8.5 mm Diameter Single-Turn Fully Sealed Container Cermet Trimmer

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.

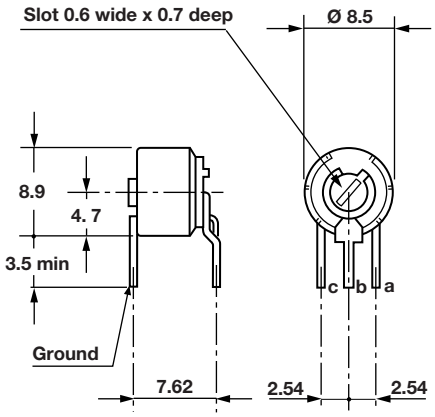
FEATURES

- Military and professional grade
- 1 W at 70 °C, P8PT
- 0.5 W at 70 °C, P8PX - P8PY
- Product qualification according to CECC 41101-002 (A, B)
- Fully sealed
- Multi-finger wiper contact in precious metal
- Tests according to CECC 41000 or IEC 60393-1
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

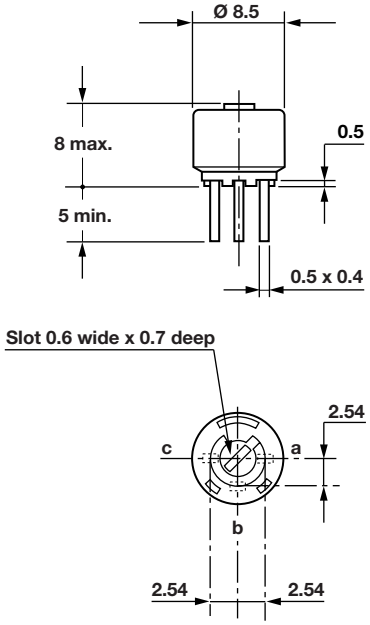
RoHS COMPLIANT

DIMENSIONS in millimeters (± 0.5 mm)

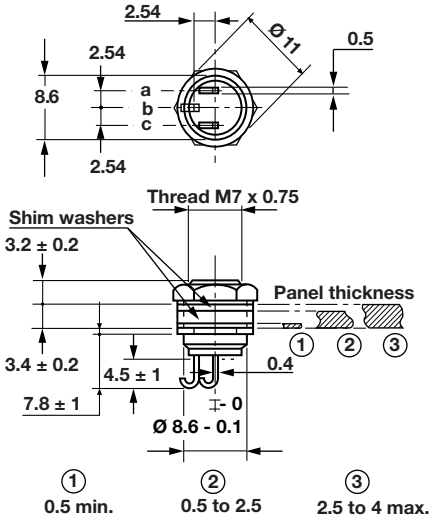
P8PX - (PC 39) B



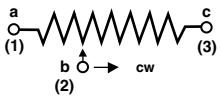
P8PY - (PC 19) B

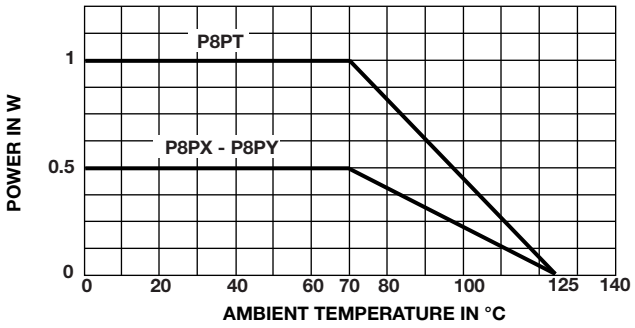


P8PT



Consult Vishay Sfernice for panel sealded type

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
Circuit diagram		
Temperature coefficient		See standard resistive element table
Limiting element voltage (linear law)		250 V
Contact resistance variation		2 % Rn or 1 Ω
End resistance (typical)		1 Ω
Dielectric strength		1000 V
Insulation resistance (500 V_{DC})		1 GΩ



MECHANICAL SPECIFICATIONS		
Mechanical travel		300° ± 5°
Operating torque (max. Ncm)		3
End stop torque (max. Ncm)		6
Unit weight (max. g)	P8PX - P8PY	1.1
	P8PT	3.6
Terminals		SnAg alloy (code e2)

ENVIRONMENTAL SPECIFICATIONS	
Temperature range	-55 °C to +125 °C
Climatic category	55/125/56
Sealing	Fully sealed - IP67

STANDARD RESISTANCE ELEMENT DATA

STANDARD RESISTANCE VALUES	P8PX - P8PY			P8PT			TYPICAL TCR -55 °C +125 °C
	MAX. POWER AT 70 °C	MAX. WORKING VOLTAGE	MAX. CURRENT THROUGH WIPER	MAX. POWER AT 70 °C	MAX. WORKING VOLTAGE	MAX. CURRENT THROUGH WIPER	
Ω	W	V	mA	W	V	mA	ppm/°C
10	0.50	2.24	224	1.0	3.16	316	
22	0.50	3.32	150	1.0	4.69	213	
47	0.50	4.85	103	1.0	6.86	146	
100	0.50	7.07	70	1.0	10.0	100	
220	0.50	10.5	47	1.0	14.8	67	
470	0.50	15.3	32	1.0	21.7	46	
1K	0.50	22.4	22	1.0	31.6	32	
2.2K	0.50	33.2	15	1.0	46.9	21	
4.7K	0.50	48.5	10	1.0	68.6	15	± 100
10K	0.50	70.7	7.0	1.0	100.0	10.0	
22K	0.50	105	4.8	1.0	148	6.7	
47K	0.50	153	3.2	1.0	217	4.6	
100K	0.50	224	2.2	0.63	250	2.5	
220K	0.28	250	1.1	0.28	250	1.1	
470K	0.13	250	0.53	0.13	250	0.53	
1M	0.06	250	0.25	0.06	250	0.25	
2.2M	0.028	250	0.11	0.03	250	0.11	

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 % Dielectric strength: 700 V Insulation resistance: > 100 MΩ		± 3 %	± 0.5 % Dielectric strength: 1000 V Insulation resistance: > 104 MΩ	± 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 % Contact res. variat.: < 1 % Rn	± 2 %
Rapid temperature Change	5 cycles -55 °C to +125 °C	± 1.5 %	$\frac{\Delta V_{1-2}}{V_{1-3}}$	≤ ± 1 %	± 0.2 %	$\frac{\Delta V_{1-2}}{V_{1-3}}$ ≤ ± 0.5 %
Shock	50 g at 11 m s 3 successive shocks in 3 directions	± 1 %		± 2 %	± 0.1 %	± 0.5 %
Vibration	10 Hz to 55 Hz 0.75 mm or 10 *g* during 6 h	± 1 %	$\frac{\Delta V_{1-2}}{V_{1-3}}$	≤ ± 2 %	± 0.2 %	$\frac{\Delta V_{1-2}}{V_{1-3}}$ ≤ ± 0.5 %

Note

- Nothing stated herein shall be construed as a guarantee of quality or durability

MARKING

- Vishay trademark
- Model
- Style
- Ohmic value (in Ω, kΩ, MΩ)
- Manufacturing date
- Tolerance (in %)
- Marking of terminal: 3

PACKAGING

- Box of 50 pieces code B25 (BL50)

ORDERING INFORMATION (part number)

P	8	P	Y	1	0	3	K	B	2	5				

Model	STYLE	OHMIC VALUE	TOLERANCE	PACKAGING	SPECIAL NUMBER
P8	**PT** **PX** **PY**	From 10 Ω to 2.2 MΩ **103** = 10 kΩ	**K** = 10 % on request **J** = 5 %	**B25** = box 50 pieces	(If applicable) Given by Vishay for custom design

DESCRIPTION (for information only)

P8	P	Y	10K	10 %		BL	e2
MODEL	STYLE	STYLE	VALUE	TOLERANCE	SPECIAL	PACKAGING	LEAD FINISH

RELATED DOCUMENTS

APPLICATION NOTES	
Potentiometers and Trimmers	www.vishay.com/doc?51001
Guidelines for Vishay Sfernice Resistive and Inductive Components	www.vishay.com/doc?52029

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