

Features

- Formerly a Riedon™ product
- Resistances from 0.02 to 51K ohms
- Power rating to 35 watts
- Resistance tolerances ±1 or ±5 %
- TCR to ±50 PPM/°C
- High stability film resistance elements
- Non-inductive (<10 nH)
- Moisture resistant
- Isolated mounting tab
- TO-220 housing
- RoHS compliant*

PF2203 Series – Riedon™ TO-220 Power Thick Film Resistors by Bourns

Electrical Characteristics

Characteristic	PF2203
Power Rating (with heat sink) ¹	35 W
Power Rating (without heat sink) ²	1 W
Thermal Resistance	3.3 °C/W
Resistance Range ³	0.02 Ω (min.) to 51 KΩ (max.)
Tolerances ⁴	±1 % and ±5 % ±5 % below 0.1 Ω
Temperature Coefficient	±50 PPM/°C (R ≥ 10 Ω) ±100 PPM/°C (0.1 Ω ≤ R < 10 Ω) ±250 PPM/°C (R < 0.1 Ω)

Notes:

1. Power rating based on 25 °C flange temperature.
2. Power rating based on 25 °C ambient temperature.
3. [Contact Bourns](#) for higher or lower values.
4. [Contact Bourns](#) for possible tighter tolerances.

Additional Information

Click these links for more information:



General Specifications

Temperature Range.....-55 °C to +175 °C
 Dielectric Strength 2000 VDC
 Max. Operating Voltage
500 V or $\sqrt{P \cdot R}$, whichever is less
 Inductance..... 100 nH
 Insulation Resistance ...>1000 megohms
 Terminal Finish Tin-plated copper
 Mass 2.1 g
 Flammability Rating UL94 V-0

Environmental Performance

Specification	ΔR	Test Conditions
Load Life	±1 %	25 °C, 90 min. ON, 30 min. OFF, 1000 hrs.
Humidity Resistance	±1 %	40 °C, 90-95 % RH, DC 0.1 W, 1000 hrs.
Temperature Cycle	±0.25 %	-55 °C for 30 min., +155 °C for 30 min., 5 cycles
Solder Heat	±0.1 %	+350 °C / -5 °C, 3 s.
Vibration	±0.25 %	IEC 60068-2-6

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WARNING Cancer and Reproductive Harm
www.P65Warnings.ca.gov

*RoHS Directive 2015/863, Mar 31, 2015 and Annex.

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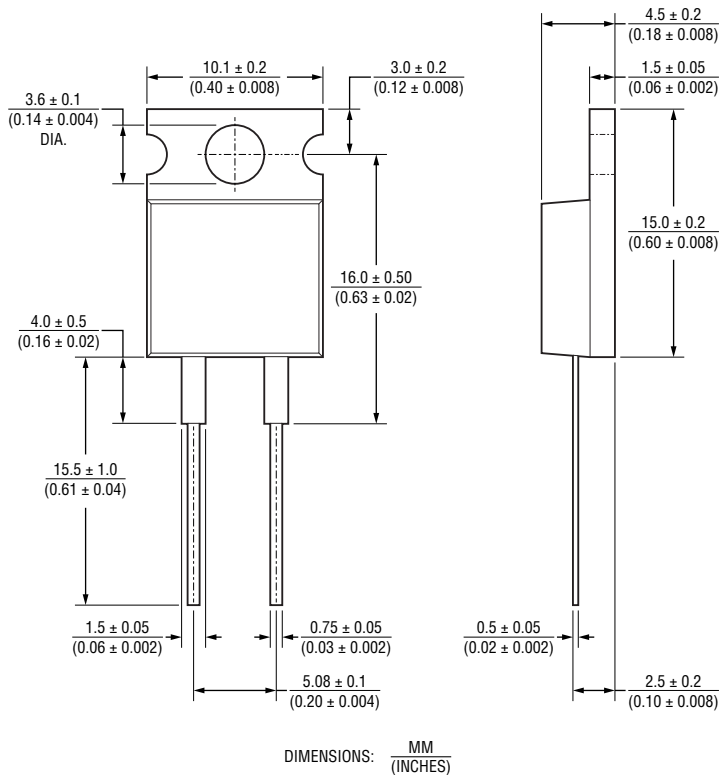
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PF2203 Series – Riedon™ T0-220 Power Thick Film Resistors by Bourns



Product Dimensions



Mounting Notes

The PF2203 Series Thick Film Resistors must be attached to a suitable heat sink. Mount resistor using thermal grease to a clean, flat surface. Use a compression washer to provide 150 to 300 pounds (665 to 1330 N) of mounting force. Torque mounting screw to 8 in-lbs (0.9 N-m). Torque termination screw to 8 in-lbs (0.9 N-m).

Mounting tab is isolated from both pins.

How to Order

Model **PF2203 - 100R J x**

Resistance **0.02 Ω to 51 KΩ**

Tolerance **F = ±1 %
J = ±5 %**

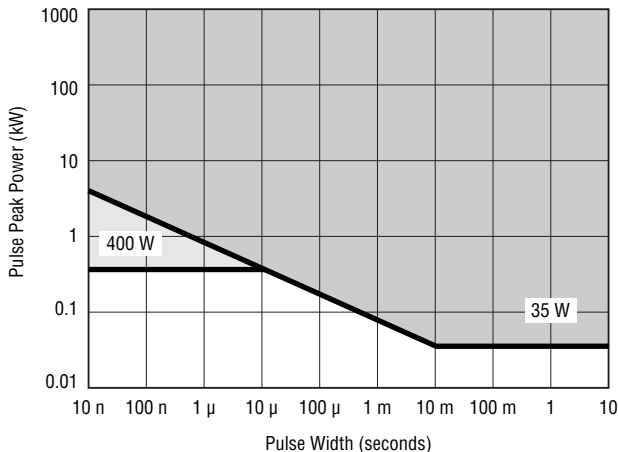
Internal Code **0 to 9**

Packaging Specifications

Tube 50 pcs. per tube

Pulse Energy Durability

PF2203 10 ohm 1 %



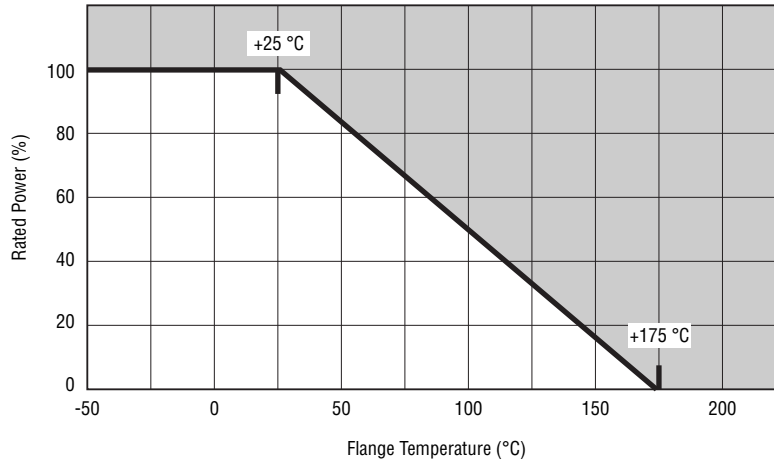
Tentative continuous pulse power allowance at duty 0.01. Load life test will be necessary in actual equipment because curve may be changed by resistance, repetition, duty, and operating temperature.

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Users should verify actual device performance in their specific applications.

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Derating Curve



Power Rating Notes

The PF2203 Series Thick Film Resistors must be attached to a suitable heat sink. Without a heat sink the maximum power rating is 1 W. The maximum internal resistor temperature is 175 °C.

To specify an appropriate heat sink use the following formula:

$$R_{\theta H} = \frac{T_{MAX} - (P * R_{\theta R}) - T_A}{P}$$

- Where: $R_{\theta H}$ = Thermal Resistance of Heat sink (°C/W)
 $R_{\theta R}$ = Thermal Resistance of Resistor (°C/W)
 T_{MAX} = Maximum Temperature of Resistor
 T_A = Ambient Temperature of Heat sink (°C)
 P = Power Through Resistor (W)

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