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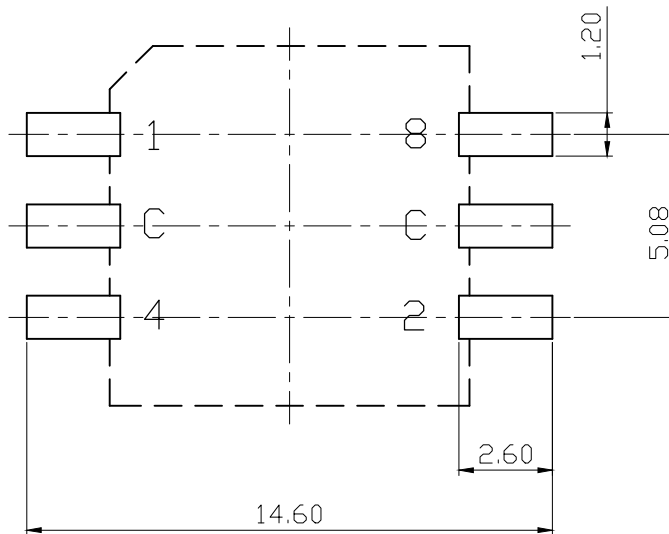
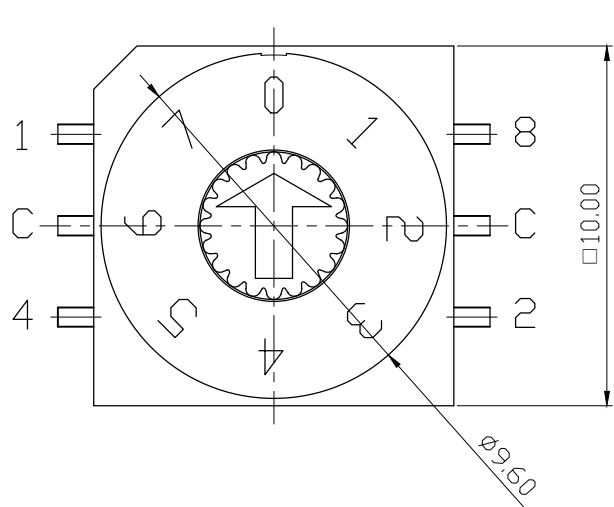
DATA SHEET

SUNGMUN CODE : TSR-08S-TR
DESCRIPTION : ROTARY DIP SWITCH

SUNGMUN ELECTRONICS CO., LTD.

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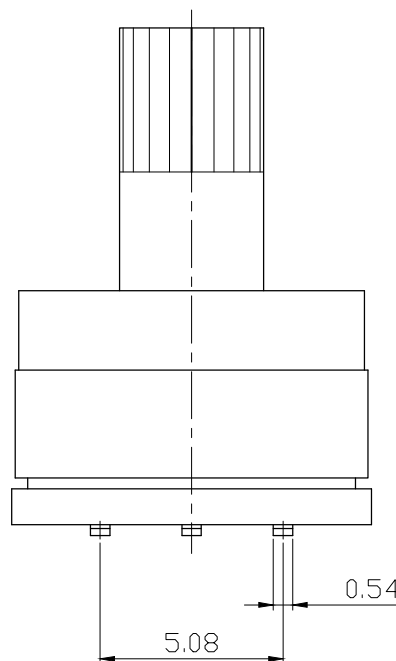
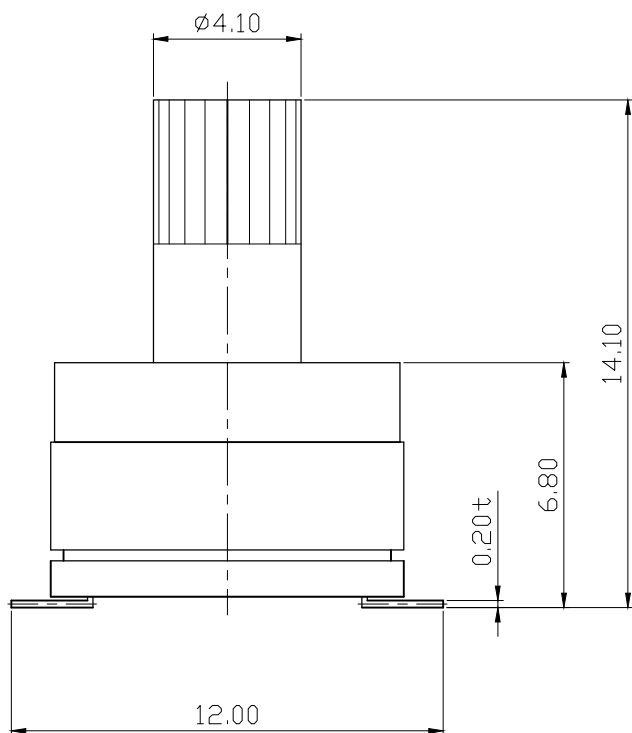
MARK	DATE	REMARKS
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SPECIFICATION

1. Rating : 150mA, 42V DC (Switching)
200mA, 42V DC (None-Switching)
2. Contact Resistance : 80mΩ Max
3. Insulation Resistance : 100MΩ Min
4. Operating Force : 700gf Max
5. Life cycle : 10,000 steps
6. Sealing : IP67

P.C.B DIMENSION (TOP VIEW)



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

GENERAL TOLERANCE ±0.3 mm

APPD	CHKD	D'SGD	TITLE
J.P ROH	S.M PARK	Y.N JEON 2019.03.15	ROTARY DIP SWITCH
MODEL NO.			TSR-08S
			REV 02
SUNGUM ELECTRONICS CO., LTD.			

1. Description:

This specification describes "10X10 size of Rotary Dip Switches" which are S, T, F and Q 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, 24V 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

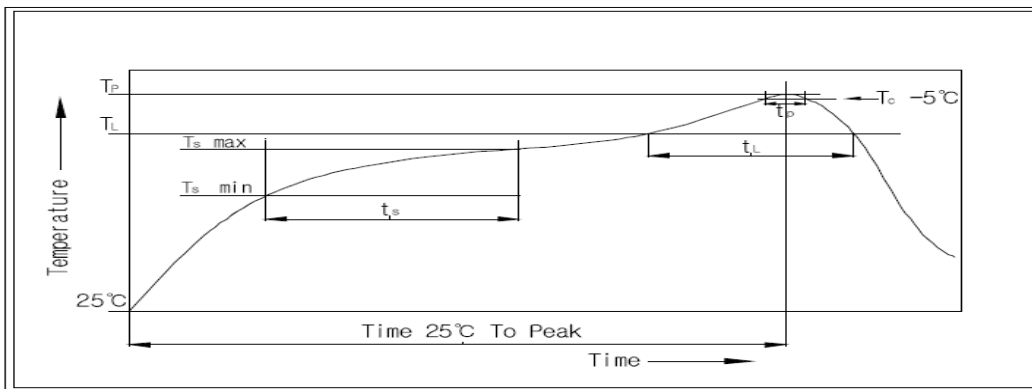
ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
6-1	Resistance Low Temperature	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before measurements are made: 1)Temperature: -40°C ±3°C 2)Time: 96 hours	1)As shown in item 4-3, 4-4, 5-1 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 280°C, 5 sec.

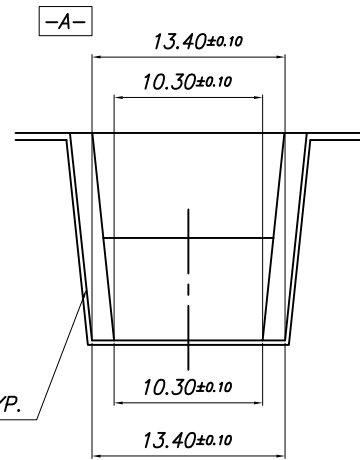
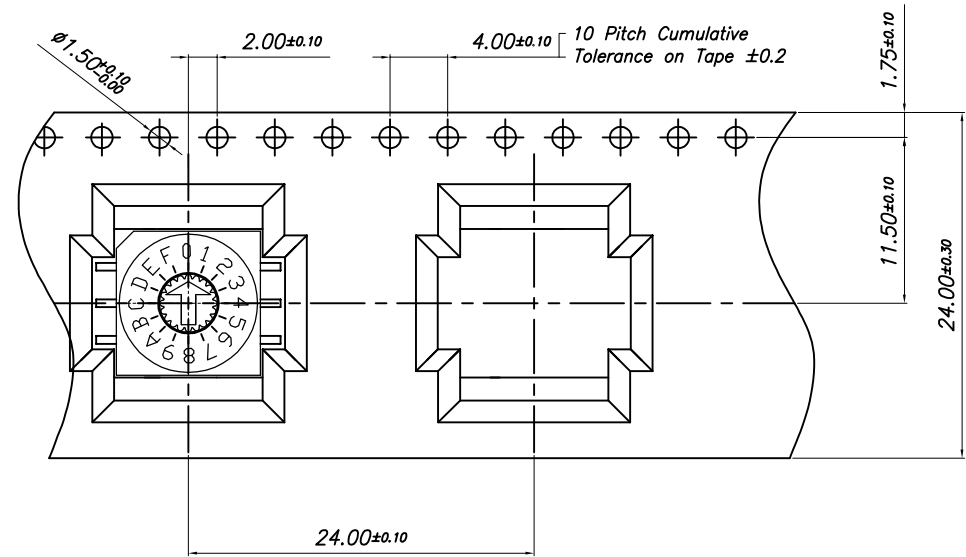
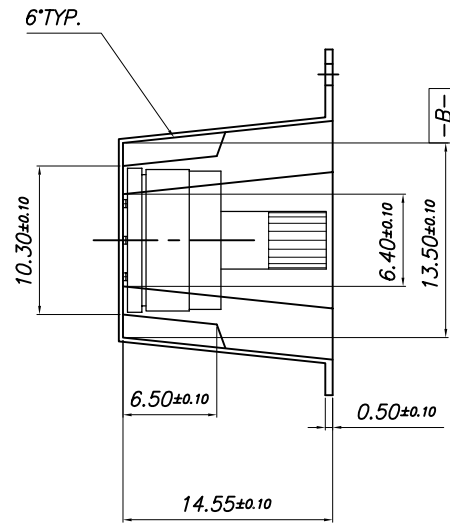
10. Reflow Soldering Conditions: (SMD type only)



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

MOLD NO. 24M/M



- NOTES: (UNLESS OTHERWISE SPECIFIED)
- 10 SPROCKET HOLE PITCH CUMULATIVE TOL ± 0.2
 - CAMBER NOT TO EXCEED 1mm IN 100mm.
 - MATERIAL : BLACK CONDUCTIVE POLYSTYRENE.
 - Ao & Bo MEASURED ON A PLANE 0.3mm ABOVE THE BOTTOM OF THE POCKET.
 - Ko MEASURED FROM A PLANE ON THE INSIDE BOTTOM OF THE POCKET TO THE TOP SURFACE OF THE CARRIER.
 - POCKET POSITION RELATIVE TO SPROCKET HOLE MEASURED AS TRUE POSITION OF POCKET, NOT POCKET HOLE.
 - ALL DIMENSIONS ARE IN MILLIMETERS.

Units(pcs)
180

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE MILLIMETERS TOLERANCE DECIMALS ANGULAR X.X ± 0.13 $\pm 1^\circ$ X.XX ± 0.10 DO NOT SCALE DRAWING UNIT mm THIRD ANGLE PROJECTION		SCALE	NON SCALE	TITLE	
		DATE	2016.01.29	T Series SMD Reel Packing	
DRAWN	DESIGNED	CHECKED	APPROVED	CUSTOMER	
W.J LEE		J.P ROH	K.J LEE	MODEL NO	TS Series Reel
SUNGUN ELECTRONICS CO.,LTD				DWG NO	S 000-00S0 Reel