

DATA SHEET

SUNGMUN CODE : QER-16S-TR
DESCRIPTION : ROTARY DIP SWITCH

SUNGMUN ELECTRONICS CO., LTD.

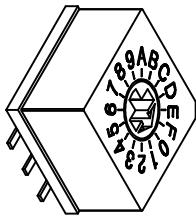
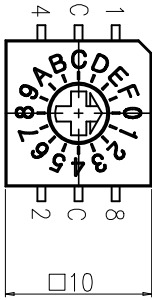
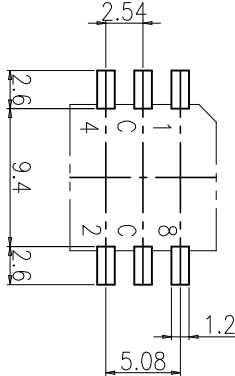
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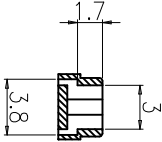
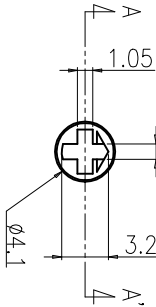
REV. NO.	DATE	REVISION	DR	CH	APP
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SPECIFICATION

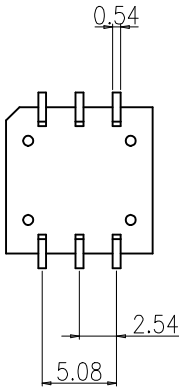
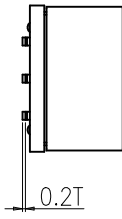
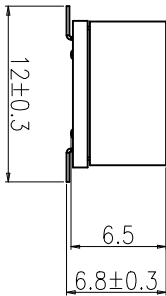
1. Rating : 150mA, DC 42V (Switching)
200mA, DC 42V (None-Switching)
2. Contact Resistance : 80mΩ Max
3. Insulation Resistance : 100MΩ Min at DC 250V
4. Operating Force : 700gf·cm Max
5. Life cycle : 10,000 steps
6. Packing : 50pcs Tube / 600pcs Reel Packing



P.C.B DIMENSION (Top View)



Section A-A'
ACTUATOR



Reel 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	
10	●		●		●	A	
11	●	●	●		●	B	
12	●			●	●	C	
13	●	●		●	●	D	
14	●		●	●	●	E	
15	●	●	●	●	●	F	

16 Positions

DRAW/DESIGNED		CHECKED		APPROVED		UNIT	G.TOL	TITLE	REV.
M.W SHIN	K.N KIM	W.J LEE							
2026-01-12		2026-01-12		2026-01-12		mm	N/S	MODEL NO.	QER-16S
DIN ISO-2768-1m		RANGES		TOLERANCE		SIZE	DRAW NO.	QER-16S-01	01
0.5-3		3-6		6-30		30-120		120-400	
±0.1		±0.1		±0.2		±0.3		±0.5	
SUNGUMUN ELECTRONICS CO.,LTD									

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

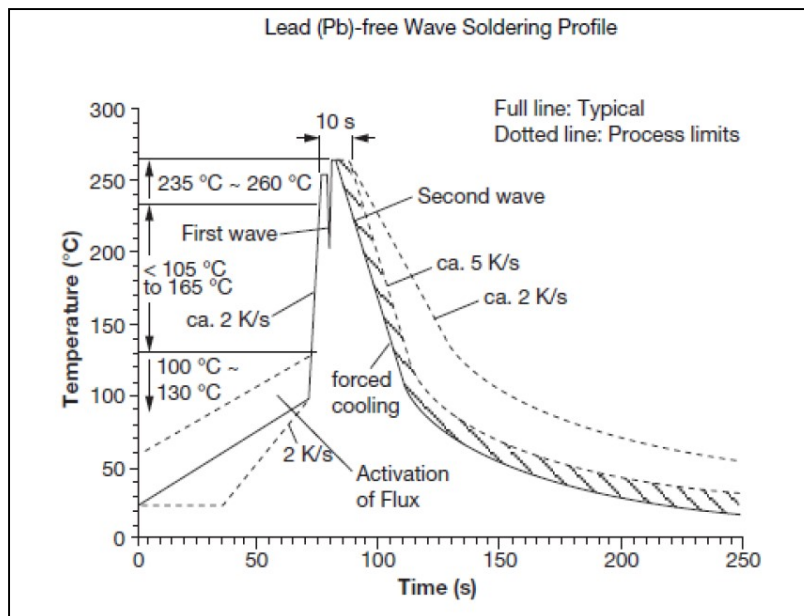
6. Environmental Characteristics

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

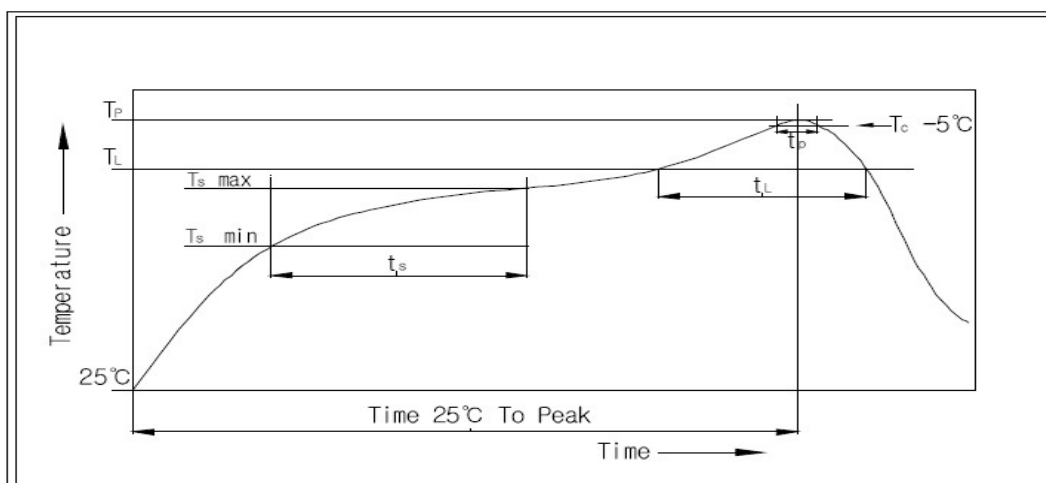
7. This item is "RoHS" Compliant

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

9. Wave Soldering Conditions:



10. Reflow Soldering Conditions: (SMD type only)



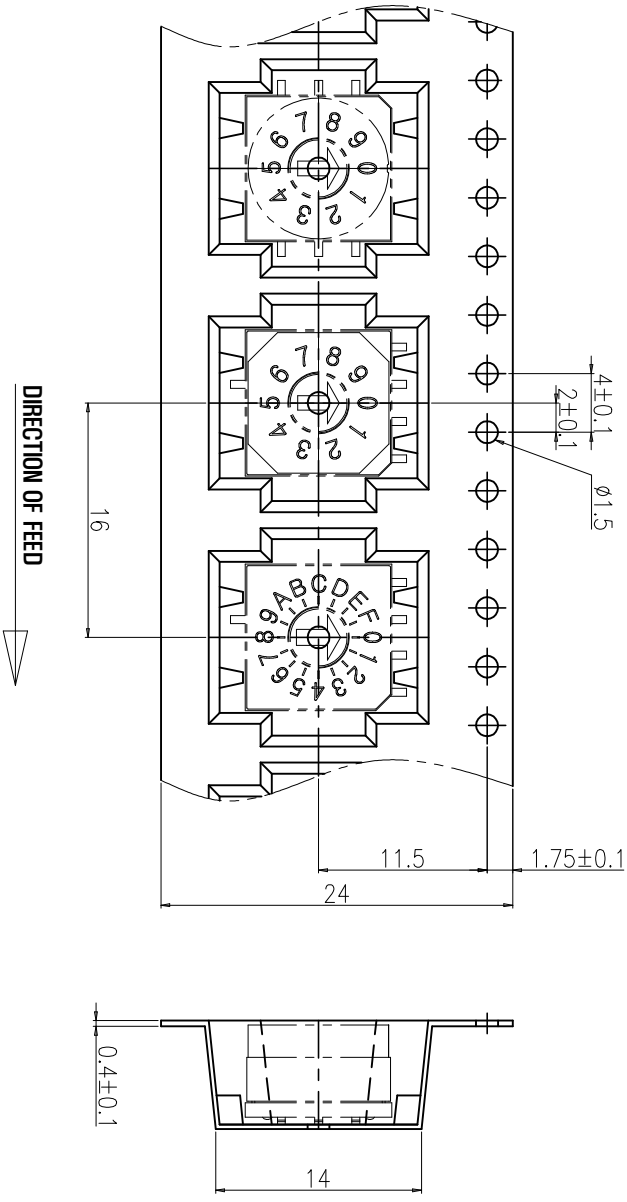
10-1 Condition for Soldering

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)	5~10 seconds
Ramp-Down Rate	6°C/sec max
Time 25°C to Peak Temperature	8 minutes max

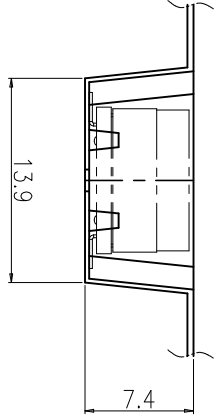
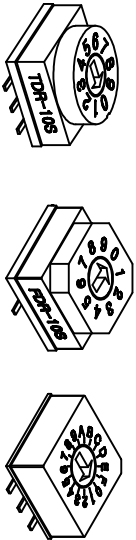
REV NO.	DATE	REVISION	DR	CH	APP
△	26.01.13	Recreation of drawings for unification of drawing formats	K.M.KIM	K.M.KIM	W.J.LEE

NOTE

1. 제품외관에 유해한 BURR가 없을것.
2. 제품외관에 뒤들림이나 칠이 없을 것.
3. 크랙이나 갈라짐이 없을것.
4. 지시없는 치수는 2D 또는 3D DATA 참조할것.
5. 지시없는 공차는 일반공차 적용할것.



Units(pcs)
600



REEL PACKING				CONDUCTIVE POLYSTYRENE		BLACK		600	-
NO.	DESCRIPTION			MATERIAL		COLOR / FINISH		QTY	REMARK
DRAW/DESIGNED		CHECKED	APPROVED		G.TOL ± 0.3	TITLE			
J.S YANG		W.J LEE	K.I LEE			ROTARY DIP SWITCH REEL PACKING			
2021-09-10	2021-09-10	2021-09-10		UNIT mm	SCALE N:S	MODEL NO.	T.S.Q.F.E.U.H D.E.O.U.T.E.R SMD TYPE		REV.
SUNG MUN ELECTRONICS CO.,LTD				SIZE A4		DRAW NO.	CPKTR020-01		01