

Thin Film Precision High Wattage Resistor - PHW Series



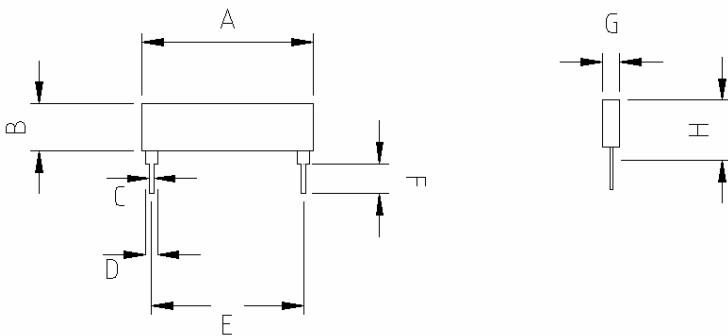
Features

- High power rating up to 3 Watts
- Resistance range from 5 ohm to 10K ohm.
- Low TCR down to ± 15 PPM/ $^{\circ}$ C
- Tight tolerance down to $\pm 0.1\%$

Applications

- Medical Surge Protection.
- Ideal to Replace MELF Resistors
- Measurement Equipment

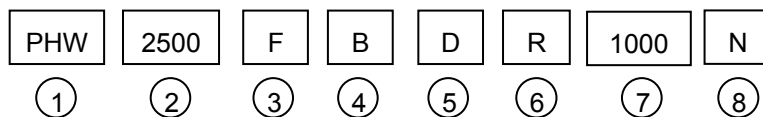
Dimensions



Unit: mm

Type	A	B	C	D	E	F	G	H
PHW2500	28 \pm 0.2	6.35 \pm 0.2	0.5	1.4	25 \pm 0.5	3.3 \pm 0.7	0.55 \pm 0.1	8.5 Max

Part Numbering



① Product Type

Product Type	Type
PHW	Thin film precision resistors

② Dimensions (L x W)

Codes	Dimensions (pitch)
2500	25.00mm

③ Resistance Tolerance

Codes	Resistance Tolerance
B	$\pm 0.1\%$
C	$\pm 0.25\%$
D	$\pm 0.5\%$
F	$\pm 1\%$

④ Packaging

Code	Type
B	Bulk

⑤ TCR

Codes	Type
B	± 15 PPM/ $^{\circ}$ C
C	± 25 PPM/ $^{\circ}$ C
D	± 50 PPM/ $^{\circ}$ C

⑥ Power Rating

Code	Type
R	3W

⑦ Resistance

Codes	Type
5R00	5 Ω
0100	10 Ω
1000	100 Ω
1002	10K Ω

⑧ Marking

Codes	Type
	Standard Marking
N	No Marking

Electrical Characteristics Specifications

Item Type	Power Rating at 70°C	Operating Temp. Range	Max Operating Voltage	Max Overloading Voltage	Resistance Tolerance	Resistance Range	TCR (PPM/°C)
PHW2500	3W	-40 ~ +85°C	200V	400V	±0.10%	5Ω~10KΩ	±15
					±0.25%		±25
					±0.50%		±50
					±1.00%		

Environmental Characteristics

Item	Specification	Test Method
Short Time Overload	$\Delta R \pm 0.5\%$	JIS-C-5202-5.5 RCWV*2.5 or Max Overloading Voltage · 5 seconds
Dielectric Withstand Voltage	By type	MIL-STD-202F Method 301 Apply Max Overload Voltage for 1 minute
Insulation Resistance	>1000MΩ	MIL-STD-202F Method 302 Apply 100V _{DC} for 1 minute
Thermal Shock	$\Delta R \pm 0.25\%$	MIL-STD-202F Method 107G -55°C ~ 150°C, 100 cycles
Load Life	$\Delta R \pm 0.5\%$	MIL-STD-202F Method 108A RCWV · 70°C · 1.5 hours ON · 0.5 hours OFF, Total 1000~1048 hours
Humidity (Steady State)	$\Delta R \pm 0.3\%$	MIL-STD-202F Method 103B 40°C , 90~95%RH, RCWV 1.5 hours ON, 0.5 hours OFF, total 1000~1048 hours
Resistance to Dry Heat	$\Delta R \pm 0.2\%$	JIS-C-5202-7.2 96 hours @ +155°C without load
Low Temperature Operation	$\Delta R \pm 0.2\%$	JIS-C-5202-7.1 1 hours, -65°C, followed by 45minutes of RCWV
Bending Strength	$\Delta R \pm 0.2\%$	JIS-C-5202-6.1.4 Bending Amplitude 3mm for 10 seconds
Solderability	90% min coverage	MIL-STD-202F Method 208H 245°C ± 5°C, 3 ± 0.5 (sec)
Resistance to Soldering Heat	$\Delta R \pm 0.2\%$	MIL-STD-202F Method 210E 260 ± 5°C, 10 ± 1 seconds

* Storage Temperature : 25±3°C; Humidity <80%RH