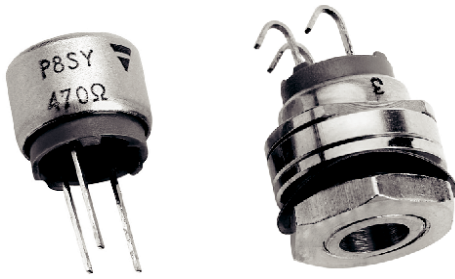


# 8.5 mm Diameter Fully Sealed Container Cermet Trimmer



## 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)
- Material categorization: For definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT

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.

DIMENSIONS in millimeters (± 0.5 mm)		
<p><b>P8SX</b></p> <p>Slot 0.6 wide x 0.7 deep</p> <p>ø 8.5</p> <p>8.9</p> <p>4.7</p> <p>3.5 min</p> <p>Ground</p> <p>7.62</p> <p>2.54</p> <p>2.54</p>	<p><b>P8SY</b></p> <p>ø 8.5</p> <p>8 max</p> <p>5 min</p> <p>0.5</p> <p>0.5 x 0.4</p> <p>Slot 0.6 wide x 0.7 deep</p> <p>2.54</p> <p>2.54</p> <p>2.54</p> <p>2.54</p>	<p><b>P8ST</b></p> <p>2.54</p> <p>2.54</p> <p>8.6</p> <p>a</p> <p>b</p> <p>c</p> <p>2.54</p> <p>0.5</p> <p>ø 11</p> <p>Thread M7 x 0.75</p> <p>Shim washers 3.2 ± 0.2</p> <p>Panel thickness</p> <p>3.4 ± 0.2</p> <p>4.5 ± 1</p> <p>0.4</p> <p>7.8 ± 1</p> <p>± 0</p> <p>ø 8.6-0.1</p> <p>① 0.5 min</p> <p>② 0.5 to 2.5</p> <p>③ 2.5 to 4 max</p> <p><b>Consult Vishay Sfernice for panel sealed type</b></p>

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	<p>The chart shows the power rating in Watts versus ambient temperature in degrees Celsius. The y-axis ranges from 0 to 1.0 W, and the x-axis ranges from 0 to 140 °C. Two lines represent the power ratings: P8ST (top line) and P8SX - P8SY (bottom line). Both lines are constant at 70 °C and then decrease linearly to 0 W at 125 °C.</p> <table border="1"> <caption>Power Rating Data</caption> <thead> <tr> <th>Ambient Temperature (°C)</th> <th>P8ST Power (W)</th> <th>P8SX - P8SY Power (W)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>1.0</td> <td>0.5</td> </tr> <tr> <td>70</td> <td>1.0</td> <td>0.5</td> </tr> <tr> <td>125</td> <td>0.0</td> <td>0.0</td> </tr> </tbody> </table>		Ambient Temperature (°C)	P8ST Power (W)	P8SX - P8SY Power (W)	0	1.0	0.5	70	1.0	0.5	125	0.0	0.0
Ambient Temperature (°C)	P8ST Power (W)	P8SX - P8SY Power (W)												
0	1.0	0.5												
70	1.0	0.5												
125	0.0	0.0												
Circuit diagram	<p>The circuit diagram shows a resistor with three terminals: a (1) on the left, b (2) at the bottom center, and c (3) on the right. A clockwise rotation arrow is shown below terminal b (2).</p>													
Temperature coefficient		See Standard Resistance Element Table												
Limiting element voltage (linear law)		250 V												
Contact resistance variation		3 % R <sub>n</sub> or 3 Ω												
End resistance (typical)		1 Ω												
Dielectric strength (RMS)		1000 V												
Insulation resistance (500 V <sub>DC</sub> )		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 <sub>RMS</sub> Insulation resistance: > 10 <sup>4</sup> 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
<ul style="list-style-type: none"> <li>• Vishay trademark</li> <li>• Model</li> <li>• Style</li> <li>• Ohmic value (in <math>\Omega</math>, k<math>\Omega</math>, M<math>\Omega</math>)</li> <li>• Tolerance (in %)</li> <li>• Manufacturing date</li> <li>• Marking of terminal: 3</li> </ul>

PACKAGING
<ul style="list-style-type: none"> <li>• In plastic box of 50 pieces, code B25 (BL50)</li> </ul>

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 $\Omega$ 103 = 10K			K = 10 % On request: J = 5 %		B25 = 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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