

## Fully Sealed Container Cermet Trimmers



Models P8PX and P8PY feature a TO-5 transistor type, rugged metal case housing.

The cermet track is printed to an alumina substrate allowing high dissipation and ensuring reliable performance under extreme environmental conditions.

Models P8PX and P8PY are qualified PC 39 and PC 19 respectively according to CECC 41 101-002 mod. A and B.

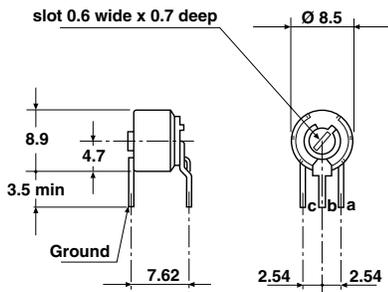
### FEATURES

- Military and professional grade
  - 1 Watt at 70 °C, P8PT
  - 0.5 Watt at 70 °C, P8PX - P8PY
  - CECC 41 101-002 (A, B)
  - GAM T1
  - Fully sealed
- P8P series are available in three mounting configurations:
- P8PX, side adjust with pins } Outlets PCB mounting
  - P8PY, top adjust with pins }
  - P8PT, panel mount with solder lugs
- Multi-finger wiper contact in precious metal

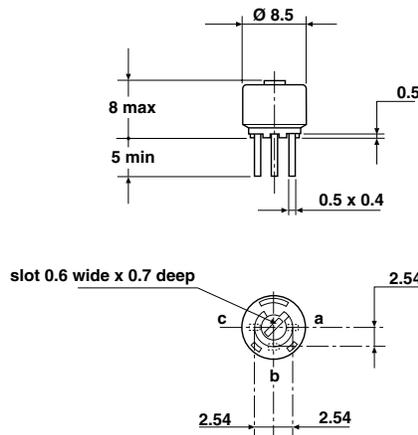


### DIMENSIONS in millimeters

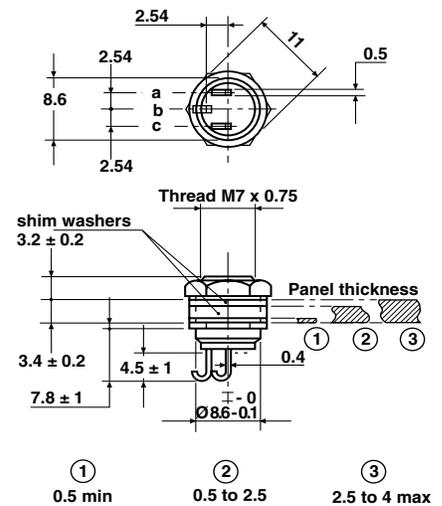
**P8PX - (PC 39) B**



**P8PY - (PC 19) A**



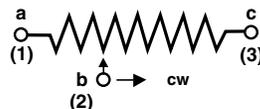
**P8PT**



• Tolerance unless otherwise specified:  $\pm 0.5$

Consult Vishay SFERNICE for panel sealed type

### CIRCUIT DIAGRAM



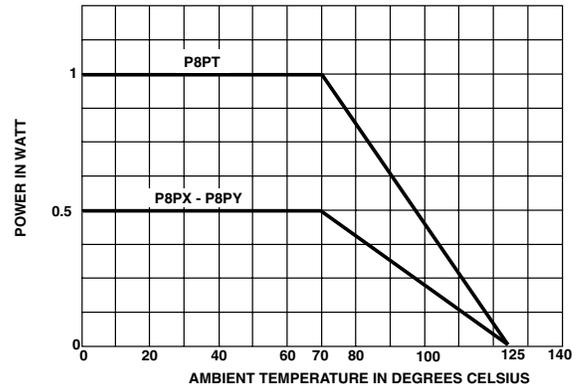
ELECTRICAL SPECIFICATIONS		
Resistive Element		cermet
Electrical Travel		270° ± 15°
Resistance Range		10 Ω to 2.2 MΩ
Standard series E3		1 - 2.2 - 4.7 and on request 1 - 2 - 5
Tolerance	Standard	± 10 %
	On Request	± 5 %
Power Rating	P8PX - P8PY	0.5 W at 70 °C
	P8PT	1 W at 70 °C
Temperature Coefficient		See Standard Resistance Element Table
Limiting Element Voltage (Linear Law)		250 V
Contact Resistance Variation		2 % Rn or 1 Ω
End Resistance (Typical)		1 Ω
Dielectric Strength (RMS)		1000 V
Insulation Resistance (500 VDC)		1 GΩ

**MECHANICAL SPECIFICATIONS**

Mechanical Travel	300° ± 5°
Operating Torque (max. Ncm)	3
End Stop Torque (max. Ncm)	6
Unit Weight (max. g)	1... 3.1

**ENVIRONMENTAL SPECIFICATIONS**

Temperature Range	- 55 °C to + 125 °C
Climatic Category	55/125/56
Sealing	fully sealed container IP67

**POWER RATING CHART**


PERFORMANCE						
CECC 41100					TYPICAL VALUES AND DRIFTS	
TESTS	CONDITIONS	$\frac{\Delta RT}{RT}$ (%)	REQUIREMENTS	$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)	$\frac{\Delta RT}{RT}$ (%)	$\frac{\Delta R_{1-2}}{R_{1-2}}$ (%)
Climatic Sequence	Phase A dry heat 125 °C Phase B damp heat Phase C cold - 55 °C Phase D damp heat 5 cycles	± 2 %		± 3 %	± 0.5 %	± 1 %
Long Term Damp Heat	56 days 40 °C, 93 % RH	± 2 %		± 3 %	± 0.5 %	± 1 %
Rotational Life	200 cycles	± 2 %	Contact res. variat.: < 5 % Rn		± 1 %	Contact res. variat.: < 2 % Rn
Load Life	1000 h at rated power 90°/30° - ambient temp. 70 °C	± 2 %	Contact res. variat.: < 5 % Rn	± 3 %	± 1 %	± 2 %
Rapid Temperature Change	5 cycles - 55 °C to + 125 °C	± 1.5 %		$\frac{\Delta V_{1-2}}{V_{1-3}} \leq \pm 1 \%$	± 0.2 %	$\frac{\Delta V_{1-2}}{V_{1-3}} \leq \pm 0.5 \%$
Shock	50 g at 11 m secs 3 successive shocks in 3 directions	± 1 %		± 2 %	± 0.1 %	± 0.5 %
Vibration	10 - 55 Hz 0.75 mm or 10 g during 6 hours	± 1 %		$\frac{\Delta V_{1-2}}{V_{1-3}} \leq \pm 2 \%$	± 0.2 %	$\frac{\Delta V_{1-2}}{V_6} \leq \pm 0.5 \%$



STANDARD RESISTANCE ELEMENT DATA							
STANDARD RESISTANCE VALUES	P8PX - P8PY			P8PT			TCR - 55 °C + 125 °C
	MAX. POWER AT 70 °C	MAX. WORKING VOLTAGE	MAX. CUR. THROUGH WIPER	MAX. POWER AT 70 °C	MAX. WORKING VOLTAGE	MAX. CUR. THROUGH WIPER	
Ω	W	V	mA	W	V	mA	ppm/°C
10	0.5	2.2	224	1	3.16	316	0 + 200
22		3.3	150		4.69	213	
47		4.8	103		6.86	146	
100	↓	7	70	↓	10.0	100	± 100
220		10.5	47		14.8	67	
470		15.3	32		21.7	46	
1K		22.4	22		31.6	32	
2.2K		33.2	15		46.9	21	
4.7K		48.5	10		68.6	15	
10K		7.7	7		100.0	10.0	
22K		105	4.8		148	6.7	
47K		153	3.2		217	4.6	
100K		0.5	224		2.2	0.63	
220K	0.28	250	1.1	0.28	250	1.1	
470K	0.13	250	1.53	0.13	250	0.5	
1M	0.06	250	0.25	0.06	250	0.3	
2.2M	0.028	250	0.11	0.03	250	0.1	

**MARKING**

- Printed :
- VISHAY trademark
  - NF type if applicable
  - series
  - style
  - ohmic value (in Ω , kΩ, MΩ)
  - tolerance (in %)
  - manufacturing date
  - marking of terminal: 3

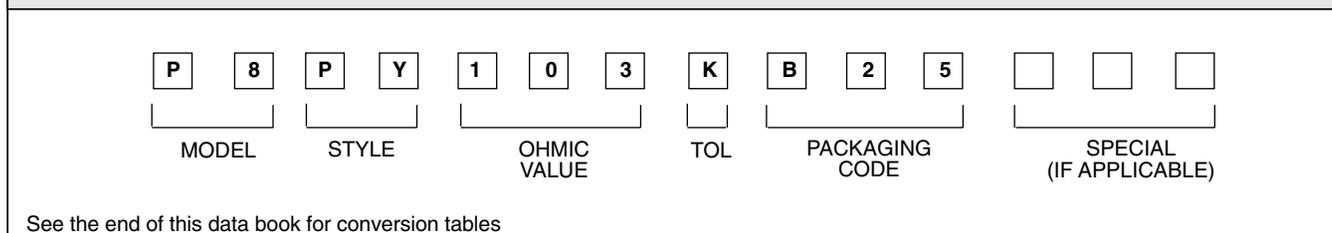
**PACKAGING**

- Plastic box of 50 pieces for P8PX and P8PY
- Plastic box of 24 pieces for P8PT

**ORDERING INFORMATION**

P8 MODEL	PY STYLE	10 kΩ OHMIC VALUE	± 10 % TOLERANCE	BL50 PACKAGING	e2 LEAD FINISH
				P8PX and P8PY: BL50 P8PT: BL24	e2: SnAg alloy

**SAP PART NUMBERING GUIDELINES**





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