

<b>SH</b>	<b>Technical Standards</b>	Date	11/21/2012
<b>SH-SPEC-03</b>	<b>T80-T SPECIFICATION</b>	Edition	D2
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**1. Style :**

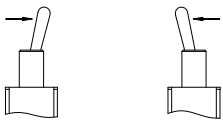
This specification describes toggle switch mainly used as small current and signal switch of electric device with the general required of mechanical and characteristics.

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

**2. Rated Current :** 5A,125VAC/ 3A,250VAC

**3. Type of Actuation :** Actuated by sliding.

**4. Programer of test :**

peculiarity	ITEM	DESCRIPTION	TEST CONDITION	REQUIREMENTS
<b>ELECTRIC CHARACTERISTICS</b>	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
<b>MECHANICAL CHARACTERISTICS</b>	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

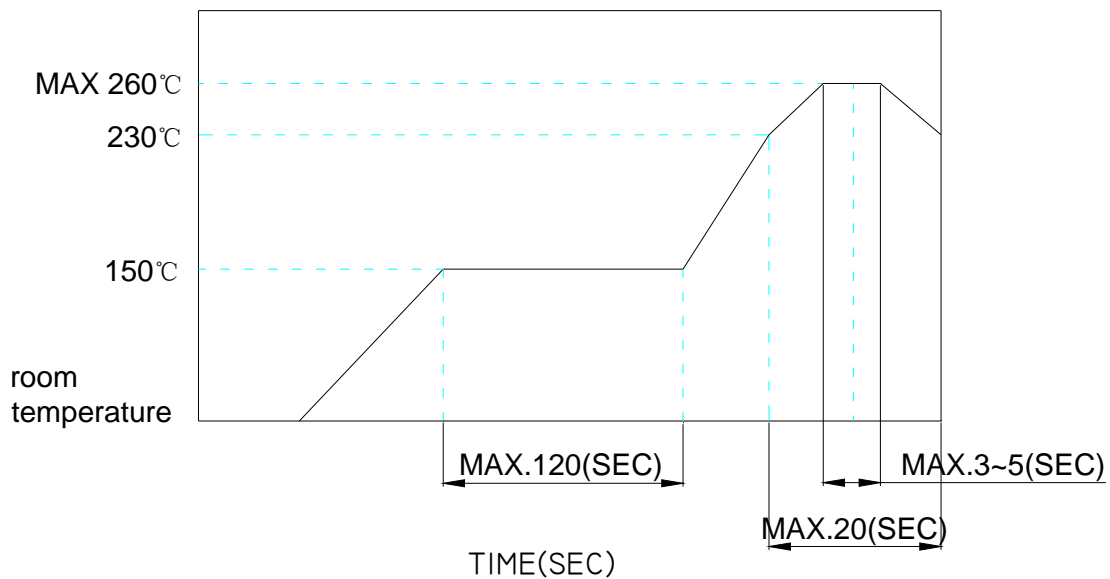
<b>MECHANICAL CHARACTERISTICS</b>	7	Soldering Heat Resistance	<input type="checkbox"/> through hole type (1) Soldering Temperature : 260°C (2) Duration of Solder Immersion : 5±1 sec (3) Frequency of Soldering Process, 2 times Max (PCB is 1.6mm in thickness)	As show in item 2~6
	<b>DURABILITY</b>	8	Operation Life	Measurements shall be made following the test set forth below: ①3A,250VAC resistive load ②Rate of Operation : 6~8 cycles/minute ③Cycle of Operation : 6000cycles
<b>WEATHER-PROFF</b>		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 ①Temperature : -30±3°C ②Time : 48 hours
	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 ①Temperature : 85±3°C ②Time : 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 ①Temperature : 40±2°C ②Relative Humidity : 90-95% ③Time : 48 hours	1.As show in item 4~6 2. Contact Resistance:100mΩ max 3.Insulation Resistance:10MΩ min

### 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-T
- 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



#### ■ 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) (UL94-V0)
- 7.2 ACTUATOR : Copper alloy, chrome plated
- 7.3 BUSHING : Copper alloy, nickel plated
- 7.4 HOUSING : Stainless Steel
- 7.5 SWITCH SUPPORT : Brass, tin plated
- 7.6 END CONTACTS : Copper alloy, silver or gold plated
- 7.7 CENTER CONTACTS & ALL TERMINALS : Copper alloy, silver or gold plated
- 7.8 TERMINAL SEAL : Epoxy
- 7.9 HARDWARE : Nut: copper alloy , nickel plated  
 Locking Ring & Lock washer : Cold-rolled steel , nickel plated

### 8. PART NUMBERING OPTION:

8.1

T8013 - S N C Q - E - S20 - T2 - 2 - H

Model No.		Switching Position		
SPST	T8013(2P)	ON	NONE	OFF
SPST	T8013(2P2)	OFF	NONE	ON
SPDT	T8013	ON	NONE	ON
DPDT	T8011			
3PDT	T8301			
4PDT	T8401	ON	NONE	(ON)
SPDT	T8013A			
DPDT	T8011A			
3PDT	T8303	ON	OFF	ON
4PDT	T8403			
SPDT	T8014			
DPDT	T8012	(ON)	OFF	(ON)
3PDT	T8305			
4PDT	T8405			
SPDT	T8014A	ON	OFF	(ON)
DPDT	T8012A			
3PDT	T8307			
4PDT	T8407	ON	OFF	(ON)
SPDT	T8014B			
DPDT	T8012B			
3PDT	T8309	ON	ON	ON
4PDT	T8409			
SP3T	T812			
DP3T	T845	ON	ON	(ON)
SP3T	T812B			

RoHS Compliant

: none (std.)

Cap Color:  
 0: transparent  
 1: white  
 2: black  
 3: red  
 4: yellow  
 5: blue  
 6: green

Actuator Cap/Rubber hood:

: none (std.)  
 T1/T2/E1/E2/K1/ K2/ E3/ E6

Vertical Support Bracket:

S20/S25/S35/S40V20/V25/V35/V40

Epoxy Seal Option:

: non-seal (std.)  
 E : sealed

Contact / Terminal Plated Option:

SEE 9. Contact Option:

Terminal Options:

B / C / D / D1 / D3

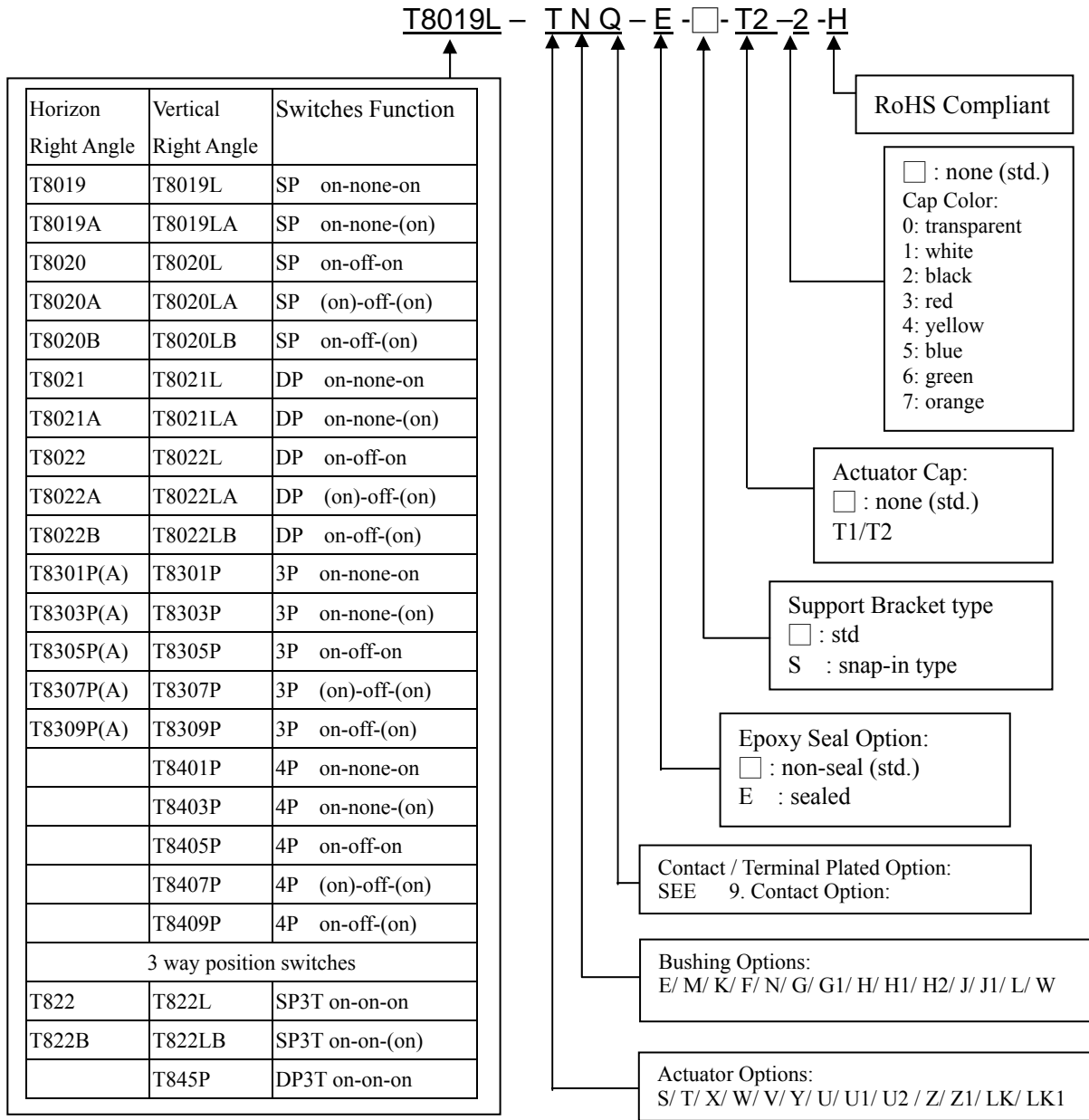
Bushing Options:

E/ M /K /F /N /G /G1 /H /H1 /H2 /J /J1 / L / W

Actuator Options:

S/ T/ X/ W/ V/ Y/ U/ U1/ U2 / Z/ Z1/ Z3/ Z4/ LK/ LK1

8.2



**9. OPTION :**

Contact Option :

OPTION CODE	CONTACT PLATING	TERMINAL PLATING	RATING
Q	SILVER	SILVER	5A, 125VAC or 28 VDC 3 A , 250 VAC
R	GOLD	GOLD	0.4 VA MAX @20 V AC OR DC
G	GOLD OVER SILVER	GOLD	5A, 125VAC or 28 VDC/3 A , 250 VAC 0.4 VA MAX @20 V AC OR DC
K	GOLD	TIN	0.4 VA MAX @20 V AC OR DC