

Trimmer Potentiometers



ГРУППА
КОМПАНИЙ

АЛКОН

Санкт-Петербург,
ул. Геологическая, 79
тел. (812) 449-49-94

www.alkon.net

muRata

*Innovator
in Electronics*

Murata
Manufacturing Co., Ltd.

Trimmer Potentiometers



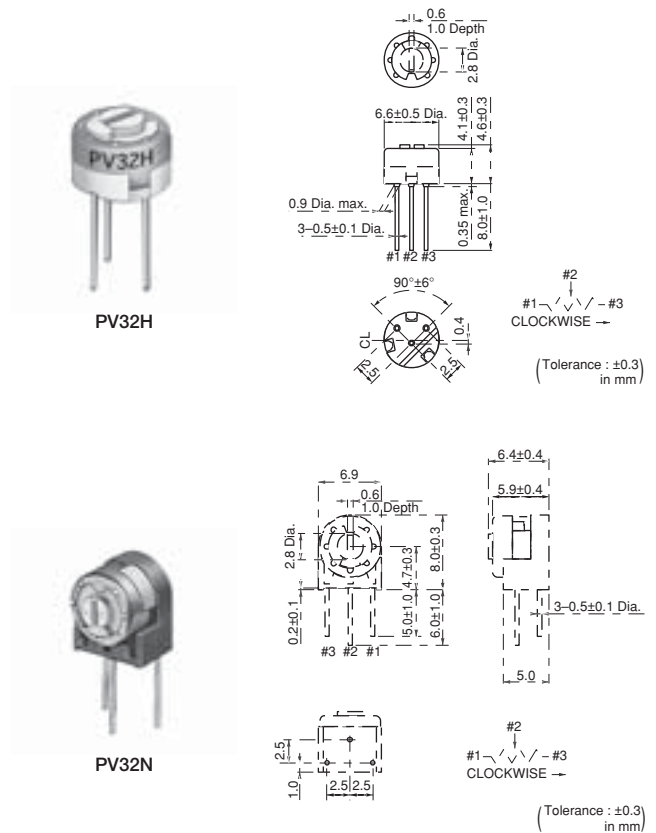
Lead Sealed Type Single-turn PV32 Series

■ Features

1. Round body shape enables smaller area mount than same 6mm square potentiometer.
2. Sealed construction protects the interior from dust and liquid, which achieves stable performance.
3. Available for ultrasonic cleaning after soldering.
4. Flammability: UL94V-0
5. PV32 series complies with RoHS directive.

■ Applications

- | | |
|-------------------------|-----------------|
| 1. HDTVs | 5. Printers |
| 2. Professional cameras | 6. Sensors |
| 3. CATV | 7. Power supply |
| 4. FAX | |



Top Adjustment

Part Number	Power Rating (W)	Number of Turns (Effective Rotation Angle)	Mechanical Rotation Angle	Total Resistance Value	TCR (ppm/°C)
PV32H100A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	10ohm±20%	±100
PV32H200A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	20ohm±20%	±100
PV32H500A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	50ohm±20%	±100
PV32H101A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	100ohm±20%	±100
PV32H201A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	200ohm±20%	±100
PV32H501A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	500ohm±20%	±100
PV32H102A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	1k ohm±20%	±100
PV32H202A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	2k ohm±20%	±100
PV32H502A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	5k ohm±20%	±100
PV32H103A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	10k ohm±20%	±100
PV32H203A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	20k ohm±20%	±100
PV32H503A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	50k ohm±20%	±100
PV32H104A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	100k ohm±20%	±100
PV32H204A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	200k ohm±20%	±100
PV32H504A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	500k ohm±20%	±100
PV32H105A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	1M ohm±20%	±100
PV32H205A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	2M ohm±20%	±100
PV32H505A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	5M ohm±20%	±100

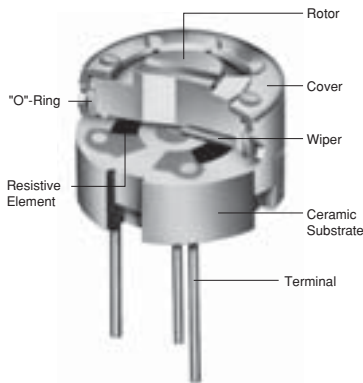
Operating Temperature Range: -55 to 125 °C
 Soldering Method: Flow/Soldering Iron

Side Adjustment

Part Number	Power Rating (W)	Number of Turns (Effective Rotation Angle)	Mechanical Rotation Angle	Total Resistance Value	TCR (ppm/°C)
PV32N100A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	10ohm±20%	±100
PV32N200A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	20ohm±20%	±100
PV32N500A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	50ohm±20%	±100
PV32N101A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	100ohm±20%	±100
PV32N201A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	200ohm±20%	±100
PV32N501A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	500ohm±20%	±100
PV32N102A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	1k ohm±20%	±100
PV32N202A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	2k ohm±20%	±100
PV32N502A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	5k ohm±20%	±100
PV32N103A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	10k ohm±20%	±100
PV32N203A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	20k ohm±20%	±100
PV32N503A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	50k ohm±20%	±100
PV32N104A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	100k ohm±20%	±100
PV32N204A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	200k ohm±20%	±100
PV32N504A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	500k ohm±20%	±100
PV32N105A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	1M ohm±20%	±100
PV32N205A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	2M ohm±20%	±100
PV32N505A01	0.5(70°C)	1(230°±5°)	270+/-5 deg.	5M ohm±20%	±100

Operating Temperature Range: -55 to 125 °C
 Soldering Method: Flow/Soldering Iron

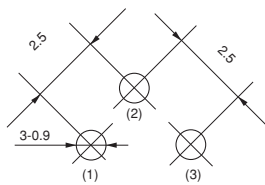
Construction



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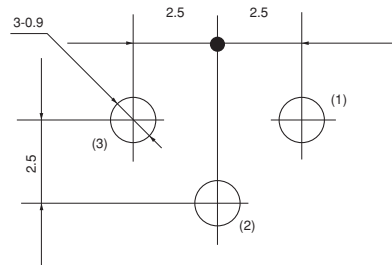
Standard Mounting Holes

PV32H



(Tolerance: ±0.1 in mm)

PV32N



(Tolerance: ±0.1 in mm)

■ Characteristics

Temperature Cycle	ΔTR : $\pm 2\%$ $\Delta V.S.S.$: $\pm 1\%$
Humidity	ΔTR : $\pm 2\%$ IR : 100M ohm min.
Vibration (20G)	ΔTR : $\pm 1\%$ $\Delta V.S.S.$: $\pm 1\%$
Shock (100G)	ΔTR : $\pm 1\%$ $\Delta V.S.S.$: $\pm 1\%$
Temperature Load Life	ΔTR : $\pm 2\%$ $\Delta V.S.S.$: $\pm 2\%$
Low Temperature Exposure	ΔTR : $\pm 2\%$ $\Delta V.S.S.$: $\pm 1\%$
High Temperature Exposure	ΔTR : $\pm 2\%$ $\Delta V.S.S.$: $\pm 1\%$
Rotational Life	ΔTR : $\pm 4\%$ (200 cycles)

ΔTR : Total Resistance Change
 $\Delta V.S.S.$: Voltage Setting Stability
 IR : Insulation Resistance

PV32 Series Notice

■ Notice (Operating and Storage Conditions)

1. Store in temperatures of -10 to +40°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 at right, 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 or 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.

■ 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.
 - (2) To minimize mechanical stress when adjusting, the trimmer potentiometer should be mounted onto the PCB without a gap.
 - (3) 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.

2. Mounting
 - (1) Use the PCB hole to meet the pin of the trimmer potentiometer. If the trimmer potentiometer is installed into an insufficient PCB hole, the trimmer potentiometer may be damaged by mechanical stress.
 - (2) Do not apply excessive force, preferably 9.8N max. (Ref. 1kgf) when the trimmer potentiometer is mounted to the PCB.
3. Cleaning
Isopropyl alcohol and ethyl alcohol are applicable solvents for cleaning. If you use any other types of solvents, please consult with a Murata factory representative prior to using.

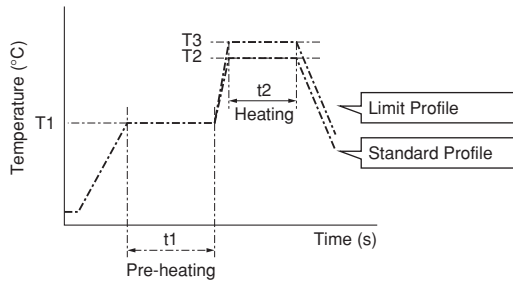
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■ Soldering Profile

● Flow Soldering Profile

Soldering profile for lead free solder (96.5Sn/3.0Ag/0.5Cu), Eutectic solder (63Sn/37Pb)



Series	Standard Profile					Limit Profile				
	Pre-heating		Heating		Cycle of Flow	Pre-heating		Heating		Cycle of Flow
	Temp. (T1)	Time (t1)	Temp. (T2)	Time (t2)		Temp. (T1)	Time (t1)	Temp. (T3)	Time (t2)	
	°C	sec.	°C	sec.	Time	°C	sec.	°C	sec.	Time
PV32	150	60 to 120	250	5 max.	1	150	60 to 120	260	3 max.	1

● Soldering Iron

Series	Standard Condition			
	Temperature of Soldering Iron Tip	Soldering Time	Soldering Iron Power Output	Cycle of Soldering Iron
	°C	sec.	W	Time
PV32	350±10	3 max.	30 max.	1

■ Notice (Handling)

- Use suitable screwdrivers that fit comfortably in the driver slot. We recommend the screwdrivers below.
 * Recommended screwdriver for manual adjustment <PV32 series>
 ENGINEER INC.: DA-40
 (Murata P/N: KMDR180)
 We can supply the screwdrivers above.
 If you place an order, please specify the Murata P/N.
- When adjusting with an adjustment tool, the applied force to the adjustment screw should not exceed 4.9N (Ref. 500gf). If excessive force is applied, the trimmer potentiometer may not function due to damage.
- The rotational torque at the position of the adjustment range should not exceed the stop strength.
- When using a lock paint to fix the slot position, please use adhesive resin without chlorine or sulfur (Three-bond "1401 series") and evaluate performance with your product. Lock paint may cause corrosion or electrical contact problems.

■ Notice (Other)

- Please make sure that your product has been evaluated and confirmed against your specifications when our product is mounted to your product.
- Murata cannot guarantee trimmer potentiometer integrity when used under conditions other than those specified in this document.