

**Not for new applications**

**Panasonic**  
ideas for life

**A PIERCED EARRING SIZE  
DETECTION SWITCH**

**FP (ABP8)  
SWITCHES**



- Ultra-miniature size (3.4×3.4×2.4mm .134×.134×.094 inch)  
Meet the market requirements of FDD miniaturization
- Low operating force Max. 0.3 N
- SMD type available

**ORDERING INFORMATION**

Type	Part No.
Type I	ABP811161P
Type II	ABP811261P

Remarks: Standard packaging  
1 reel: 2,000 pcs.  
1 case: 5 reels (10,000 pcs.)

**TYPICAL APPLICATIONS**

- Floppy Disk Drivers
- Optical Disk Drivers
- CD-ROM Drivers
- Notebook Personal Computers
- Portable Handy Phones
- VCR
- Printers

**SPECIFICATIONS**

**1. Contact rating**

Standard rating	0.1A 10V DC
Low-level circuit rating	0.01mA 5V DC

**2. Characteristics**

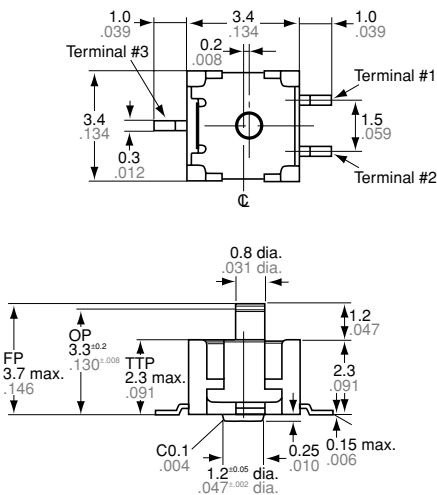
Expected electrical life (Min. operations)	0.1A 10V DC resistive	Min. 5×10 <sup>4</sup>
	10mA 5V DC resistive	Min. 10 <sup>5</sup>
Insulation resistance (by 100V DC insulation resistance meter)		Min. 100MΩ
Dielectric Strength		100Vrms for 1 min.
Vibration resistance		14.7m/s <sup>2</sup> 8 to 500Hz (contact opening: Max. 10μsec.)
Shock resistance		Min. 294 m/s <sup>2</sup> (contact opening: Max. 10μsec.)
Ambient temperature		-25°C to +80°C -13°F to +176°F (not freezing below 0°C 32°F)
Initial contact resistance		Max. 3Ω (by HP4328A)

**3. Operating characteristics**

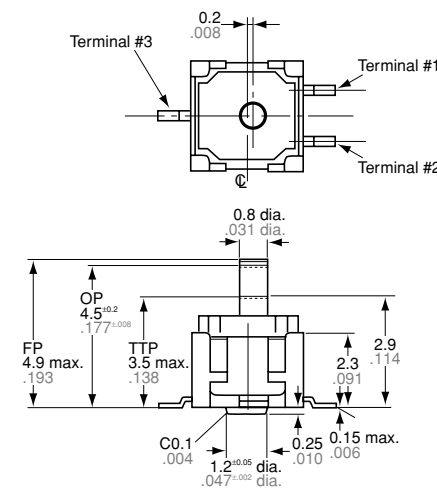
		Type I	Type II
Operating force Max.		0.3 N	
Free position Max.	mm inch	3.7 .146	4.9 .193
Operating position	mm inch	3.3±0.2 .130 ±.008	4.5±0.2 .177 ±.008
Total travel position Max.	mm inch	2.3 .091	3.5 .138
Total stroke	mm inch	1.2 .047	

**DIMENSIONS**

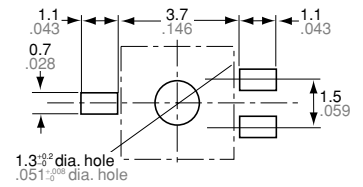
Type I



Type II

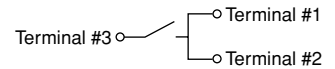


Recommended PC board pattern (Top view)



Schematic

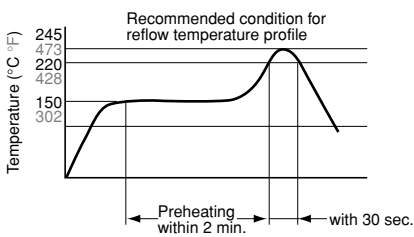
SPST-NO



**NOTES**

**1. Soldering operations**

- 1) For manual soldering; By using 18W Max. (iron tip temperature: 320°C 608°F Max.) soldering should be completed within 3 seconds.
- 2) For reflow soldering; Perform soldering reflow at a peak surface temperature of the PC board not to exceed 245°C 473°F. See the below recommended temperature profile.



- 3) During soldering, care should be taken not to apply excessive stress to the terminals as the resulting deformation may cause malfunction. Excessively high solder tab temperature and soldering iron wattage should also be avoided as these factors may harm switching performance.

**2. Setting of the operation object**

In setting the operation object; keep the following distance between the switch bottom and the operation object at T.T.P. (Total Travel Position)

- ABP811161P: 2.3 to 2.9mm .091 to .114 inch
- ABP811261P: 3.5 to 4.1mm .138 to .161 inch

**3. Quality Check under Actual Loading Conditions**

To assure reliability, check the switch under actual loading conditions. Avoid any situation that may adversely affect switching performance.

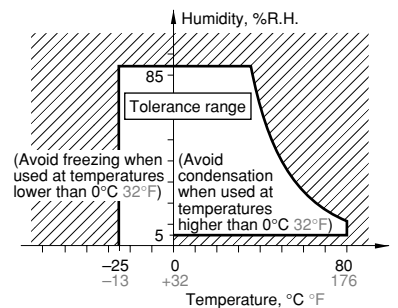
**4. Environment**

- 1) These switches do not have a sealed construction. As such, the construction of the equipment in which the switches are to be installed should be given careful consideration when the switches are to be used in locations where corrosive gases, silicon or other substances which will adversely affect the contacts are used, where there is a high concentration of dust or where the switches may be exposed to condensation or water. Using switches in locations like these may cause malfunctioning.
- 2) Avoid using this switch in high-temperature, high-humidity or condensation-forming environments and avoid allowing droplets of water to remain on the switch or come into contact with it. These conditions may interfere with the performance of the switch (resulting in short-circuiting,

migration, etc.). Use the type with the gold contacts in applications involving trains, aircraft, motor vehicles or medical equipment where the switch must satisfy safety and high reliability requirements. Please consult with us for the applications required high reliability.

- 3) Because the humidity range differs depending on the ambient temperature, the humidity range indicated below should be used. Continuous operation of the switch is possible within this range, but continuous use near the limit of the range should be avoided.

• This humidity range does not guarantee permanent performance.



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