

BOURNS®

Features

- Formerly a Riedon™ product
- Resistance values as low as 0.02 Ω
- Power rating up to 50 W
- Load stability to ±0.5 %
- TO-220 housing
- Thick film technology
- RoHS compliant*

Applications

- Power supplies
- Stepper motor drives
- Input amplifiers

Riedon™ PSD220T-50 Series – Power Resistors by Bourns

Electrical Characteristics

Bourns Model	Power Rating @ 70 °C		Resistance Range (Ω)	Tolerance (%)	TCR (PPM/°C)	Thermal Resistance	Dielectric Strength
PSD220T-50	Heat Sink Free Air	50 W 2 W	0.02 to 0.049	±2 ±5	±600	2.1 K/W	1500 VDC
			0.05 to 0.099		±300		
			0.1 to 15K	±1 ±2 ±5	±100 (±50 available on request)		

Environmental Characteristics

Specification	Value
Operating Temperature	-40 °C to +155 °C
Maximum Working Voltage	$\sqrt{P} \cdot R$ with a maximum of 1000 V
Storage Conditions	
Temperature	+5 °C to +35 °C
Humidity	40 % to 75 %
Moisture Sensitivity Level	1

Additional Information

Click these links for more information:



Performance Characteristics

Test	Conditions	Test Method	
		Reference	Limit
Load Life	1000 hours, ON/OFF with rated power at +25 °C	MIL-STD-202 Method 108	$\Delta R < \pm 1 \%$
High Temperature Exposure	+155 °C for 1000 hours	MIL-STD-202 Method 303	$\Delta R < \pm 1 \%$
Low Temperature Storage	-55 °C for 24 hours	MIL-STD-202 Method 303	$\Delta R < \pm 1 \%$
Thermal Shock	-55 °C to +155 °C, 5 cycles	MIL-STD-202 Method 107	$\Delta R < \pm 1 \%$
Humidity Resistance	+40 °C / 90 % for 240 hours	MIL-STD-202 Method 103	$\Delta R < \pm 1 \%$
Resistance to Solder Heat	Solder dipping at 260 °C for 10 sec.	MIL-STD-202 Method 210	$\Delta R < \pm 1 \%$
Short Time Overload	2.5x rated power for 5 sec.	MIL-STD-202 Method 303	$\Delta R < \pm 1 \%$



CALIFORNIA WARNING: Can expose you to lead, a carcinogen and reproductive toxicant.

See www.P65Warnings.ca.gov

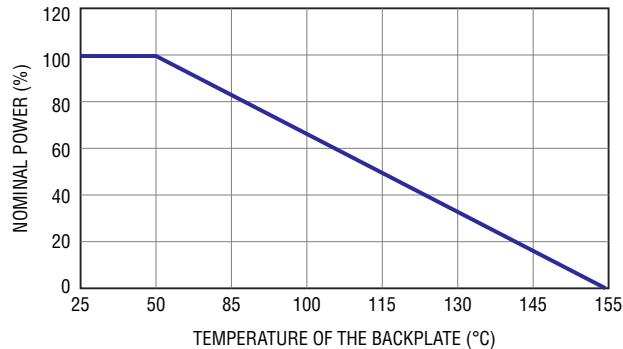
Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

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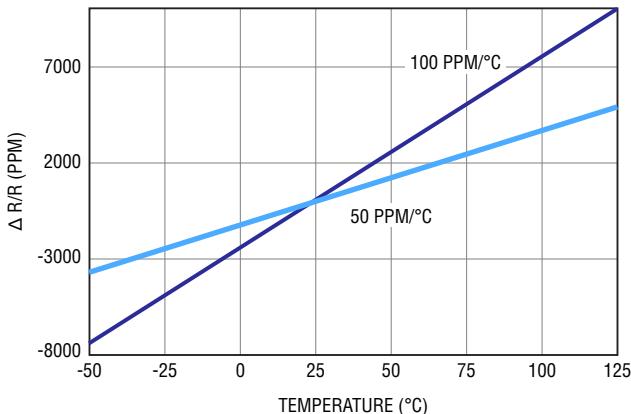
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Current Rating Thermal Derating Curve



These resistors must be attached to a suitable heat sink. The maximum internal resistor temperature is +155 °C.

Temperature Coefficient



Packaging Information

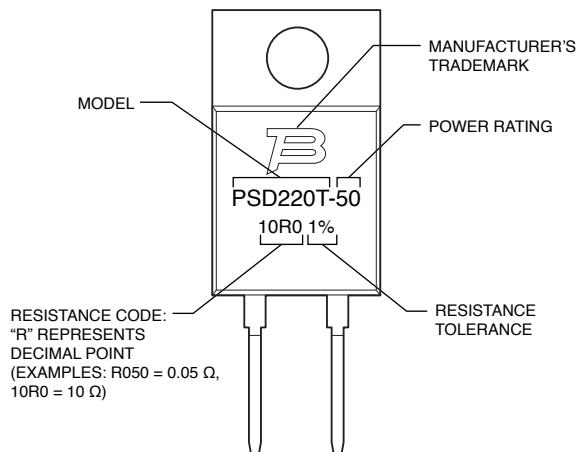
Tube 50 pcs. per tube

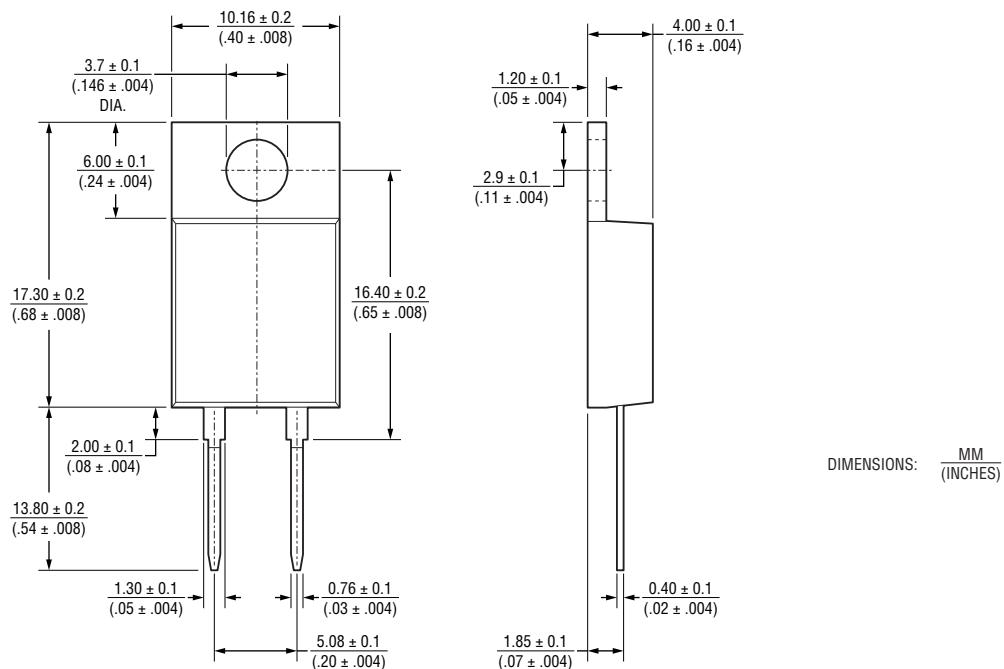
How To Order

PSD220T - 50 - R050 F T

Model _____
 PSD220T
 Power Rating _____
 50 = 50 W
 Resistance Value Code _____
 <100 Ω: "R" represents decimal point
 (example: R050 = 0.05 Ω, 5R00 = 5.00 Ω,
 92R0 = 92 Ω)
 ≥100 Ω: First three digits are significant,
 fourth digit represents number of zeros to follow
 (example: 2000 = 200 Ω, 3002 = 30 KΩ)
 Resistance Tolerance _____
 F = ±1 %
 G = ±2 %
 J = ±5 %
 TCR (PPM/°C) _____
 W = ±600
 T = ±300
 X = ±100
 Z = ±50 (For ≥0.1 Ω resistance, available upon request)

Typical Part Marking



Product Dimensions**BOURNS®****Americas:** Tel: +1 951-781-5500 • Email: americus@bourns.com**Mexico:** Tel: +52-614-478-0400 • Email: mexicus@bourns.com**Asia:** Tel: +886-2-2562-4117 • Email: asiacus@bourns.com**EMEA:** Tel: +36 88 885 877 • Email: eurocus@bourns.comwww.bourns.com

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