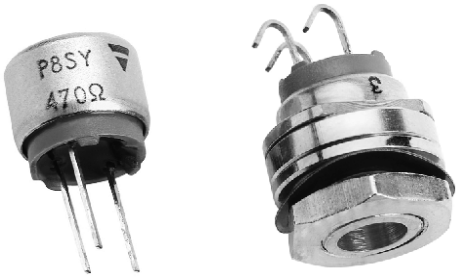
8.5 mm Diameter Fully Sealed Container Cermet Trimmer



The P8S series trimmers are well adapted for all industrial applications as their maximum resistance contact variation is within 3 % of Rn and as they are fully sealed.

For more stringent requirements the P8P series is recommended.

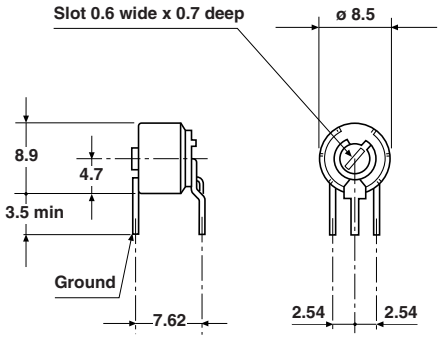
FEATURES

- Industrial grade
- High quality cermet resistive track:
  - 1 W at 70 °C, P8ST
  - 0.5 W at 70 °C, P8SX and P8SY
- Test according to CECC 41000 or IEC 60393-1
- Wide resistance range (10 Ω to 2.2 MΩ)
- Compliant to RoHS Directive 2002/95/EC

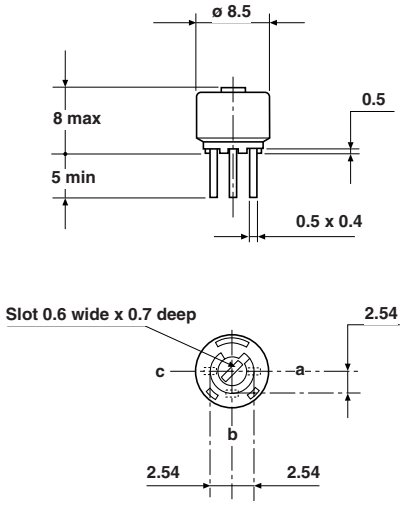
RoHS COMPLIANT

DIMENSIONS in millimeters (± 0.5 mm)

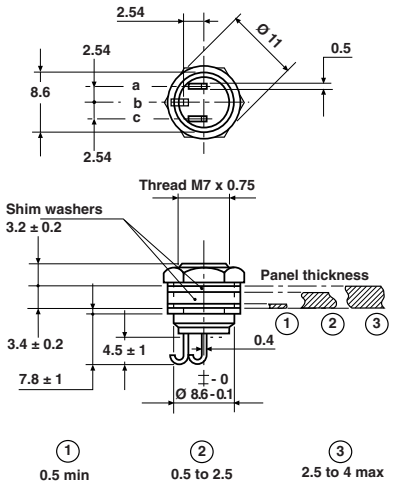
P8SX



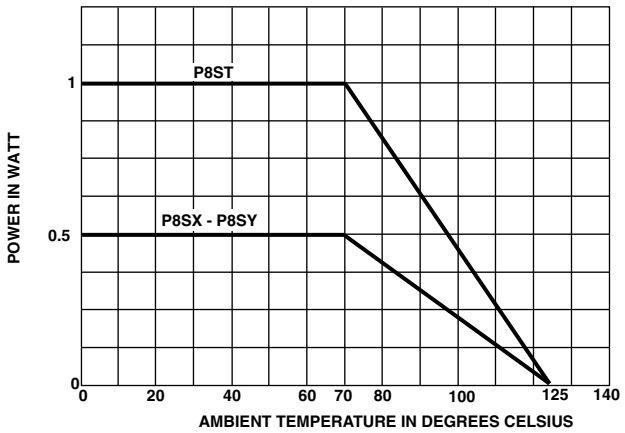
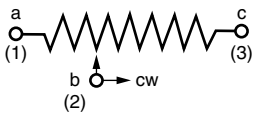
P8SY



P8ST



Consult Vishay Sfernice for panel sealed 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	**P8SX, P8SY**	0.5 W at 70 °C
	P8ST	1 W at 70 °C
Power rating chart		
Circuit diagram		
Temperature coefficient		See Standard Resistance Element Table
Limiting element voltage (linear law)		250 V
Contact resistance variation		3 % Rn or 3 Ω
End resistance (typical)		1 Ω
Dielectric strength (RMS)		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)	**P8SX, P8SY** **P8ST**	1.1 3.6
Terminals		SnAg alloy (code e2)

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

PERFORMANCES

TESTS	CONDITIONS	TYPICAL VALUES AND DRIFTS	
		$\Delta R_T/R_T$ (%)	$\Delta R_{1-2}/R_{1-2}$ (%)
Load life	1000 h at rated power 90'/30' - ambient temperature 70 °C	± 2 % Contact res. variation: < 3 % Rn	± 3 %
Climatic sequence	Phase A dry heat 100 °C Phase B damp heat Phase C cold - 55 °C Phase D damp heat 5 cycles	± 0.5 %	± 1 %
Long term damp heat	56 days 40 °C, 93 % RH	± 1 % Dielectric strength: 1000 V_{RMS} Insulation resistance: > 10^4 MΩ	± 2 %
Rapid temperature change	5 cycles - 55 °C to + 125 °C	± 0.5 %	$\Delta V_{1-2}/\Delta V_{1-3}$ ≤ ± 1 %
Shock	50 *g* at 11 ms 3 successive shocks in 3 directions	± 0.2 %	± 0.5 %
Vibration	10 Hz to 55 Hz 0.75 mm or 10 *g* during 6 h	± 0.2 %	$\Delta V_{1-2}/\Delta V_{1-3}$ ≤ ± 0.5 %
Rotational life	200 cycles	± 3 % Contact res. variation: < 3 % Rn	

STANDARD RESISTANCE ELEMENT DATA

STANDARD RESISTANCE VALUES	P8SX, P8SY			P8ST			TYPICAL TCR - 55 °C to + 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	0.5	2.2	224	1	3.16	316	± 100
22	0.5	3.3	150	1	4.69	213	
47	0.5	4.8	103	1	6.86	146	
100	0.5	7.0	70	1	10.0	100	
220	0.5	10.5	47	1	14.8	67	
470	0.5	15.3	32	1	21.7	46	
1K	0.5	22.4	22	1	31.6	32	
2.2K	0.5	33.2	15	1	46.9	21	
4.7K	0.5	48.5	10	1	68.6	15	
10K	0.5	70.7	7.0	1	100	10	
22K	0.5	105	4.8	1	148	6.7	
47K	0.5	153	3.2	1	217	4.6	
100K	0.5	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	

MARKING

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

PACKAGING

- For P8SX, P8SY: In plastic box of 50 pieces, code B25 (BL50)
- For P8ST: In plastic box of 24 pieces, code B16 (BL24)

ORDERING INFORMATION (part number)

P	8	S	X	1	0	4	K	B	2	5				

MODEL	STYLE	OHMIC VALUE	TOLERANCE	PACKAGING CODE	SPECIAL NUMBER
P8	**ST** **SX** **SY**	From 10 Ω to 2.2 MΩ **103** = 10K	**K** = 10 % On request: **J** = 5 %	Styles SX and SY: **B25** = Box 50 pieces Style ST: **B16** = Box 24 pieces	(If applicable) Given by Vishay for custom design

PART NUMBER DESCRIPTION (for information only)

P8	S	X	100K	10 %		BL	e2
MODEL	STYLE	STYLE	VALUE	TOLERANCE	SPECIAL	PACKAGING	LEAD FINISH

Disclaimer

All product specifications and data are subject to change without notice.

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 herein or in any other disclosure relating to any product.

Vishay disclaims any and all liability arising out of the use or application of any product described herein or of any information provided herein to the maximum extent permitted by law. The product specifications do not expand or otherwise modify Vishay’s terms and conditions of purchase, including but not limited to the warranty expressed therein, which apply to these products.

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.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications unless otherwise expressly indicated. Customers using or selling Vishay products not expressly indicated for use in such applications do so entirely at their own risk and agree to fully indemnify Vishay for any damages arising or resulting from such use or sale. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

Product names and markings noted herein may be trademarks of their respective owners.