

SH	Technical Standards	Date	2013/05/31
E-SPEC-04	T80-R Specification	Edition	A5
		Page	1/6

1. Style :

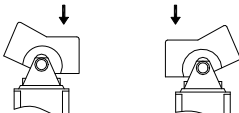
This specification describes rocker switch mainly used as small current and signal switch of electric device with the general required of mechanical and characteristics.

Operating and storage temperature range:-30°C~+85°C

2. Rated Current : 5A@125 VAC or 28 VDC (Q terminal) °

3. Type of Actuation : Actuated by sliding.

4. Programmer of test :

peculiarity	ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENTS
ELECTRIC CHARACTERISTICS	1	Visual Examination	By visual examination check without any pressure and testing	There shall be no defect that affect the function of the product
	2	Contact Resistance	①To be measured between the two terminals associated with each switch pole. ②Measurements shall be made with a 1kHz shall current contact resistance meter.	10mΩ MAX(initial)
	3	Insulation Resistance	500VDC,1min±5sec	1000MΩ MIN
	4	Dielectric withstanding voltage	1500VAC (50Hz or 60 Hz) shall be applied between all the adjacent terminals and between the terminal and the frame for 1 minute.	There shall be no breakdown or flashover
MECHANICAL CHARACTERISTICS	5	Operating Force	Applied in direction operation 	10N max
	6	Stop Strength	A static load of 30N is applied in the operating direction and pulling direction operated for a period of 30 seconds.	There shall be no sign of damage mechanically

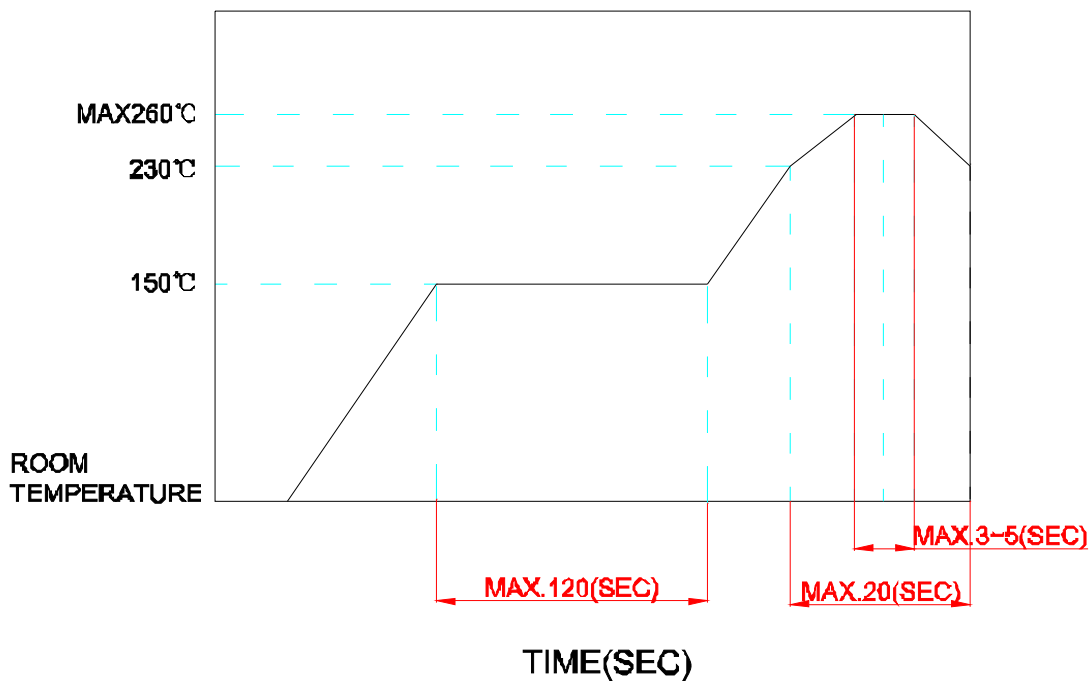
MECHANICAL CHARACTERISTICS	7	Soldering Heat Resistance	<input type="checkbox"/> through hole type (1) Soldering Temperature : $260\pm 5^{\circ}\text{C}$ (2) Duration of Solder Immersion : $5\pm 1\text{sec}$ (3) Frequency of Soldering Process, 2 times Max (PCB is 1.6mm in thickness)	As show in item 2~6
	DURABILITY	8	Operation Life	Measurements shall be made following the test set forth below: ① 3A, 250VAC resistive load ② Rate of Operation : 6~8cycles/minute ③ Cycle of Operation : 6000cycles
WEATHER-PROFF	9	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 : $-30\pm 3^{\circ}\text{C}$ ② Time : 48 hours	As show in item 2~6
	10	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 : $85\pm 3^{\circ}\text{C}$ ② Time : 48 hours	As show in item 2~6
	11	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 : $40\pm 2^{\circ}\text{C}$ ② Relative Humidity : 90-95% ③ Time : 96 hours	1. As show in item 4~6 2. Contact Resistance: $100\text{m}\Omega$ max 3. Insulation Resistance: $10\text{M}\Omega$ min
	12	Salt Test	Duration: 96 hours exposure; Atmosphere: salt spray from a $5\pm 1\%$ solution; Temperature: $35\pm 2^{\circ}\text{C}$ Relative Humidity : 90-95%	$\Delta R = 20\text{ m}\Omega$ Maximum & Visual: No Oxidation No Damage

5. Safety Approval:

- 5.1 This series carry the UL approvals and c-UL(the same effect with CSA)
- 5.2 The File no.of UL:E123142
- 5.3 The applying category no, of UL:T80-R
- 5.4 The File no.of CQC:CQC03002007881
- 5.5 The applying category no, of CQC:T80-T1 、 T80-T2 、 T80-T3 、 T80-T4

6. Soldering Condition

- Condition for soldering



Remark: If the switch need to go through the wave soldering process, the actuator must be settled after wave soldering.

- Manual soldering :

Soldering Temperature	MAX.350°C
Continuous Soldering Time	MAX.3 seconds

- Precautions in Handling :

1. Care should be exercised so that flux from the upper part of the printed circuit board does not adhere to the switch.
2. Don't wash switch body ◦

7. **Material :**

7.1 CASE : diallyl phthalate(DAP)(UL94V-0)

7.3 FRAME : Nylon, black

7.5 HOUSING : Stainless Steel

7.7 CONTACTS & TERMINALS : Copper alloy , silver plated (Q contact material)

7.8 TERMINAL SEAL : Epoxy

7.2 ACTUATOR : ABS / Nylon

7.4 BUSHING : copper alloy, nickel plated

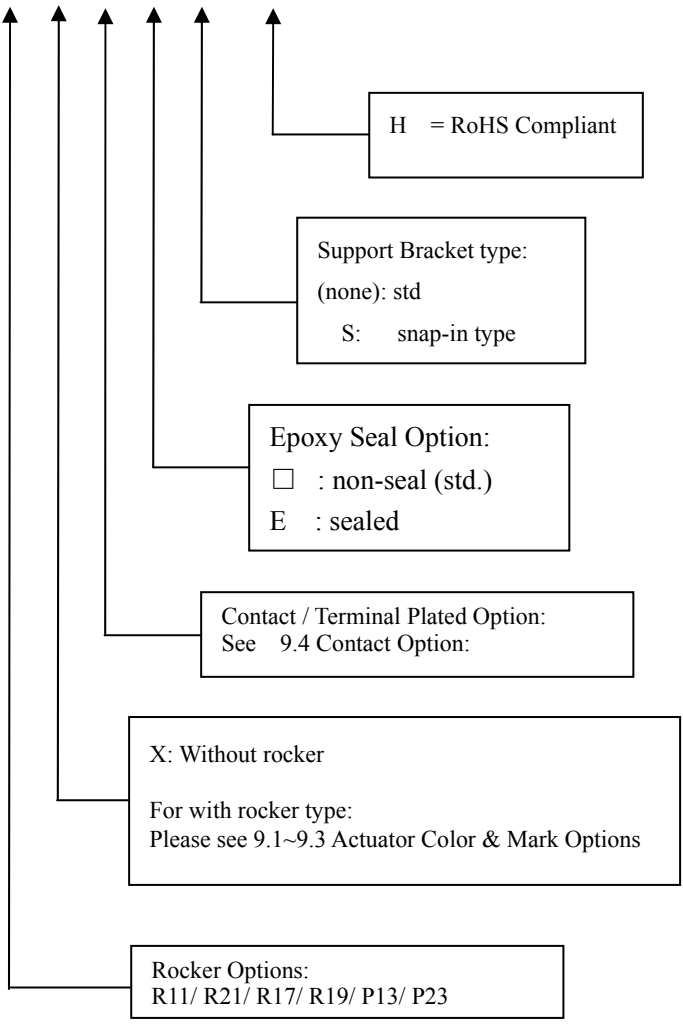
7.6 SWITCH SUPPORT : copper alloy , tin plated

8. Part numbering option :

8.1

R8015P - R11-2 - Q - E - S - H

Horizon Right Angle	Vertical Right Angle	Switches Function
R8015P	R8015L/R8013L	SP on-none-on
R8015PA	R8015LA/R8013LA	SP on-none-(on)
R8016P	R8016L/R8014L	SP on-off-on
R8016PA	R8016LA/R8014LA	SP (on)-off-(on)
R8016PB	R8016LB/R8014LB	SP on-off-(on)
R8017P	R8017L/R8011L	DP on-none-on
R8017PA	R8017LA/R8011LA	DP on-none-(on)
R8018P	R8018L/R8012L	DP on-off-on
R8018PA	R8018LA/R8012LA	DP (on)-off-(on)
R8018PB	R8018LB/R8012LB	DP on-off-(on)
	R8301L	3P on-none-on
	R8303L	3P on-none-(on)
	R8305L	3P on-off-on
	R8307L	3P (on)-off-(on)
	R8309L	3P on-off-(on)
	R8401L	4P on-none-on
	R8403L	4P on-none-(on)
	R8405L	4P on-off-on
	R8407L	4P (on)-off-(on)
	R8409L	4P on-off-(on)
3 way position switches		
R818P/R818L/R812L		SP3T on-on-on
R818PB/R818LB/R812LB		SP3T on-on-(on)
R818PA/R818LA/R812LA		SP3T (on)-on-(on)
R845L		DP3T on-on-on
R847L		DP3T (on)-on-(on)
R849L		DP3T on-on-(on)



8.2

R8015 - R11-2 -C Q -E-S20 - H

Model No.		Switching Position		
SPDT	R8015			
DPDT	R8017	ON	NONE	ON
3PDT	R8301V			
4PDT	R8401V			
SPDT	R8015A	ON	NONE	(ON)
DPDT	R8017A			
3PDT	R8303V			
4PDT	R8403V			
SPDT	R8016	ON	OFF	ON
DPDT	R8018			
3PDT	R8305V			
4PDT	R8405V			
SPDT	R8016A			
DPDT	R8018A			
3PDT	R8307V			
4PDT	R8407V			
SPDT	R8016B	ON	OFF	(ON)
DPDT	R8018B			
3PDT	R8309V			
4PDT	R8409V			
3 way position switches				
SP3T	R818	ON	ON	ON
SP3T	R818B	ON	ON	(ON)
SP3T	R818A	(ON)	ON	(ON)
DP3T	R845V	ON	ON	ON
DP3T	R847V	(ON)	ON	(ON)
DP3T	R849V	ON	ON	(ON)

H = RoHS Compliant

Vertical Support Bracket:

S20: 11.68
 S25: 16.00
 S35: 11.68
 S40: 16.00
 V20: snap-in 11.68
 V25: snap-in 16.00
 V35: snap-in 11.68
 V40: snap-in 16.00

Epoxy Seal Option:

: non-seal (std.)
 E : sealed

Contact/Terminal Plated Option:
 See 9.4 Contact Option:

Terminal Option:

B/ C/ D/ D1/ D3

Frame Color: (only for actuator R12 & P14)

X: without frame

1: white
 2: black
 3: red

Rocker Options:

R11/ R21/ P13/ P23/ R15/ R12/ R17/ R19/ R22/
 P14/ P24

X: Without rocker

Rocker Color Options:



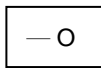
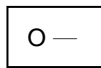
Please see 9.1 Actuator Color & Mark Options









9. OPTIONS :

9.1 Actuator Color & Marking Options:

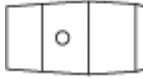

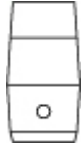
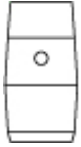
Code	1	2	21	22	3	4	5	6	7	9
color	white	black	black	black	red	orange	yellow	green	blue	gray
marking	none	none	O I	O -	none	none	none	none	none	none

9.2 The Marking Position Option for Actuator R11/ R21/ P13/ P23 in black color:

Code	Horizon Right Angle			
	21L	21R	22L	22R
marking				

Code	Vertical Right Angle							
	21U	21D	22U	22D	25U	25D	26U	26D
marking								

9.3 The Salient Point Position Option for Actuator R17 in black color:

Code	Horizon Right Angle type		Vertical Right Angle type	
	2L	2R	2D	2U
color	Black	Black	Black	Black
marking				

9.4 Contact Option:

CODE	CONTACT MATERIAL	TERMINAL MATERIAL	RATING
Q	Silver plated	Silver plated	5A @ 125VAC or 28VDC; 3A @ 250VAC
R	Gold plated over nickel plated	Gold plated over nickel plated	0.4VA MAX @ 20VAC or DC MAX
G	Gold plated over silver plated	Gold plated over silver plated	0.4VA MAX @ 20VAC or DC MAX or 5A @ 125VAC or 28VDC; 3A @ 250VAC
K	Gold plated over nickel plated	Tin plated over nickel plated	0.4VA MAX @ 20VAC or DC MAX