

8.5 mm Diameter Single-Turn Fully Sealed Container Cermet Trimmer



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

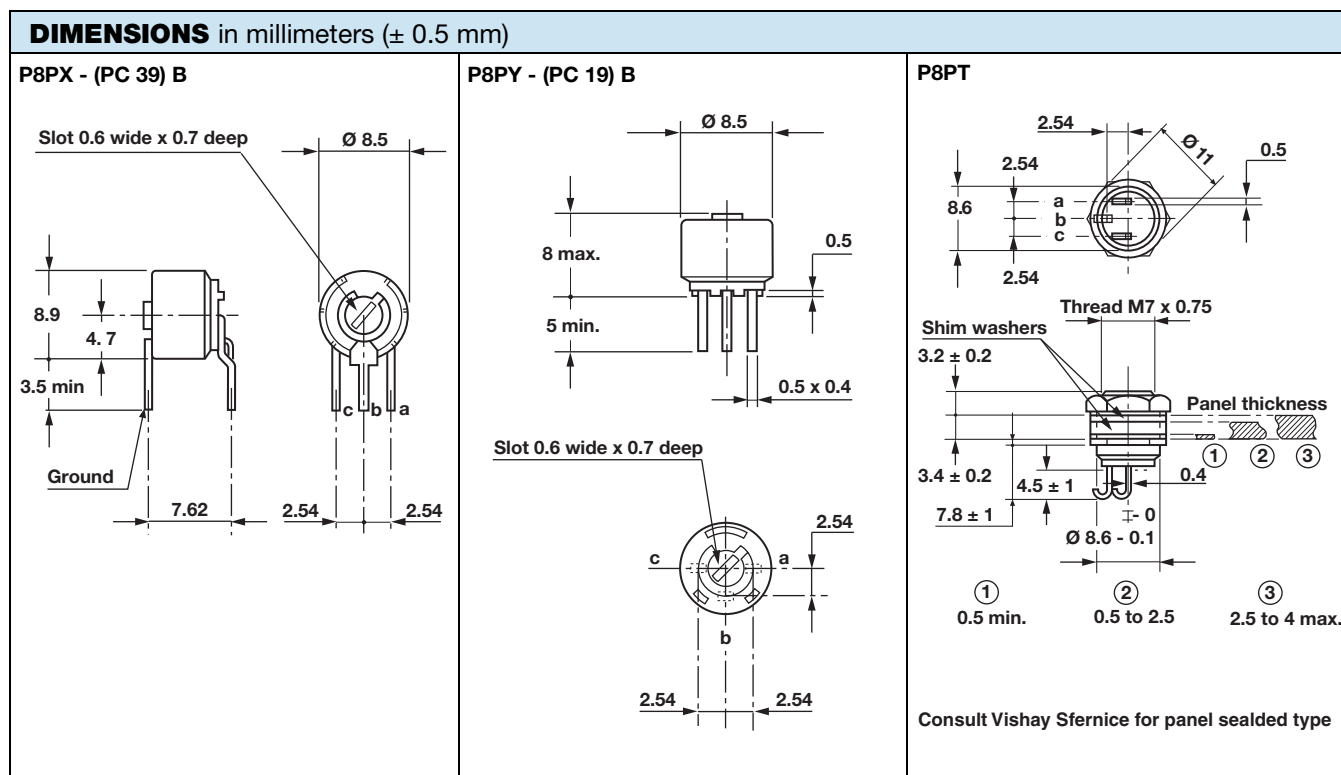

RoHS
COMPLIANT

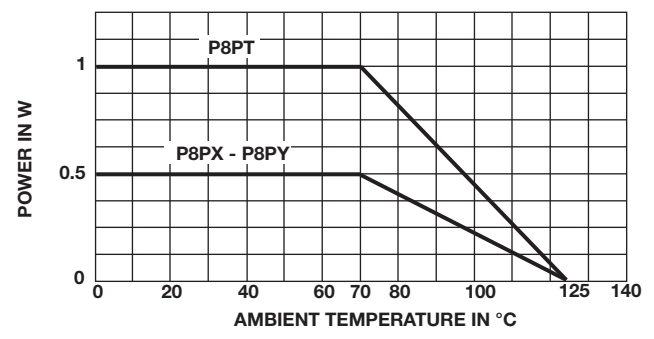
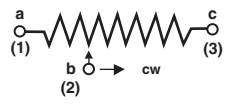
LINKS TO ADDITIONAL RESOURCES



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.



ELECTRICAL SPECIFICATIONS	
Resistive element	Cermet
Electrical travel	$270^\circ \pm 15^\circ$
Resistance range	10 Ω to 2.2 M Ω
Standard series E3	1 - 2.2 - 4.7 and on request 1 - 2 - 5
Tolerance	standard $\pm 10\%$
	on request $\pm 5\%$
Power rating	0.5 W at +70 °C
	1 W at 70 °C
 The graph shows the power rating in Watts versus ambient temperature in degrees Celsius. The x-axis ranges from 0 to 140 °C, and the y-axis ranges from 0 to 1 W. Two lines are plotted: one for P8PT (starting at 1 W at 0 °C and dropping to 0 at 125 °C) and one for P8PX - P8PY (starting at 0.5 W at 0 °C and dropping to 0 at 125 °C). Both lines are horizontal until 70 °C, where they begin to slope downward linearly.	
Circuit diagram	
Temperature coefficient	See standard resistive element table
Limiting element voltage (linear law)	250 V
Contact resistance variation	2 % R _n or 1 Ω
End resistance (typical)	1 Ω
Dielectric strength	1000 V
Insulation resistance (500 V _{DC})	1 G Ω

MECHANICAL SPECIFICATIONS	
Mechanical travel	$300^\circ \pm 5^\circ$
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	± 100
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	
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	ΔR_{RT} (%)	REQUIREMENTS	ΔR_{1-2} (%)	ΔR_{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 %			± 1 %
Load life	1000 h at rated power 90°/30° - ambient temp. 70 °C	± 2 %		± 3 %	± 1 % ± 2 %
Rapid temperature Change	5 cycles -55 °C to +125 °C	± 1.5 %	ΔV_{1-2} V_{1-3}	≤ ± 1 %	± 0.2 % ΔV_{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 %	ΔV_{1-2} V_{1-3}	≤ ± 2 %	± 0.2 % ΔV_{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 , k Ω , M Ω)
- 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 M Ω 103 = 10 k Ω			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
Selector guide	www.vishay.com/doc?49286

ACCESSORIES

Screwdrivers (to order separately)	www.vishay.com/doc?57015
------------------------------------	--



Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, "Vishay"), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Vishay products are not designed for use in life-saving or life-sustaining applications or any application in which the failure of the Vishay product could result in personal injury or death unless specifically qualified in writing by Vishay. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.