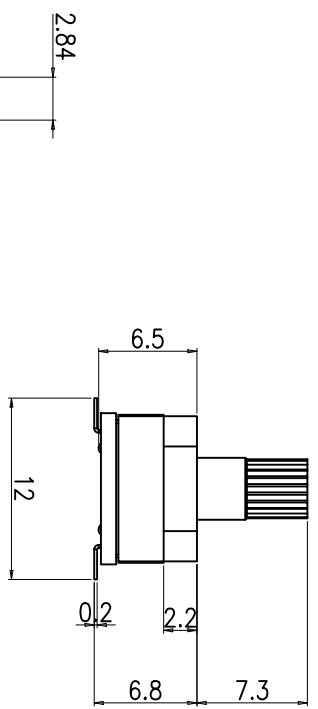
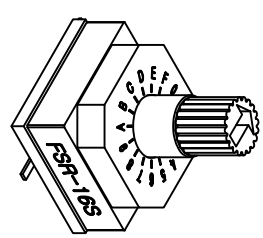
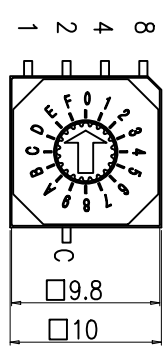
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SPECIFICATION

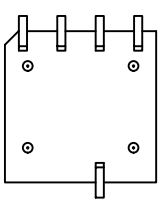
1. Rating : 150mA, DC 42V (Switching)
200mA, DC 42V (None-Switching)
2. Contact Resistance : 80mΩ Max
3. Insulation Resistance : 100MΩ Min at DC 250V
4. Operating Force : 700gf Max
5. Life cycle : 10,000 steps
6. Sealing : IP67 (Dust & Water proof)
7. Packing : 50pcs Tube



P.C.B DIMENSION (Top View)



ACTUATOR



Real Coded					
	0 1 2 4 8				
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

16 Position

01	-		-		-		-		-	
NO.	DESCRIPTION	CHECKED	APPROVED	MATERIAL	COLOR / FINISH	REMARK				
NO.	DRAW/DESIGNED									
	K.N KIM	W.J LEE	W.J LEE							
	2022-07-29	2022-07-29	2022-07-29							
				UNIT	SCALE	MODEL NO.				
				mm	N/S	FSR-16S				
				SIZE		FSR-16S-03				
				A4						
						REV.				
						03				



1. Description:

This specification describes "10X10 size of Rotary Dip Switches" which are S, T, F and Q,E series.

1-1 Operating / Storage Temperature Range : -40°C ~ +85°C

2. Rating:

2-1 None-Switching : 200 mA, DC 42V

2-2 Switching : 150 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.
4-3	Insulation Resistance	250V DC, 1minute ±5seconds	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	700gf·cm max
5-2	Operation Life	Measurements shall be made following the test set forth below: 1)150mA, 42V DC resistive load 2)Rate of operation: 15~20 cycles/ minute 3)Step of operation: 10,000 steps	1)As shown in item 4-3, 4-4 2)Contact Resistance: 200mΩ max

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: -40°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: 85°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 : Max 260°C, 5 sec.

10. Reflow Soldering Conditions: (SMD type only)



10-1 Condition for Soldering

Profile Feature	Pb-Free Assembly
Average Ramp-UP Rate(T_s max to T_P)	3°C/second max
Preheat	
- Temperature Min(T_s min)	150°C
- Temperature Max(T_s max)	200°C
- Time (t_s min to t_s max)	60-180seconds
Time maintained above:	
- Temperature (T_L)	217°C
- Time (t_L)	60-150seconds
Peak/Classification Temperature(T_P)	260°C +0°C/ -5°C
Time within 5°C of actual Peak Temperature(T_P)	5~10 seconds
Ramp-Down Rate	6°C/sec max
Time 25°C to Peak Temperature	8 minutes max