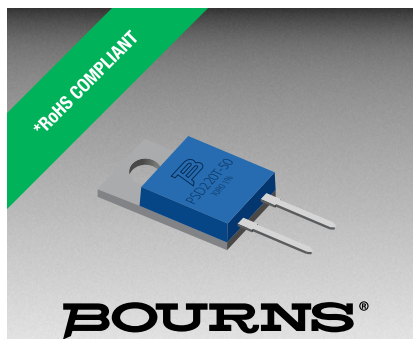




Features

- Formerly a Riedon™ product
- Resistance values as low as 0.02 Ω
- Power rating up to 50 W
- Load stability to $\pm 0.5\%$
- TO-220 SMD D²Pak
- Thick film technology
- RoHS compliant*

Applications

- Power supplies
- Stepper motor drives
- Input amplifiers

PSD220T-50 Series – Riedon™ SMD 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	± 600	2.1 K/W	1500 VDC
			0.05 to 0.099	± 5	± 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 Humidity	+5 °C to +35 °C 40 % to 75 %
Moisture Sensitivity Level	1

Additional Information

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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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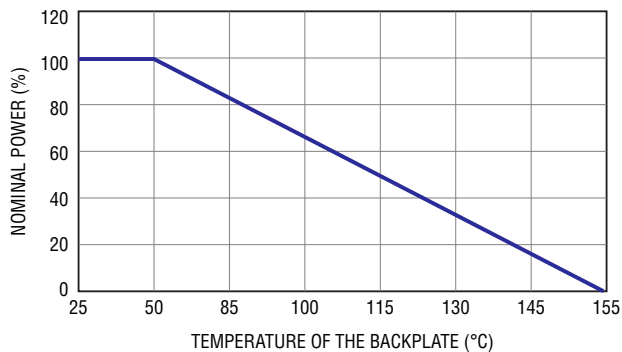
In April 2023, BE Services Company, Inc., a subsidiary of Bourns, Inc., purchased certain assets of Riedon, Inc., including its logo and trademarks and the right to continue to manufacture former Riedon™ products.

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PSD220T-50 Series – Riedon™ SMD Power Resistors by Bourns

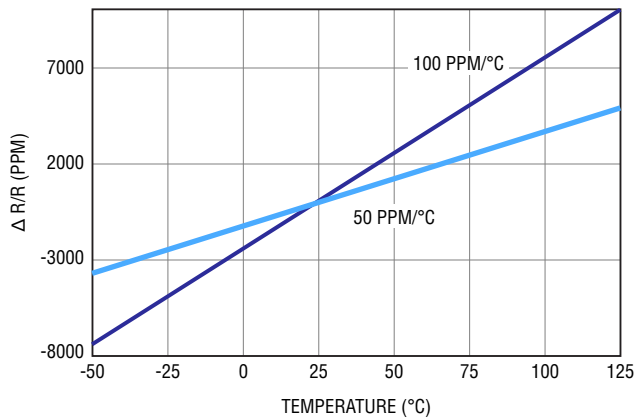
BOURNS®

Current Rating Thermal Derating Curve



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

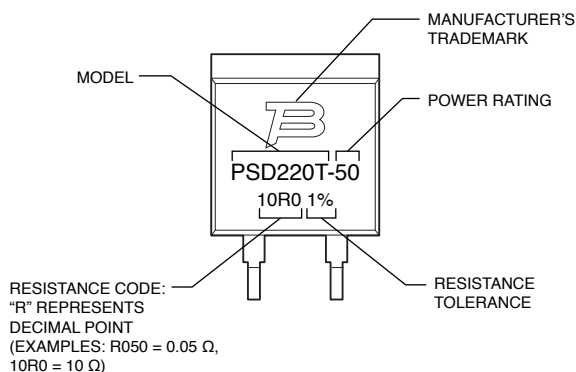
Temperature Coefficient



Packaging Information

Tube 50 pcs. per tube

Typical Part Marking



How To Order

PSD220T - 50 - R050 F T

Model _____
 PSD220T

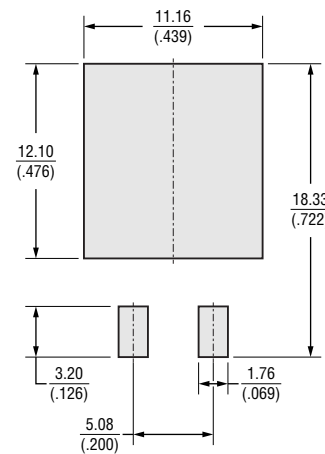
Power Rating _____
 50 = 50 W

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)

Suggested Layout



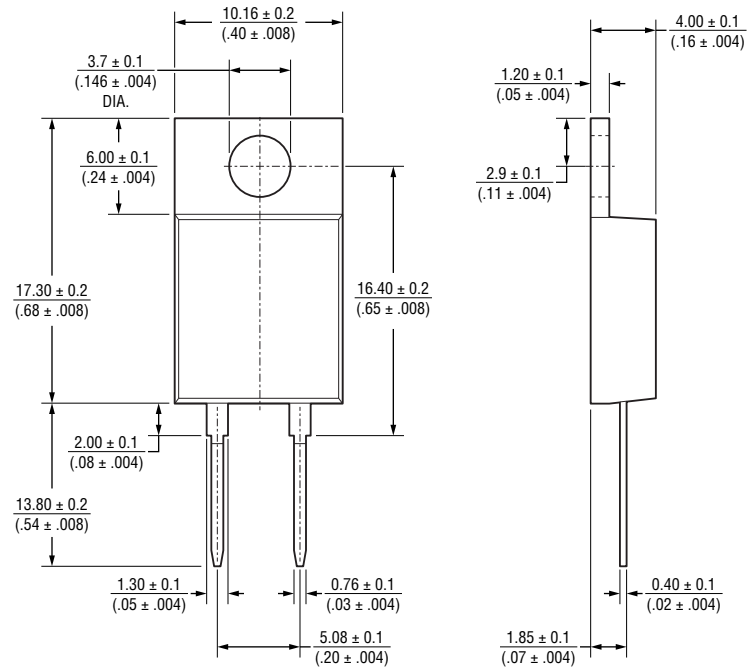
DIMENSIONS: $\frac{\text{MM}}{(\text{INCHES})}$

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PSD220T-50 Series – Riedon™ SMD Power Resistors by Bourns

BOURNS®

Product Dimensions



DIMENSIONS: $\frac{\text{MM}}{(\text{INCHES})}$

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