



Datasheet

RS PRO Sub-Miniature Pushbutton Switches

Stock number: 175-8715, 175-8771

EN



The picture above is for reference only.
Please refer to the table in the drawing below for other colors.

Package Contain:

1x Nut
1x Locking Washer
1x Splash Proof O-Ring

Specifications:

Switch type: Pushbutton
Poles/throws: SPST
Switch functions: off-mom

Max. Current/voltage rating with resistive load:

400ma 32vac - 200 ma 50vdc - 125 ma 125vac.

Initial contact resistance: 50mΩmax.

Insulation resistance: 1GΩmin.at 500VDC.

Dielectric strength: 1,500 VAC rms.

Electrical life at full load: 500,000 cycles.

Operating temperature: -30°C to 85°C.

Panel thickness: 1.5 mm (.059) min. -4 mm (.157) max.

Total travel: 1.5 mm(.059)

Operating force: 3N~6N

Contact bounce: 10 ms.

Mechanical life: 1,000,000 cycles.

Torque : 0.5 Nm max. applied to nut

Degree of protection: IP68

Manual soldering:

Use soldering iron of 30 watts, controlled at 350°C approximately 5 seconds while applying solder.

Wave soldering:

Recommended soldering temperature: $260 \pm 5^{\circ}\text{C}$

※Ambient temperature of the soldered surface of PCB.110°C max.

Duration of solder immersion: max 5 sec. (PCB is 1.6mm in thickness).

RS Part no.

175-8715	SP Off-Mom. / Flat, Matte (Non LED) / Black Cap Color
175-8771	SP Off-Mom. / Flat, Matte (Non LED) / Red Cap Color

Specifications:

1. Style :

This specification describes “Snap-Acting Pushbutton Switches”, mainly used as signal switch of electric devices, with the general requirements of mechanical and electrical characteristic.

Operating Temperature Range : -30 °C ~ +85°C.

2. Current Range :

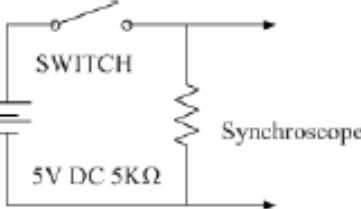
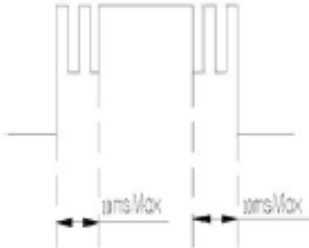
2.1 Silver Plating Standard :

Plating		Rating
C=Gold over silver	Fixed Terminal : Copper alloy with silver plated over gold plate. Movable contact : Copper alloy with silver plated over gold plate.	400mA @32VAC Max. 125mA @125VAC Max. 200mA @50VDC Max.

3. Type of Actuation : Snap-Acting Pushbutton Switches.

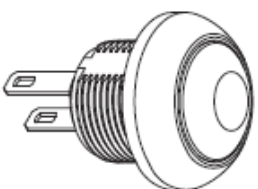
4. Test Sequence :

ELECTRIC PERFORMANCE	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
	1	Visual Examination	By Visual Examination check without and out pressure & testing.	There shall be no defects that affect the serviceability of the product.
	2	Contact Resistance	To be measured between the two terminals associated with each switch pole.	50mΩ Max.
	3	Insulation Resistance	Measurements shall be made following application of 500 V/DC 100mA potential across terminals and cover for 1 minute.	1GΩ min/500V.
	4	Dielectric Withstanding Voltage	1500 VAC(50Hz or 60Hz) Between the two terminals contacts for 1 minute.	There shall be no breakdown or flashover.

ELECTRIC PERFORMANCE	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
	5	Bounce	3 to 4 operations at a rate of 1 cycle per second. 	10 m seconds max. 
MECHANICAL PERFORMANCE	6	Actuation Force	MODEL-1305N MECHANICAL TEST 500gram、1000gram、2000gram. OFF TO ON Total Travel.	①At for test the force. Force : 3N~6N. ②Total Travel : 1.5mm ③Operating Position : 1.10mm±0.20mm
	7	Torque	Applied to nut.	About 0.5 Nm Max.
OPERATING LIFE	8	Operating Life	Measurements shall be made following the test forth below : ①Plastic Material : 200mA,50VDC resistive load-gold over silver plated. ②Electronics Life Test : 500,000 cycles. ③Rate of Operation: 6-8 operation cycles per minute.	①Electronics Life Test : As shown in item 3~4. ②Mechanical Life Test : As shown in item 2~4.
			④Mechanical Life Test : 1,000,000cycles.	

HUMIDITY RESISTANCE	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
	9	Resistance Low Temperature	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for 1 hour before the measurements are made : ①Temperature : $-30\pm 3^{\circ}\text{C}$. ②Time : 96 hours.	As shown in item 2~4.
	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 the measurements are made : ①Temperature : $85\pm 3^{\circ}\text{C}$. ②Time : 96 hours.	As shown in item 2~4.
	11	Resistance Humidity	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before the measurements are made : ①Temperature : $40\pm 2^{\circ}\text{C}$. ②Relative Humidity : 90~95%. ③Time : 96 hours.	①Contact Resistance : $50\text{m}\Omega$ Max. ②Insulation Resistance : $1\text{G}\Omega$ min.
	12	The Salt Testing	Following the test set forth below the sample shall be left in normal temperature and humidity conditions for an hour before the measurements are made : ①Temperature : $35\pm 2^{\circ}\text{C}$. ②The ratio of salt-water : 5%. ③The spray amount of salt-water : 1~2 ml/h. ④Time : 48 hours.	The testing standard based on bubble, crack, and magnifying glass with gauge.

SOLDER HEAT RESISTANCE	ITEM	DESCRIPTION	TEST CONDITIONS	REQUIREMENTS
	16	Manual Soldering	■ Manual Soldering : ①Soldering Temperature : 350°C Max. ②Duration of Solder Heated : 5 seconds Max. ■ Precautions in Handling ①Care should be exercised so that flux from the upper part of the printed circuit board does not adhere to the switch. ②Except for washable type do not wash the switch. ③Please make sure that there is no flux rose over the surface of the PCB.	①Shall be free from pronounced backlash and falling-off or breakage terminals. ②As shown in item 2~4.



MATERIALS

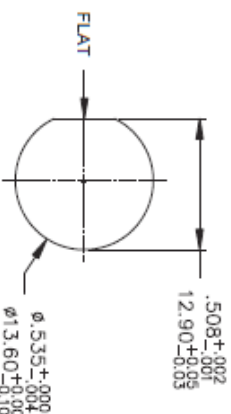
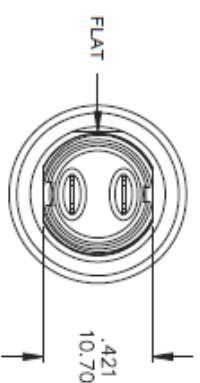
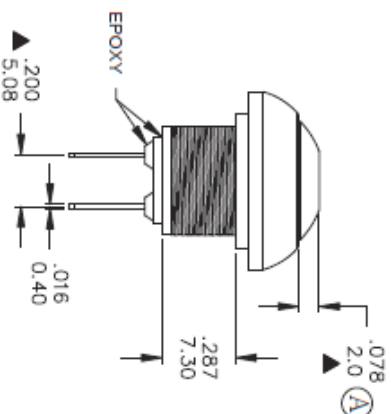
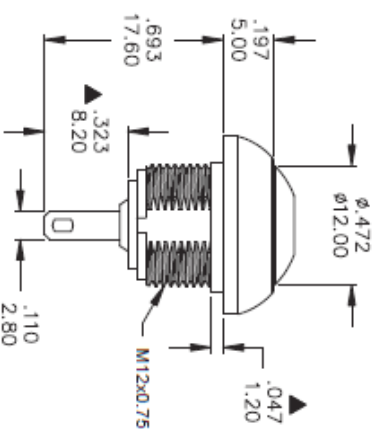
CAP: Polyamide 6/6.
 PLUNGER: PC.
 RUBBER: Silicone.
 BUSHING: Polyamide 6/6.
 CASE: Dialyl phthalate (DAP)(UL94v-0).
 TERMINAL/CONTACTS: Gold over silver plated.
 RoHS & Lead Free

PART NO.	PART NAME	QTY
1	MNL-PA03	1
2	MNL-1M09	1
3	FCP-A253	1

FILE NAME:HARDWARE-0085

Model No.	POS.1	POS.2
PFS6	OFF	MOM(ON)
CONNECTED TERMINALS	OPEN	CLOSE
SCHEMATIC		

SWITCH FUNCTION



PANEL CUT-OUT

THICKNESS: 1.5 mm ~ 4.0 mm

SPECIFICATIONS

Max. current/voltage rating with resistive load:
 400mA 32VAC - 200 mA 50VDC - 125 mA 125VAC.
 INITIAL CONTACT RESISTANCE: 50 mΩ max.
 INSULATION RESISTANCE: 1 GΩ min. at 500VDC.
 DIELECTRIC STRENGTH: 1,500 VAC ms.
 ELECTRICAL LIFE AT FULL LOAD: 500,000 cycles.
 TOTAL TRAVEL: 1.5 mm(.059).
 OPERATING FORCE: 3N~6N.
 CONTACT BOUNCE: 10 ms.
 MECHANICAL LIFE: 1,000,000 cycles.
 TORQUE: 0.5 Nm max. applied to nut.
 SOLDERING: 350°C max. for 5 seconds.
 OPERATING TEMPERATURE: -30°C to 85°C.
 DEGREE OF PROTECTION: IP68