

# Trimmer Potentiometers

**muRata**

## SMD Open Type 3mm Size PVZ3 Series

2

### PVZ3 Series

#### ■ Features

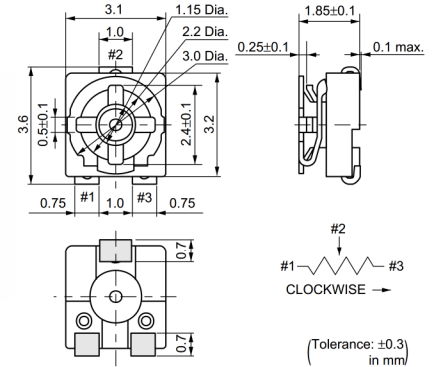
1. Excellent solderability characteristics are achieved via special plating techniques on each termination.
2. Specially designed substrate prevents wicking of flux onto the top of the part body.
3. Funnel shaped adjustment slot allows for in-process automatic adjustment.  
(PVZ3A/PVZ3H/PVZ3K Series)
4. High-heat resistance type is available  
(PVZ3A\_C01/PVZ3K\_E01).
5. Enlarged bottom termination enhances soldering strength while reducing the necessary land area required promoting high-density PCB mounting  
(PVZ3A/PVZ3H/PVZ3G Series).
6. The standard position of driver plate is adjusted at the center normally, but another position is also available.
7. This product meets PB-free standards.
8. Complies with RoHS directive.

#### ■ Applications

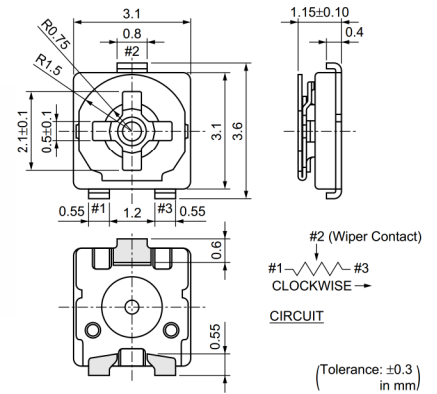
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|----------------------|------------------------|
| 1. Optical pick up   | 2. Cordless telephones |
| 3. CD players        | 4. E-BOOK              |
| 5. Motor             | 6. CD-ROMs             |
| 7. Car stereos       | 8. TFT-LCD TV sets     |
| 9. Headphone stereos |                        |



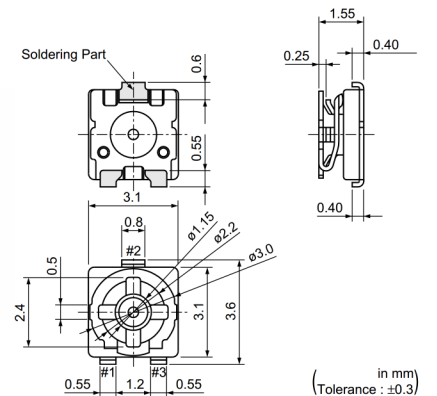
PVZ3A



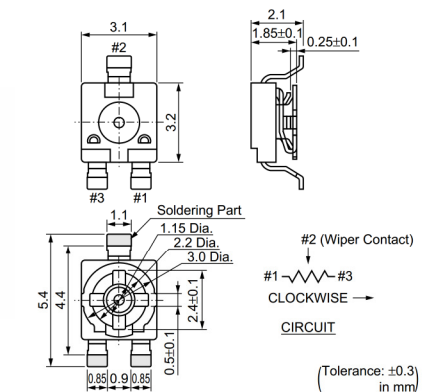
PVZ3G



PVZ3H



PVZ3K





## 2

\*Available for other resistance value.  
Operating Temperature Range: -25 to 85 °C      Soldering Method: Reflow/Soldering Iron

PVZ3A

Driver Plate

Wiper

#3 Terminal

Resistive Sensor

Resin Substrate

#1 Terminal

#2 Terminal

**PVZ3G**

Driver Plate

Wiper

#2-Terminal

#1-Terminal

#3-Terminal

Resistive Element

Resin Substrate

Technical drawing of the PVZ3A/PVZ3G/PVZ3H connector showing dimensions in mm.

Dimensions shown:

- Top view (Side view):
  - Width: 1.1
  - Height: 0.9
- Bottom view (Front view):
  - Width: 1.9 (Total), 1.0 (Left), 0.7 (Middle), 1.0 (Right)
  - Height: 1.9 (Total), 0.9 (Top), 1.9 (Bottom)

(Tolerance :  $\pm 0.1$ )  
in mm)

**PVZ3H**

- Driver Plate
- Wiper
- #2 Terminal
- Resistive Element
- Resin Substrate
- #3 Terminal
- #1 Terminal



## PVZ3 Series Notice

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### ■ Notice (Operating and Storage Conditions)

1. Store in temperatures of -10 to +40 deg. C and relative humidity of 30-85%.
2. Do not store in or near corrosive gases.
3. Use within six months after delivery.
4. Open the package just before using.
5. Do not store under direct sunlight.
6. If you use the trimmer potentiometer in an environment other than listed below, please consult with a Murata factory representative prior to using.  
The trimmer potentiometer should not be used under the following environmental conditions:

- (1) Corrosive gaseous atmosphere  
(Ex. Chlorine gas, Hydrogen sulfide gas, Ammonia gas, Sulfuric acid gas, Nitric oxide gas, etc.)
- (2) In liquid  
(Ex. Oil, Medical liquid, Organic solvent, etc.)
- (3) Dusty/dirty atmosphere
- (4) Direct sunlight
- (5) Static voltage nor electric/magnetic fields
- (6) Direct sea breeze
- (7) Other variations of the above

### ■ Notice (Rating)

1. When using with partial load (rheostat), minimize the power depending on the resistance value.
2. The maximum input voltage to a trimmer potentiometer should not exceed  $(P \cdot R)^{1/2}$  or the maximum operating voltage, whichever is smaller.
3. If the trimmer potentiometer is used in DC and high humidity conditions, please connect wiper (#2) for plus and resistive element (#1 or #3) for minus.

### ■ Notice (Soldering and Mounting)

1. Soldering
  - (1) Soldering conditions  
Refer to the temperature profile.  
If the soldering conditions are not suitable, e.g., excessive time and/or excessive temperature, the trimmer potentiometer may deviate from the specified characteristics.  
Do not use flow soldering method (dipping).  
If you use the flow soldering method, the trimmer potentiometer may not function.
  - (2) Use our standard land dimension. Excessive land area causes displacement due to the effect of the surface tension of the solder. Insufficient land area leads to insufficient soldering strength of the chip.
  - (3) Apply the appropriate amount of solder paste.  
The thickness of solder paste should be printed from 100 micro m to 150 micro m and the dimension of land pattern used should be Murata's standard land pattern at reflow soldering. Insufficient amounts of solder can lead to insufficient soldering strength on PCB.  
Excessive amounts of solder may cause bridging between the terminals.

- (4) The soldering iron should not come in contact with the case of the trimmer potentiometer. If such contact does occur, the trimmer potentiometer may be damaged. (PVZ Series only)
2. Mounting
  - (1) Do not apply excessive force, preferably 4.9N max. (Ref. 500gf) when the trimmer potentiometer is mounted to the PCB.
  - (2) Do not warp and/or bend PC board to prevent trimmer potentiometer from breakage.
  - (3) In chip placers, the recommended size of the cylindrical pick-up nozzle should be outer dimension 2.5-2.8mm dia. and inner dimension 2mm dia.
3. Cleaning
  - (1) In case there is flux on the resistive element, clean sufficiently with cleaning solvents and completely remove all residual flux.
  - (2) Isopropyl-alcohol and Ethyl-alcohol are applicable solvents for cleaning. If you use any other types of solvents, please evaluate performance with your product.

