

## Features

- Formerly a Riedon™ product
- Resistance values as low as 0.02  $\Omega$
- Power rating up to 50 W
- Load stability to  $\pm 0.5\%$
- 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 ( $\Omega$ )	Tolerance (%)	TCR (PPM/°C)	Thermal Resistance	Dielectric Strength
PSD220T-50	Heat Sink Free Air	50 W 2 W	0.02 to 0.049	$\pm 2$	$\pm 600$	2.1 K/W	1500 VDC
			0.05 to 0.099	$\pm 5$	$\pm 300$		
			0.1 to 15K	$\pm 1$ $\pm 2$ $\pm 5$	$\pm 100$ ( $\pm 50$ 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](http://www.P65Warnings.ca.gov)

Specifications are subject to change without notice.

Users should verify actual device performance in their specific applications.

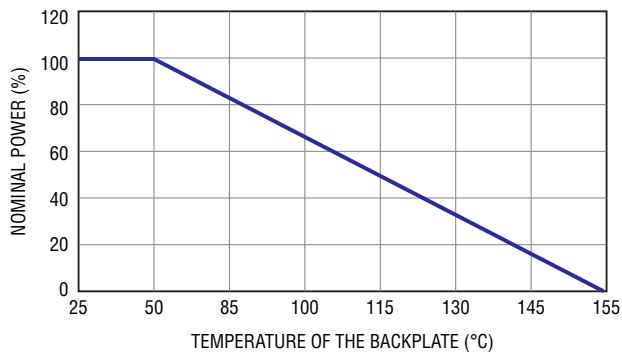
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## Riedon™ PSD220T-50 Series – Power Resistors by Bourns

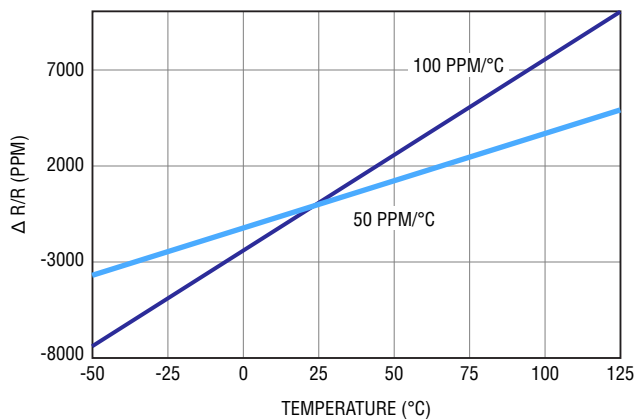
**BOURNS®**

### 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

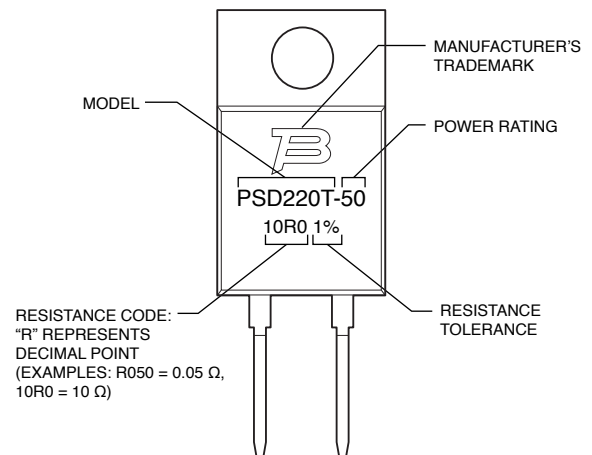
Tube ..... 50 pcs. per tube

### How To Order

**PSD220T - 50 - R050 F T**

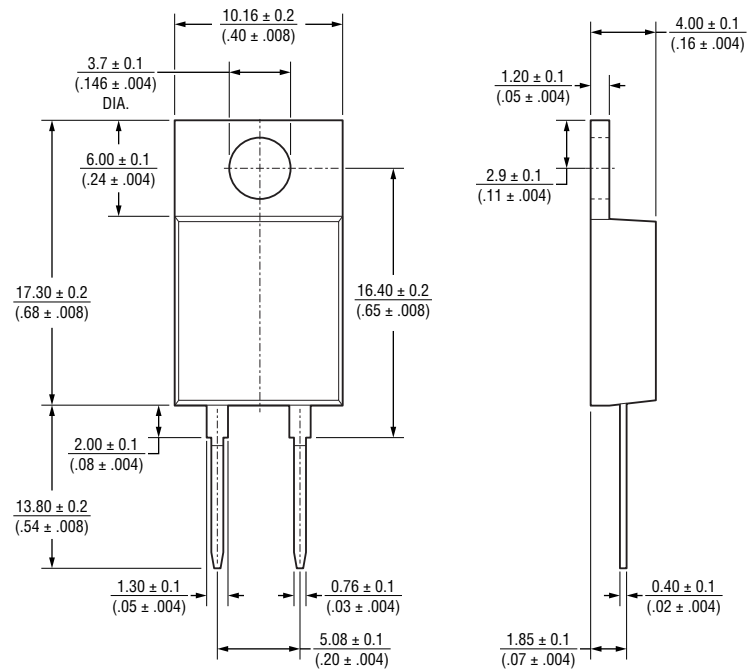
Model \_\_\_\_\_  
 PSD220T  
 Power Rating \_\_\_\_\_  
 50 = 50 W  
 Resistance Value Code \_\_\_\_\_  
 <100 Ω: "R" represents decimal point  
 (example: R050 = 0.05 Ω, 5R00 = 5.00 Ω,  
 92R0 = 92 Ω)  
 ≥100 Ω: First three digits are significant,  
 fourth digit represents number of zeros to follow  
 (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



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 Users should verify actual device performance in their specific applications.  
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## Product Dimensions


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

BOURNS®

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