

ROTARY SWITCH -V SPECIFICATION

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1. Style:

This specification describes "Rotary Switch" mainly used as signal switch of electric devices with the general requirements of mechanical and electrical characteristics.

1.1 Operating Temperature Range : -25 ~ +80°C

1.2 Storage Temperature Range : -40°C ~ +85°C

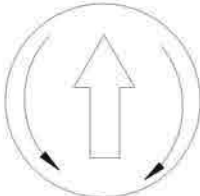
2. Current Range:

2.1 Non-Switching : 100mA, 50V DC

2.2 Switching : 25mA, 24V DC

3. Type of Actuation: Rotating

4. Test Sequence :

ELECTRIC PERFORMANCE	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS	
	1	Visual Examination	By visual examination check without any out pressure & testing.	There shall be no defects that affect the serviceability of the product.	
	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.	1)100mΩ max. (initial) 2)RM□□A-□□□ -V : 200mΩ max. (initial)	
	3	Insulation Resistance	250V DC, 1 minute ± 5 seconds.	100MΩ min.	
	4	Dielectric withstand- ing Voltage	250V AC (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.	
	5	Capacitance	1 MHz ± 10 kHz	5 pF max.	
MECHANICAL PERFORMANCE	6	Operation Force	Applied in the direction of operation. 	R□□□A-□□ □-V	R□□□AF-□ □□-V
				200gf·cm Max (1.96N·cm Max)	400gf·cm Max (3.92N·cm Max)

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MECHANICAL PERFORMANCE

7	Stop Strength	A static load of 1 kgf is applied in the vertical direction operated for a period of 15 seconds.		There shall be no sign of damage mechanically.
8	Soldering Heat Resistance	1.Soldering Temperature :		1) As shown in item 4~6 2)Contact Resistance: 200mΩ max. 3)RM□□A-□□□-V : 500mΩ max. (initial) 4)Insulation Resistance : 10MΩ min.
		P.C.BOARD TERMINAL RH、RV	SMT TYPE TERMINAL RM	
		260℃±5℃	See the Temperature profile	
		5±1sec		
		2.Duration of Solder Immersion: 5±1 sec. 3.Frequency of Soldering Process: 2 times max. (PCB is 1.6mm in thickness.) 4. ■SMT Type ~RM-V Series(4/4)		
9	Vibration	Shall be vibrated in accordance with Method 201A of MIL-STD-202F 1)Frequency: 10-55-10 Hz 1 min/cycle. 2)Direction: 3 vertical directions including the direction of operation. 3)Test Time: 2 hours each direction.		Ditto
10	Shock	Shall be shocked in accordance with Method 213B condition A of MIL-STD-202F 1)Acceleration: 50G. 2)Action Time : 11 ± 1 m sec. 3)Testing Direction: 6 sides. 4)Test cycle : 3 times in each direction		Ditto
11	Solderability	1)Through Hole Soldering Temperature:245±3℃ Lead-Free solder : M705E JIS Z 3282 Class A (Tin 96.5% , Silver 3% , Copper 0.5%) 2)Flux: 5-10 seconds. 3)Duration of solder Immersion: 5±1 sec.		No anti-soldering and the coverage of dipping into solder must more than 75% was requested.

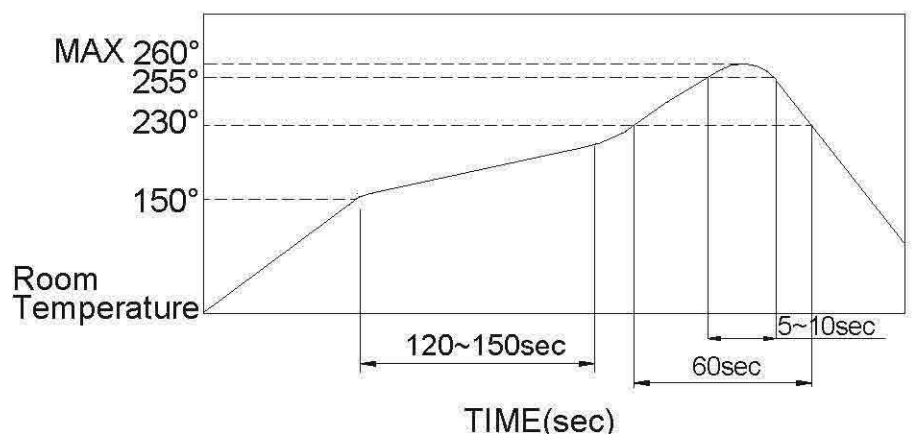
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DURABILITY	12	Operation Life	Measurements shall be made following the test set forth below: 1)25 mA, 24V DC resistive load 2)Rate of Operation: 15~20 steps/ minute 3)Step of Operation: 20000 Steps.	1)As shown in item 3,4 2)Contact Resistance: 10Ω max.
	13	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 4~6 2)Contact Resistance: 200mΩ max. 3)Insulation Resistance : 10MΩ min.
WEATHER-PROOF	14	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	Ditto
	15	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	Ditto

5. SOLDERING CONDITIONS:

■ Condition for Soldering – RM-V Series



- The condition mentioned above is the temperature on the Cu foil of the PCB surface.

There are cases where board's temperature greatly differs from switch's surface temperature depending on board's material, size, thickness, etc. Care, therefore, should be used not to allow switch's surface temperature to exceed 260°C.

■ Manual Soldering

Soldering Temperature	Max.350°C
Continuous Soldering Time	Max. 5 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 clean the switch body except with top tape sealed type, which can only spray of cleaning method from top of s/w.
3. Please make sure that there is no flux rose over the surface of the PCB

