PF2200 Series

TO-220 Power Thin Film Resistors







- **TO-220 Housing**
- **Rated Power to 50 Watts**
- Resistances from 0.02 to 51K Ohms
- **High Stability Film Resistance Elements**
- **Resistance Tolerance to ±1%**
- Low Inductance (<50nH)
- **Isolated Mounting Tab**

SPECIFICATIONS

	Туре	Power Heatsink ¹	Rating Free Air ²	Thermal Resistance	Resistand Min	e Range ³ Max	Tolerances	Temperature Coefficients
İ	PF2205	50W	1W	2.3°C/W	0.02Ω	51ΚΩ	±1% (R≥0.1Ω) ±5%	±50ppm/°C (R≥10Ω) ±100ppm/°C (0.1Ω ≤ R < 10Ω) ±250ppm/°C (R < 0.1Ω)
	PF2203	35W	1W	3.3°C/W	0.02Ω	51ΚΩ	±1% (R≥0.1Ω) ±5%	±50ppm/°C (R≥10Ω) ±100ppm/°C (0.1Ω ≤ R < 10Ω) ±250ppm/°C (R < 0.1Ω)
	PF2202	20W	1W	5.9°C/W	0.02Ω	220Ω	±1% (R≥0.1Ω) ±5%	±50ppm/°C (R≥10Ω) ±100ppm/°C (0.1Ω ≤ R < 10Ω) ±250ppm/°C (R < 0.1Ω)
		10W	1W		220Ω	51 Κ Ω	±1%, ±5%	±50ppm/°C

Ordering Information

Part Number - Resistance - Tolerance - TCR Example: PF2203 0.5 Ohm 1% 100ppm

¹ Power rating based on 25°C Flange Temperature

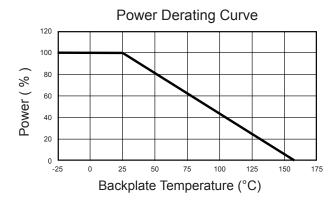
² Power rating based on 25°C Ambient Temperature

³ Consult Factory for Higher or Lower Values



SPECIFICATIONS (continued)

Specification	Value				
Maximum Current	25A				
Temperature Range	-55°C to +155°C : PF2202, PF2203, PF2205				
Dielectric Strength	2000 VAC				
Max. Operating Voltage	500 V				
Insulation Resistance	>1000 Meg-Ohm				
Environmental Performance	ΔR	Test Conditions			
Load Life	±1% + 0.05Ω	25°C, 90 min ON, 30 min OFF, 1000 hr			
Humidity Resistance	±1% + 0.05Ω	40°C, 90-95% RH, DC 0.1W, 1000 hr			
Temperature Cycle	±0.25% + 0.05Ω	-55°C for 30 min, +155°C for 30 min, 1000 hr			
Solder Heat	±0.1% + 0.05Ω	+350°C, 3s			
Vibration	±0.25% + 0.05Ω	IEC60068-2-6			



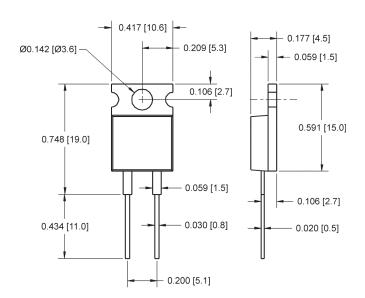
Power Rating Notes -

The PF2200 Series Thin Film Resistors must be attached to a suitable heatsink. The maximum internal resistor temperature is

To specify an appropriate heatsink use the following formula:

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

$$\begin{split} R_{_{\rm OH}} &= \text{Thermal Resistance of Heatsink (°C/W)} \\ R_{_{\rm IR}} &= \text{Thermal Resistance of Resistor (°C/W)} \\ T_{_{\rm MAX}} &= \text{Maximum Temperature of Resistor} \\ T_{_{\rm A}} &= \text{Ambient Temperature of Heatsink (°C)} \\ P &= \text{Power Through Resistor (W)} \end{split}$$



Mounting Notes -

The PF2200 Series Thin Film Resistors must be attached to a suitable heatsink. Mount resistor using thermal grease to a clean, flat surface. Use a compression washer to provide 150 to 300 pounds (665 to 1330N) of mounting force. Torque mounting screw to 8 in-lbs (0.9 N-m).

Mounting tab is isolated from both pins.