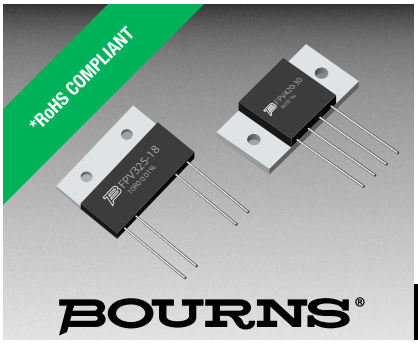


Features

- Formerly a Riedon™ product
- Resistances from 0.05 Ω to 650 Ω
- Power rating to 50 watts
- Resistance tolerances to ±0.01 %
- TCR to ±1 PPM/°C
- Load stability to 0.01 %
- Isolated backplate
- RoHS compliant*

Applications

- Current sense
- Battery management systems
- Power supplies
- Motor drives

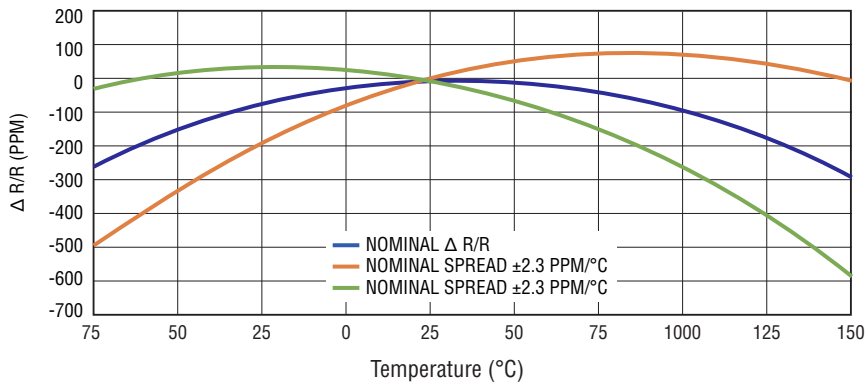
FPV Series – Riedon™ Ultra Precision Power Resistors by Bourns

Specifications

Characteristic	FPV325-18	FPV420-30	FPV325-20	FPV420-50
Resistance Range (Ω)[1]	0.05 - 650	0.05 - 100	0.05 - 650	0.05 - 100
Power Rating (W)[2] Free Air @ 70 °C With Heat SInk	 3 18	 2.5 30	 3 20	 2.5 50
Thermal Resistance R_{thj-c} (K/W)	3.5	3.6	2.1	2.2
Tolerances 0.05Ω ≤ R <10 Ω 10.0 Ω ≤ R < 50.0 Ω 50.0 Ω ≤ R	0.1 % / 0.25 % / 0.5 % / 1 % 0.05 % / 0.1 % / 0.25 % / 0.5 % / 1 % 0.01 % / 0.02 % / 0.05 % / 0.1 % / 0.25 % / 0.5 % / 1 %			
Stability	0.01 %			
Shelf Life Stability	25 PPM / ΔR after 1 year 50 PPM / ΔR after 3 years			
Temperature Coefficient 325: (+25 °C to +60 °C) 420: (-55 °C to +125 °C)	±5 PPM/°C ±3 PPM/°C (Standard) ±1 PPM/°C (only from +25 °C to +60 °C)			
Voltage Proof	750 VDC			
Max. Current	15 A			
Thermal EMF	<0.1 μV/K			
Terminals	4			

Notes:
[1] Other resistance values available upon request.
[2] Power rating dependent upon resistance value.

Temperature Coefficient



Additional Information

Click these links for more information:

PRODUCT | TECHNICAL LIBRARY | INVENTORY | SAMPLES | CONTACT

General Specifications

Operating Temperature Range ..... -55 °C to +155 °C
Resistor Material.....NiCr-Foil
Substrate
18 W / 30 W .....Al_2O_3
20 W / 50 W .....AlN
Housing ..... Epoxy + Al-heat sink
Connector Material ..... Cu tinned
Terminals 4
Max. Torque..... 1.0 Nm

How to Order

FPV 325 - 20 - R050 B S

Model
FPV

Size
325 = 3425
420 = 4020

Power Rating
18 = 18 W
20 = 20 W
30 = 30 W
50 = 50 W

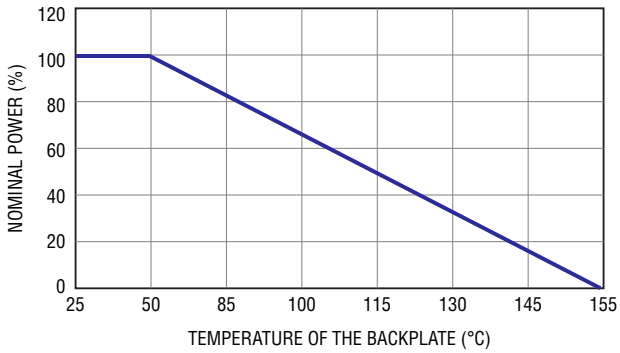
Resistance
"R" represents decimal point
(example: R050 = 0.05 Ω,
650R = 650 Ω)

Tolerance
L = ±0.01 %
P = ±0.02 %
W = ±0.05 %
B = ±0.1 %
C = ±0.25 %
D = ±0.5 %
F = ±1.0 %

TCR (PPM/°C)
K = ±1
S = ±3 (Standard)
M = ±5

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

Power Derating Curve



Power Rating Notes

The FPV Series Resistors must be attached to a suitable heat sink. The maximum internal resistor temperature is 155 °C.
To specify an appropriate heat sink use the following formula:

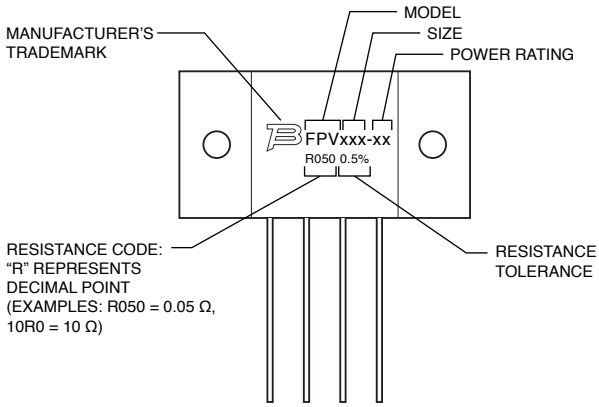
$$R_{\theta H} = \frac{T_{MAX} - (P \times R_{\theta R}) - T_A}{P}$$

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)

Packaging Information

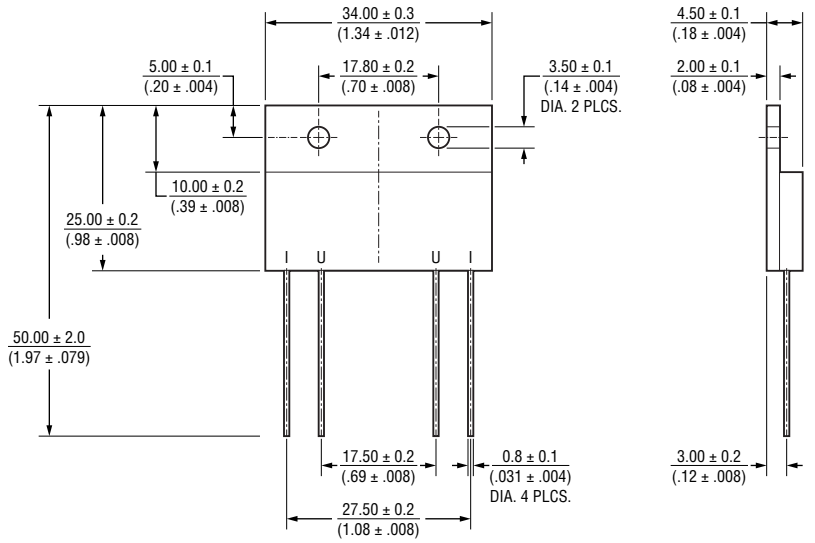
Bulk .....50 pcs./box

Typical Part Marking

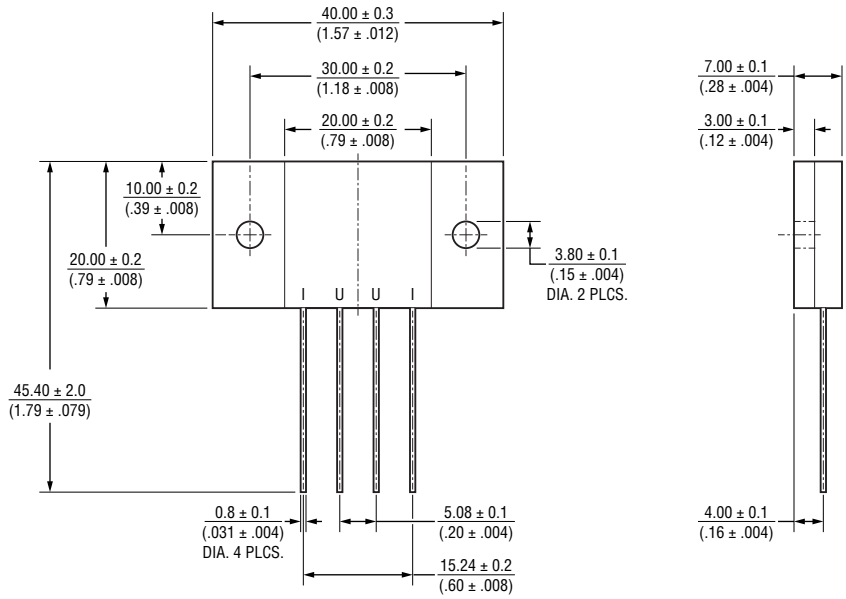


Product Dimensions

FPV325



FPV420



DIMENSIONS: MM (INCHES)

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REV. 11/25

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