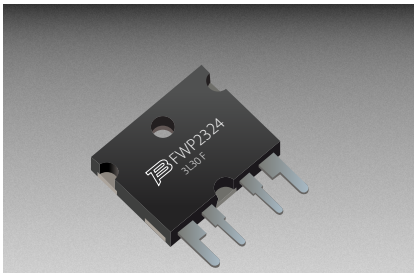


BOURNS®

Features

- Formerly a Riedon™ product
- Resistance values as low as 1 mΩ
- Power rating to 40 W
- Resistance stability to ±0.1 %
- Low thermal EMF: <1 µV/°C
- Metal foil technology

Applications

- Current sensing
- Power supplies
- Stepper motor drives
- Input amplifiers

FWP2324 Series – Precision Foil Power Resistor

Electrical Characteristics

Bourns Model	Power Rating @ 70 °C		Resistance Range	Tolerance (%)	TCR 20 °C to 60 °C (PPM/°C)	Max. Current (A)	Dielectric Withstanding Voltage (VDC)	Max. Torque (Nm)
FWP2324	Free Air Heat Sink	2.5 W 15 W	1 mΩ to 9 mΩ	±0.5 ±1 ±2 ±5	±25 ±15	150	500	0.8
			10 mΩ to 50 Ω	±0.1 ±0.25 ±0.5 ±1 ±2 ±5				
FWP2324H	Free Air Heat Sink	3 W 40 W	1 mΩ to 5 mΩ		±10 ±5 ±2		300	
			6 mΩ to 20 Ω				500	

Environmental Characteristics

Specification	Value
Operating Temperature	-40 °C to +130 °C
Thermal EMF	< 1 µV/°C
Thermal Resistance	2.0 K/W
Storage Conditions Temperature Humidity	 +5 °C to +35 °C 40 % to 75 %
Moisture Sensitivity Level	1

How To Order

FWP232 4 H - F P - R005 T

Model
FWP232 = Power Resistor

Pin Terminals
4 = 4 Pins

Power Type
(blank) = 15 W H = 40 W

Resistance Tolerance
B = ±0.1 % C = ±0.25 % F = ±1 %
G = ±0.2 % D = ±0.5 % J = ±5 %

TCR (PPM/°C)
L = ±2 N = ±10 Q = ±25
M = ±5 P = ±15

Resistance Value Code
"L" represents mΩ for resistance values below 1 mΩ (example: 1L50 = 1.5 mΩ, 3L30 = 3.3 mΩ)
"R" represents decimal point
(example: R005=0.005Ω, 1R00=1.00 Ω)

Packaging
T = Tube (25 pcs. per plastic tube)

The PWR2324 Series resistors must be attached to a suitable heat sink. The maximum internal resistor temperature is 130 °C

Additional Information

Click these links for more information:

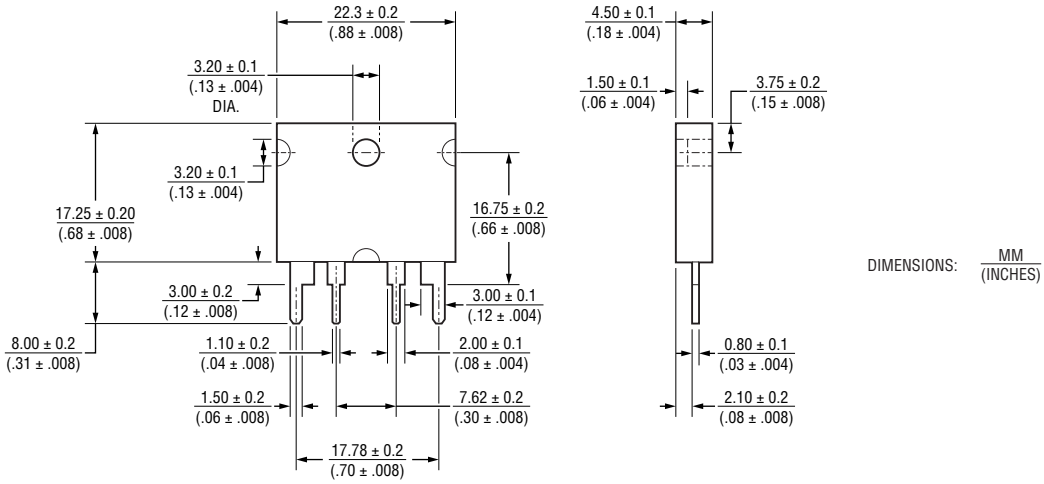
PRODUCT | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

CALIFORNIA WARNING:
Can expose you to lead, a carcinogen and reproductive toxicant.
See www.P65Warnings.ca.gov

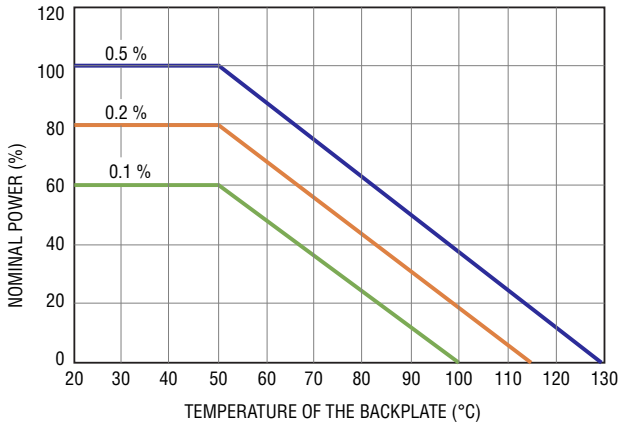
Performance Characteristics

Test	Conditions	Test Method	
		Reference	Limit
Load Life	1000 hours, on/off with rated power at +25 °C	MIL-STD-202 Method 108	ΔR < ±0.5 %
High Temperature Exposure	+130 °C for 1000 hours	MIL-STD-202 Method 303	ΔR < ±0.5 %
Low Temperature Storage	-40 °C for 24 hours	MIL-STD-202 Method 303	ΔR < ±0.5 %
Thermal Shock	-40 °C to +130 °C, 5 cycles	MIL-STD-202 Method 107	ΔR < ±0.1 %
Humidity Resistance	+40 °C / 90 % for 240 hours	MIL-STD-202 Method 103	ΔR < ±0.1 %
Resistance to Solder Heat	Solder dipping at 260 °C for 10 sec.	MIL-STD-202 Method 210	ΔR < ±0.1 %
Short Time Overload	2.5x rated power for 5 sec.	MIL-STD-202 Method 303	ΔR < ±0.1 %

Product Dimensions



Power Derating Curve



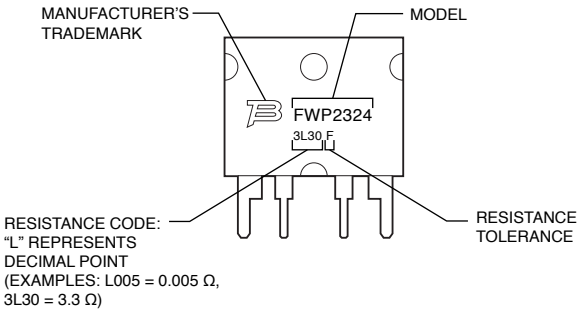
Power Rating Notes

The FWP2324 Series Resistors must be attached to a suitable heat sink. The maximum internal resistor temperature is 130 °C. To specify an appropriate heat sink use the following formula:

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

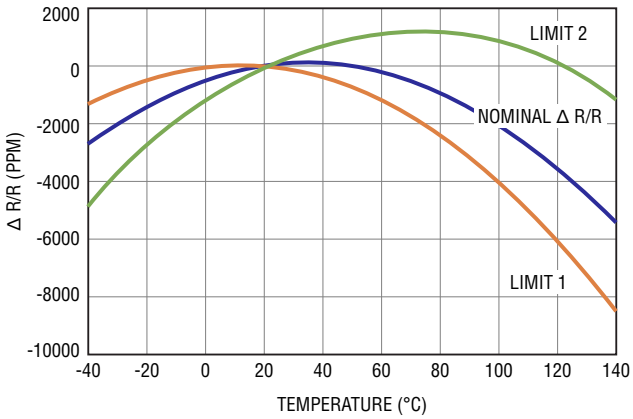
Where: $R_{\theta H}$ = Thermal Resistance of Heat Sink (K/W)
$R_{\theta R}$ = Thermal Resistance of Resistor (K/W)
T_{MAX} = Maximum Temperature of Resistor
T_A = Ambient Temperature of Heat Sink (°C)
P = Power Through Resistor (W)

Typical Part Marking

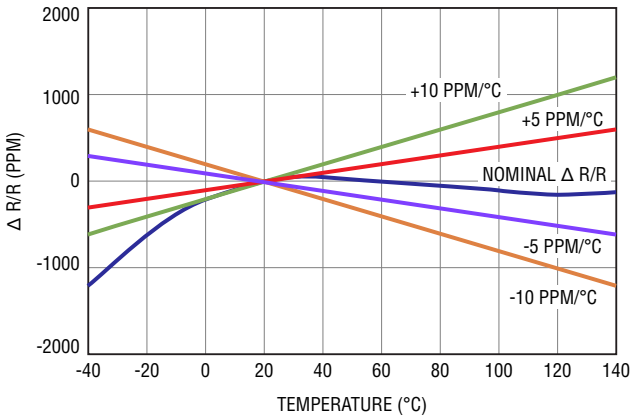


Temperature Coefficient Charts

PWR2324



PWR2324P



Packaging Information

Tube ..... 25 pcs. per tube

BOURNS®

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REV. 05/07/26

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