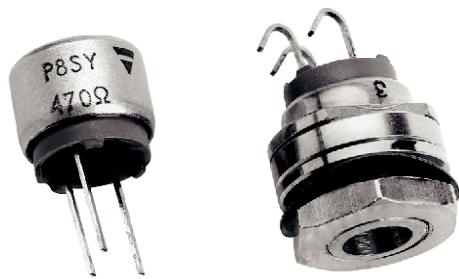


## 8.5 mm Diameter Fully Sealed Container Cermet Trimmer



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

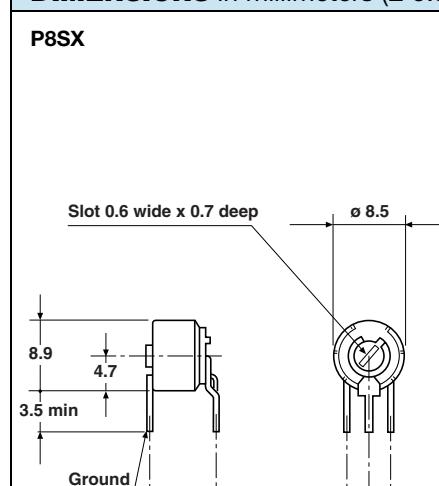
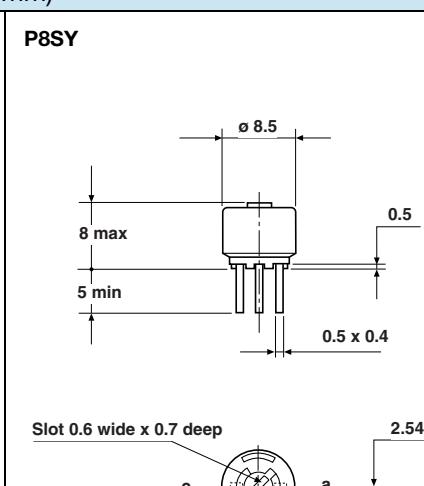
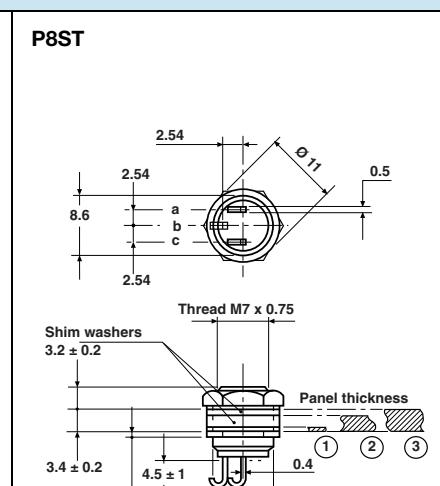
For more stringent requirements the P8P series is recommended.

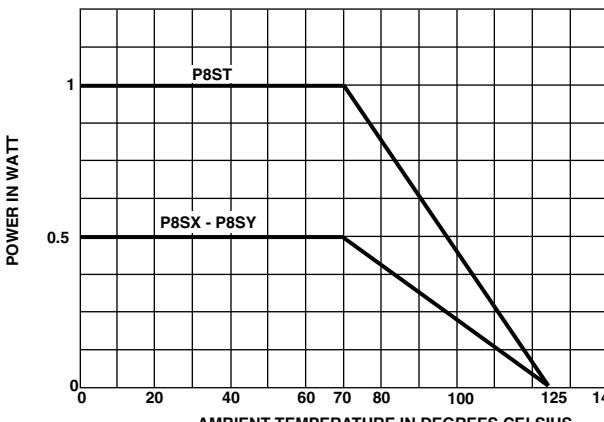
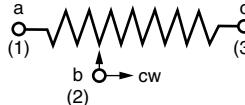
### FEATURES

- 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  $\Omega$  to 2.2 M $\Omega$ )
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



RoHS  
COMPLIANT

DIMENSIONS in millimeters ( $\pm 0.5$ mm)		
<b>P8SX</b>	<b>P8SY</b>	<b>P8ST</b>
		
<b>Consult Vishay Sfernice for panel sealed type</b>		

<b>ELECTRICAL SPECIFICATIONS</b>					
Resistive element	Cermet				
Electrical travel	$270^\circ \pm 15^\circ$				
Resistance range	10 $\Omega$ to 2.2 M $\Omega$				
Standard series E3	1 - 2.2 - 4.7 and on request 1 - 2 - 5				
Tolerance	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td>standard</td> <td><math>\pm 10\%</math></td> </tr> <tr> <td>on request</td> <td><math>\pm 5\%</math></td> </tr> </table>	standard	$\pm 10\%$	on request	$\pm 5\%$
standard	$\pm 10\%$				
on request	$\pm 5\%$				
Power rating	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td>P8SX, P8SY</td> <td>0.5 W at 70 <math>^\circ\text{C}</math></td> </tr> <tr> <td>P8ST</td> <td>1 W at 70 <math>^\circ\text{C}</math></td> </tr> </table>	P8SX, P8SY	0.5 W at 70 $^\circ\text{C}$	P8ST	1 W at 70 $^\circ\text{C}$
P8SX, P8SY	0.5 W at 70 $^\circ\text{C}$				
P8ST	1 W at 70 $^\circ\text{C}$				
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 $\Omega$				
End resistance (typical)	1 $\Omega$				
Dielectric strength (RMS)	1000 V				
Insulation resistance (500 V <sub>DC</sub> )	1 G $\Omega$				

<b>MECHANICAL SPECIFICATIONS</b>					
Mechanical travel	$300^\circ \pm 5^\circ$				
Operating torque (max. Ncm)	3				
End stop torque (max. Ncm)	6				
Unit weight (max. g)	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td>P8SX, P8SY</td> <td>1.1</td> </tr> <tr> <td>P8ST</td> <td>3.6</td> </tr> </table>	P8SX, P8SY	1.1	P8ST	3.6
P8SX, P8SY	1.1				
P8ST	3.6				
Terminals	SnAg alloy (code e2)				

<b>ENVIRONMENTAL SPECIFICATIONS</b>	
Temperature range	- 55 $^\circ\text{C}$ to + 125 $^\circ\text{C}$
Climatic category	55/125/56
Sealing	IP67 Fully sealed

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

**PACKAGING**

- In plastic box of 50 pieces, code B25 (BL50)

**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 $\Omega$ to 2.2 $M\Omega$ <b>103</b> = 10K	<b>K</b> = 10 % On request: <b>J</b> = 5 %	<b>B25</b> = Box 50 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

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**Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.**

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