

Features

- Formerly a Riedon™ product
- Resistances from 0.001 to 100 Ω
- Resistance tolerances to $\pm 0.1\%$
- Power rating to 50 watts
- TCR to ± 15 PPM/°C
- Very low inductance

- Isolated backplate
- RoHS compliant*

Riedon™ FPM 3xx, 4xx Precision Foil Power Resistors by Bourns

Specifications

Bourns Model	FPM3022 FPM3182	FPM3254 FPM3254H FPM4184
Resistance Range (Ω)	0.010 to 100	0.001 to 100
Power Rating (W) free air 70 °C for 3254H with heat sink	3 40	3 5 50
Thermal Resistance R_{thj-c} (K/W)	2.0	1.6
Tolerances from 0R001 from 0R005 from 0R01 from 0R02	0.5 % / 1 % / 2 % / 5 % 0.25 % / 0.5 % / 1 % / 2 % / 5 %	1 % / 2 % / 5 % 0.5 % / 1 % / 2 % / 5 % 0.1 % / 0.25 % / 0.5 % / 1 % / 2 % / 5 % 0.1 % / 0.25 % / 0.5 % / 1 % / 2 % / 5 %
Stability	0.1 % / 0.2 % / 0.5 % (depends on stress)	
Temperature Coefficient Standard Option 1	± 50 PPM/°C (+20 to +60 °C)	± 25 PPM/°C (+20 to +60 °C) ± 50 PPM/°C (+20 to +60 °C)
Max. Current (A)	50 - Contact K 150 - Contact A 200 - Contact F	
Voltage Proof (VDC)	500	
Thermal EMF	< 0.1 μ V/K	
Operating Temperature Range	-40 to +130 °C	
Resistor Material	CuNiMn-Foil	
Substrate	Anodized Aluminium	
Housing	Epoxy	
Connector Material	Cu Tinned	
Terminals	2	4
Max. Torque	1 Nm	



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

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

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"Riedon Logo" is a registered trademark of BE Services Company, Inc., in the United States.

"Riedon" is a trademark of BE Services Company, Inc.

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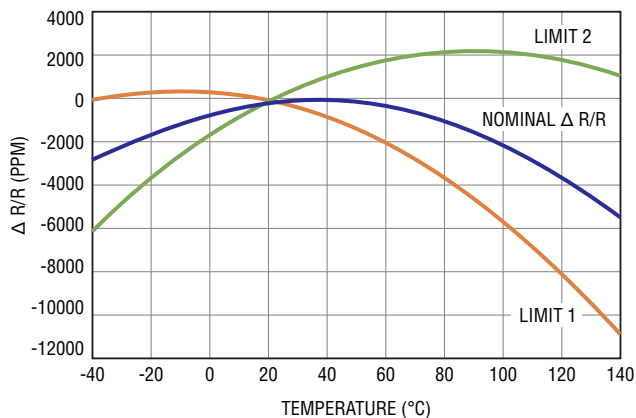


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Temperature Coefficient



How To Order

FPM 325 4 H - 10R0 F A Q

Model _____
 FPM302
 FPM318
 FPM325
 FPM418

Terminals _____
 2 = 2
 4 = 4

Special Code _____
 (blank) = Standard
 H = Advanced Heat Sink

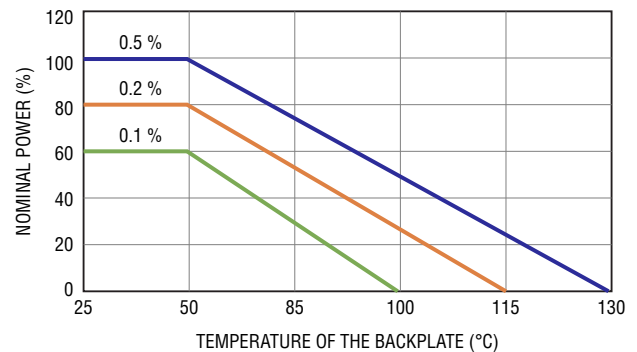
Resistance (Ω) _____
 4 digits: "R" represents decimal point (example: R010 = 0.010 Ω
 10R0 = 10 Ω, 100R = 100 Ω)
 3 digits: "L" presents mΩ for resistance
 (example: 3L20 = 0.0032 Ω, 6L80 = 0.0068 Ω)

Tolerance (%) _____
 B = ±0.1 F = ±1
 C = ±0.25 G = ±2
 D = ±0.5 J = ±5

Terminal Type _____
 K = Contact K (50 A max. current)
 A = Contact A (150 A max. current)
 F = Contact F (200 A max. current)

TCR (PPM/°C) _____
 R = ±50
 Q = ±25
 P = ±15

Power Derating Curve



Power Rating Notes

The FPM 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)

Packaging Specifications

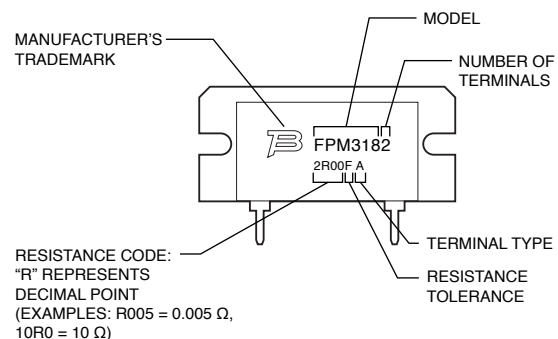
FPM3022, FPM3182, FPM3254, FPM4184

Bulk 100 pcs. per box

FPM3254H

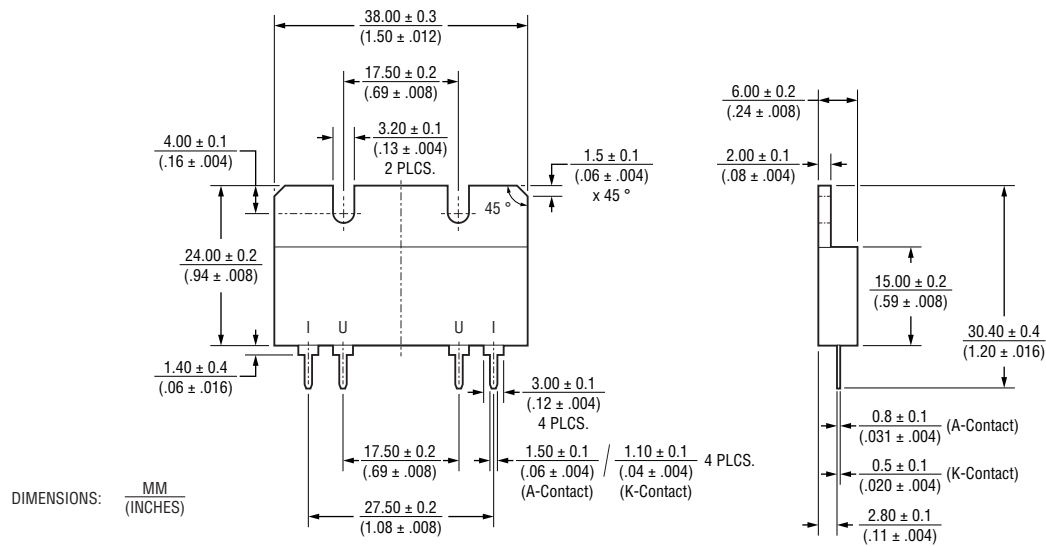
Bulk 50 pcs. per box

Typical Part Marking



BOURNS®

FPM3254



Technical drawing of a 4-pin connector showing front and side views with dimensions in mm and inches.

Front View Dimensions:

- Overall width: 38.00 ± 0.3 (1.50 ± .012)
- Distance from left edge to center of first pin: 17.50 ± 0.2 (.69 ± .008)
- Pin diameter: 4.00 ± 0.1 (.16 ± .004)
- Distance from pin center to next pin center: 3.20 ± 0.1 (.13 ± .004) 2 PLCS.
- Pin length: 24.00 ± 0.2 (.94 ± .008)
- Pin thickness: 1.40 ± 0.4 (.06 ± .016)
- Pin spacing: 3.00 ± 0.1 (.12 ± .004) 4 PLCS.
- Distance from left edge to center of last pin: 27.50 ± 0.2 (1.08 ± .008)
- Pin diameter: 1.50 ± 0.1 (.06 ± .004) (A-Contact)
- Pin diameter: 1.10 ± 0.1 (.04 ± .004) (K-Contact)
- Pin length: 1.50 ± 0.1 (.06 ± .004) x 45°

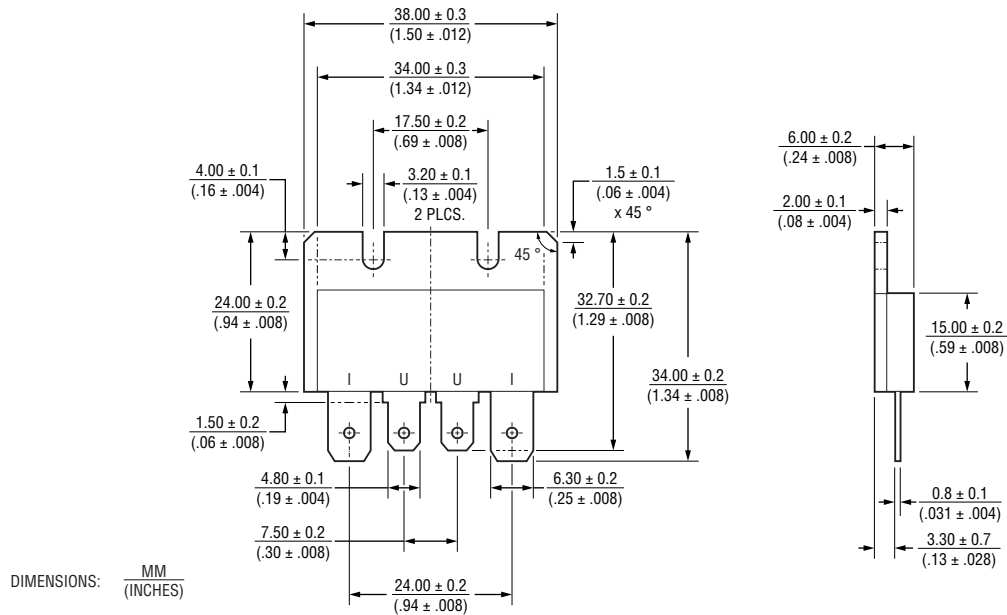
Side View Dimensions:

- Overall height: 30.40 ± 0.4 (1.20 ± .016)
- Distance from top edge to center of first pin: 10.8 ± 0.2 (.43 ± .008)
- Pin diameter: 2.00 ± 0.1 (.08 ± .004)
- Distance from pin center to next pin center: 19.00 ± 0.2 (.75 ± .008)
- Pin length: 15.00 ± 0.2 (.59 ± .008)
- Pin thickness: 0.8 ± 0.1 (.031 ± .004) (A-Contact)
- Pin thickness: 0.5 ± 0.1 (.020 ± .004) (K-Contact)
- Pin length: 2.80 ± 0.1 (.11 ± .004)

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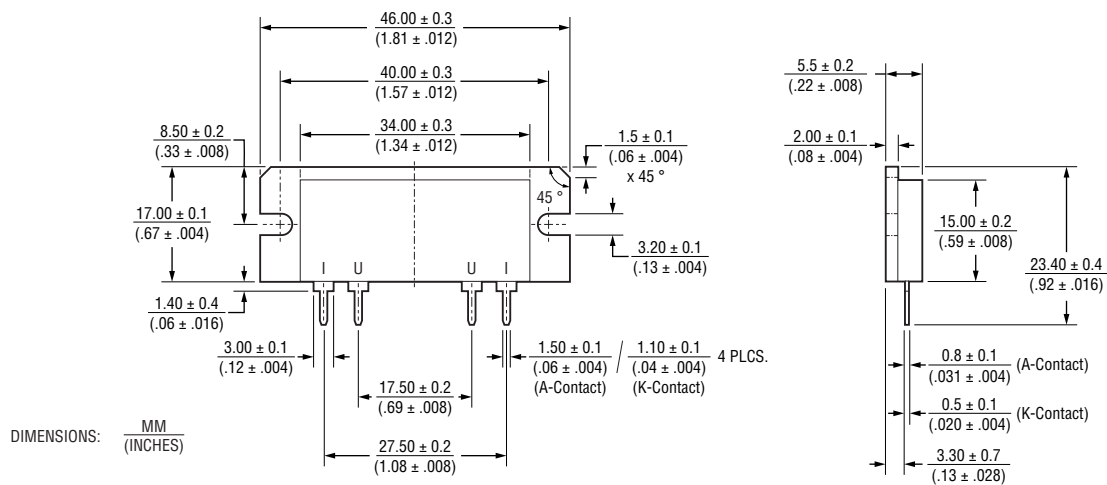
Product Dimensions (continued)

FPM3254 (Contact F)



*Apply current to "I" terminals and measure on "U" terminals

FPM4184

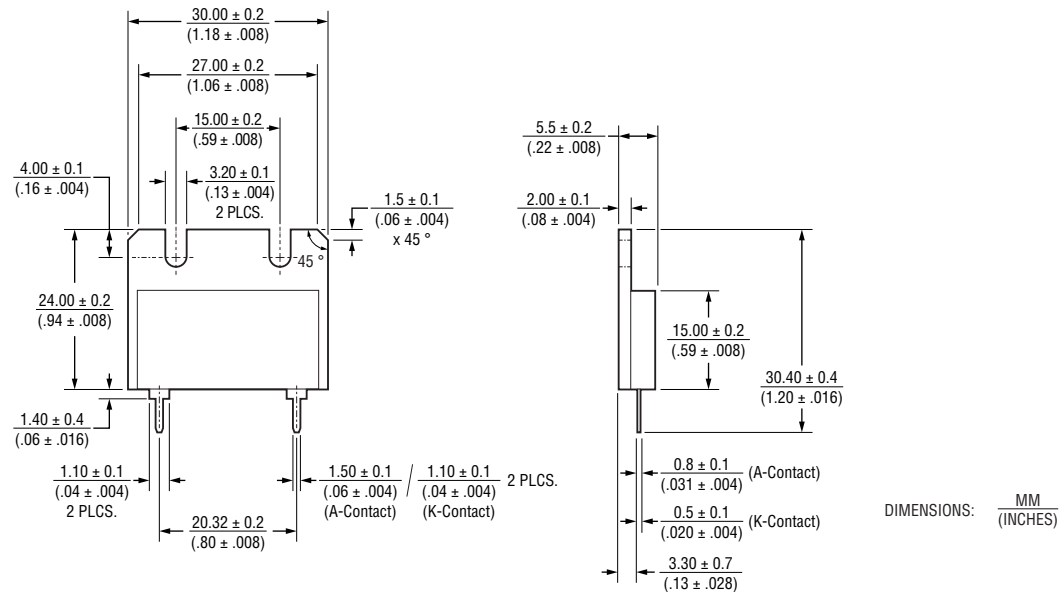


*Apply current to "I" terminals and measure on "U" terminals

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BOURNS®**FPM3252**

Technical drawing of a mechanical part showing two views: a front view on the left and a side view on the right. The front view shows a rectangular block with a central slot and two side slots. Dimensions include overall width 38.00 ± 0.3 ($1.50 \pm .012$), slot widths 32.00 ± 0.3 ($1.06 \pm .012$) and 27.00 ± 0.2 ($1.06 \pm .008$), and various heights and depths. The side view shows the profile of the block with dimensions for width, height, and slot depth. A note "DIMENSIONS: MM (INCHES)" is present.

Front View Dimensions:

- Overall Width: 38.00 ± 0.3 ($1.50 \pm .012$)
- Slot Width (Top): 32.00 ± 0.3 ($1.06 \pm .012$)
- Slot Width (Bottom): 27.00 ± 0.2 ($1.06 \pm .008$)
- Top Flange Width (Left): 8.50 ± 0.2 ($.33 \pm .008$)
- Top Flange Width (Right): 1.5 ± 0.1 ($.06 \pm .004$)
- Top Flange Angle: 45°
- Top Flange Thickness (Right): 1.5 ± 0.1 ($.06 \pm .004$)
- Top Flange Thickness (Left): 1.70 ± 0.2 ($.67 \pm .008$)
- Top Flange Thickness (Center): 1.40 ± 0.4 ($.06 \pm .016$)
- Top Flange Thickness (Right): 3.20 ± 0.1 ($.13 \pm .004$)
- Top Flange Thickness (Left): 1.10 ± 0.1 ($.04 \pm .004$) 2 PLCS.
- Top Flange Thickness (Center): 1.50 ± 0.1 ($.06 \pm .004$) (A-Contact)
- Top Flange Thickness (Right): 1.10 ± 0.1 ($.04 \pm .004$) 2 PLCS. (K-Contact)
- Top Flange Thickness (Left): 20.32 ± 0.2 ($.80 \pm .008$)

Side View Dimensions:

- Overall Width: 5.5 ± 0.2 ($.22 \pm .008$)
- Slot Width (Top): 2.00 ± 0.1 ($.08 \pm .004$)
- Slot Width (Bottom): 15.00 ± 0.2 ($.59 \pm .008$)
- Slot Width (Center): 23.40 ± 0.4 ($.92 \pm .016$)
- Slot Width (Left): 0.8 ± 0.1 ($.031 \pm .004$) (A-Contact)
- Slot Width (Right): 0.5 ± 0.1 ($.020 \pm .004$) (K-Contact)
- Slot Width (Center): 3.30 ± 0.7 ($.13 \pm .028$)

DIMENSIONS: MM (INCHES)

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