

Features

- Formerly a Riedon™ product
- Resistance values as low as 1 Ω
- Power rating to 2 W
- Resistance tolerance to $\pm 0.005\%$
- Low thermal EMF: max. 0.1 $\mu\text{V}/^\circ\text{C}$
- Metal foil technology
- RoHS compliant*

Applications

- Audio equipment
- Power supplies/chargers
- Instruments/gauges

FPY Series – Riedon™ Ultra Precision Foil Resistors by Bourns

Electrical Characteristics

Bourns Models	Power Rating @ 70 °C	Max. Resistance (Ω)	Max. Working Voltage (V)	Resistance Range (Ω)	Tolerance (%)	TCR (PPM/°C)	
						+25 °C Ref.	-55 °C to +125 °C
FPY0808	0.6 W ($\Omega \leq 100\text{K}$) 0.4 W ($\Omega > 100\text{K}$)	150K	300	1 to <50	± 0.005 ± 0.01 ± 0.02	± 1 ± 2	± 4.5
				50 to <80	± 0.05 ± 0.1	± 1 ± 2	± 3.5
				80 to 150K	± 0.5 ± 1	± 1 ± 2	± 2.5

Environmental Characteristics

Specification	Value
Operating Temperature	-55 °C to +175 °C
Voltage Coefficient	<0.1 PPM/V
Thermal EMF	0.1 $\mu\text{V}/^\circ\text{C}$ maximum; 0.05 $\mu\text{V}/^\circ\text{C}$ typical 1 $\mu\text{V}/\text{W}$
High Frequency Operation Rise Time Inductance (L)(2) Capacitance (C)	1.0 ns at 1 k Ω 0.1 μH maximum; 0.08 μH typical 1.0 pF maximum; 0.5 pF typical
Storage Conditions Temperature Humidity	+5 °C to +35 °C 40 % to 75 %
Moisture Sensitivity Level	1

Additional Information

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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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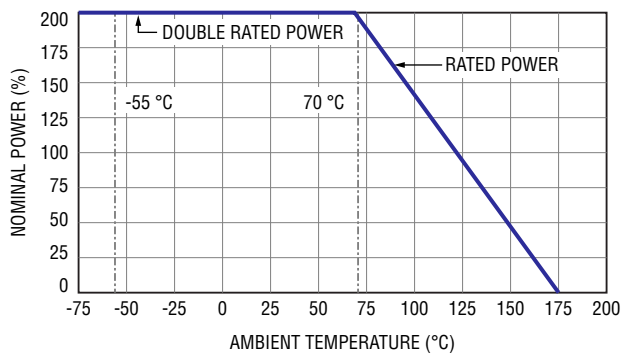
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BOURNS®

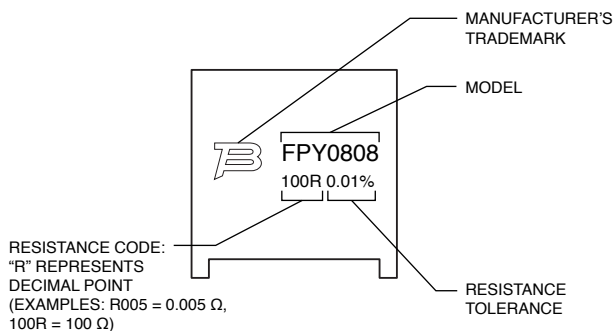
Performance Characteristics

Test	Conditions	Specification: MIL-PRF-55182 CHAR J		
		MIL-PRF-55182 CHAR J (ΔR)	Typical (ΔR)	Maximum (ΔR)
Load Life	0.3 W at +125 °C for 2000 hours	$\pm 0.5\%$	$\pm 0.01\%$ (100 PPM)	$\pm 0.015\%$ (150 PPM)
	0.6W at +70 °C for 2000 hours	$\pm 0.5\%$	$\pm 0.01\%$ (100 PPM)	$\pm 0.015\%$ (150 PPM)
Low Temperature Operation	Rated power at -65 °C for 45 mins.	$\pm 0.15\%$	$\pm 0.002\%$ (20 PPM)	$\pm 0.01\%$ (100 PPM)
High Temperature Exposure	+175 °C for 2000 hours	$\pm 2.0\%$	$\pm 0.05\%$ (500 PPM)	$\pm 0.1\%$ (1000 PPM)
Low Temperature Exposure	-65 °C for 24 hours	$\pm 0.15\%$	$\pm 0.002\%$ (20 PPM)	$\pm 0.01\%$ (100 PPM)
Dielectric Withstand Voltage	At 300 VAC	$\pm 0.15\%$	$\pm 0.002\%$ (20 PPM)	$\pm 0.01\%$ (100 PPM)
Thermal Shock	-65 °C to +150 °C, 5 cycles	$\pm 0.2\%$	$\pm 0.002\%$ (20 PPM)	$\pm 0.01\%$ (100 PPM)
Resistance to Solder Heat	Solder dipping at 260 °C for 20 sec.	$\pm 0.1\%$	$\pm 0.005\%$ (50 PPM)	$\pm 0.01\%$ (100 PPM)
Short Time Overload	6.5x rated power for 5 sec.	$\pm 0.2\%$	$\pm 0.003\%$ (30 PPM)	$\pm 0.01\%$ (100 PPM)

Power Derating Curve @ +125 °C



Typical Part Marking



How to Order

FPY0808 - F L - R005 T LF

Model _____
 FPY0808

Resistance Tolerance _____
 V = $\pm 0.005\%$ B = $\pm 0.1\%$
 T = $\pm 0.01\%$ C = $\pm 0.25\%$
 Q = $\pm 0.02\%$ D = $\pm 0.5\%$
 A = $\pm 0.05\%$ F = $\pm 1\%$

TCR (PPM/°C) _____
 K = ± 1
 L = ± 2 (standard)

Resistance Value Code _____
 <100 Ω: "R" represents decimal point
 (example: 0R05 = 0.05 Ω,
 5R00 = 5.00 Ω, 50R0 = 50 Ω)
 ≥100 Ω: 4 digits. First three digits are significant,
 fourth digit represents number of zeros to follow
 (example: 1000 = 100 Ω, 5001 = 5000 Ω)

Packaging _____
 B = Bulk (100 pcs. per plastic bag)

Lead Finish _____
 LF = Lead-free coating

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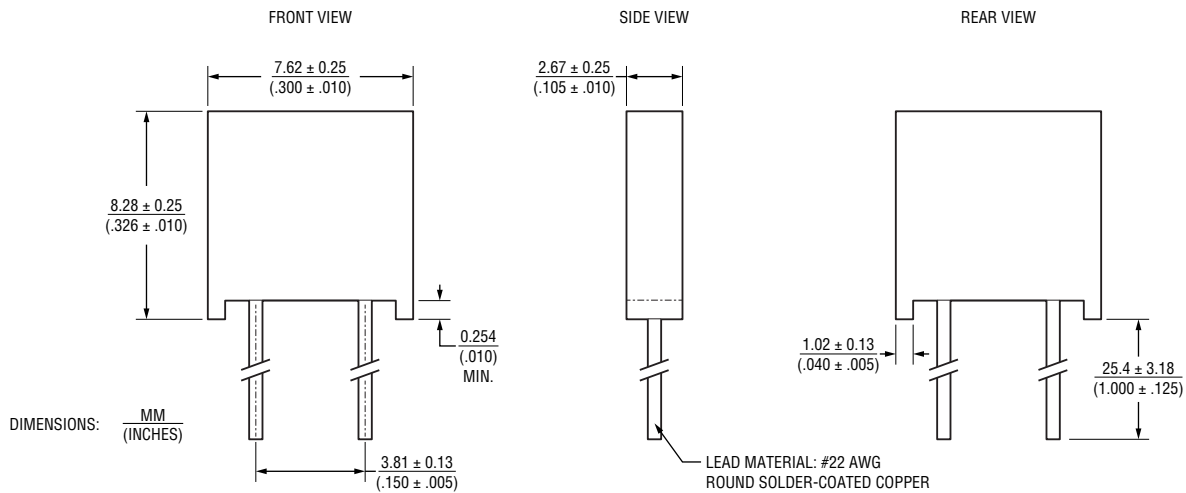
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Product Dimensions

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