



### Features

- Formerly a Riedon™ product
- Resistances from 0.01 to 51K ohms
- Power rating to 35 watts
- Resistance tolerances to ±1 %
- TCR to ±50 PPM/°C
- Load stability to 1 %
- Exceptional pulse performance
- Low ohm values for current sense applications
- Isolated back plate
- TO-263 housing (D-PAK)
- Solder reflow secure at 260 °C / 20 s
- RoHS compliant\*

## PFS35 Series – Riedon™ Power SMD Thick Film Resistors by Bourns

### Specifications

Characteristic	PFS35		
Terminals	2		
Terminal Finish	Tin-Plated Copper		
Power Rating with Heat Sink	35 W (2 W on Simple Solder Pad)		
Thermal Resistance R <sub>thj-c</sub>	3.3 K/W		
Resistance Range	0.01 to 0.099 Ω	0.1 to 9.9 Ω	10 to 51 KΩ
Tolerances (others upon request)	5 %	1 % / 5 %	1 %
Temperature Coefficient	±250 PPM/°C	±100 PPM/°C	±50 PPM/°C
Max. Operating Voltage	500 V		
Inductance	100 nH		
Voltage Proof	2.0 kVDC		
Insulation Resistance	Over 1,000 MΩ		
Load Life	±1 % / 90 min ON, 30 min OFF, 1000 hrs. @ 25 °C		
Humidity	±1 % / 90-95 % RH, 0.1 W, 1000 hrs. @ 40 °C		
Temperature Cycle	±0.25 % / -55 °C for 30 min., +155 °C for 30 min., 5 cycles		
Solder Heat	±0.1 % / 350 °C ±5 °C for 3 seconds		
Vibration	±0.25 % / IEC 60068-2-6		

### Additional Information

Click these links for more information:



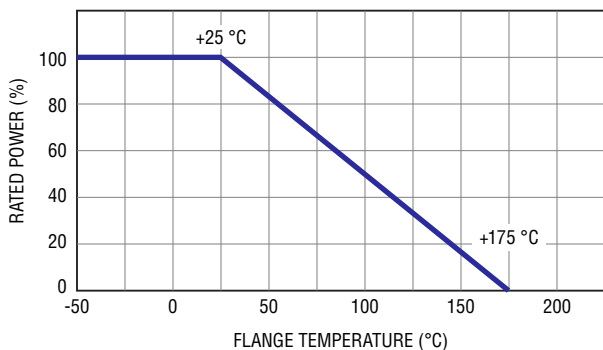
### General Specifications

Operating Temperature ..... -55 °C to +175 °C  
 Resistor Material..... Thick Film  
 Flammability ..... UL 94V-0  
 Reflow Soldering ..... Lead-free Soldering  
 260 °C / 20 s  
 (2 reflow cycles maximum)  
 Moisture Sensitivity Level..... MSL-1  
 Mass ..... 1.5 g

### How to Order

Model \_\_\_\_\_ **PFS35 - 100R J x**  
 Resistance \_\_\_\_\_  
 0.01 Ω to 51K Ω  
 Tolerance \_\_\_\_\_  
 F = ±1 %  
 J = ±5 %  
 Internal Code \_\_\_\_\_  
 0 to 9

### Power Derating Curve



### Power Rating Notes

The PFS35 Series Resistors must be attached to a suitable heatsink. The maximum internal resistor temperature is 175 °C.

To specify an appropriate heat sink use the following formula:

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

Where: R<sub>θH</sub> = Thermal Resistance of Heat Sink (°C/W)  
 R<sub>θR</sub> = Thermal Resistance of Resistor (°C/W)  
 T<sub>MAX</sub> = Maximum Temperature of Resistor  
 T<sub>A</sub> = Ambient Temperature of Heat Sink (°C)  
 P = Power Through Resistor (W)

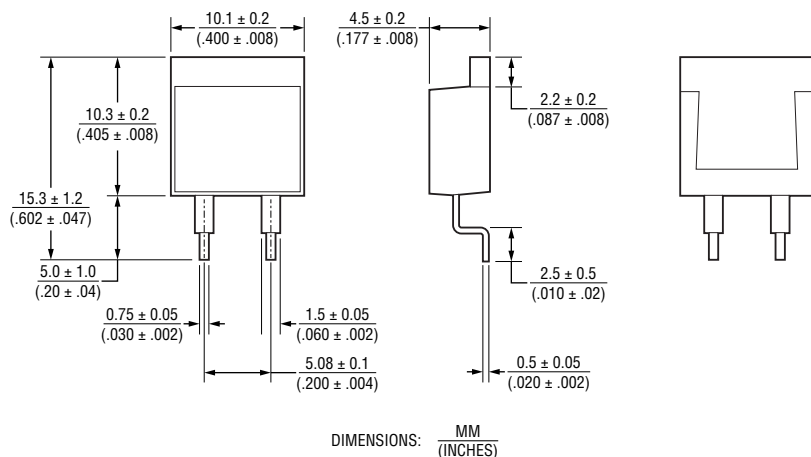
\*RoHS Directive 2015/863, Mar 31, 2015 and Annex.  
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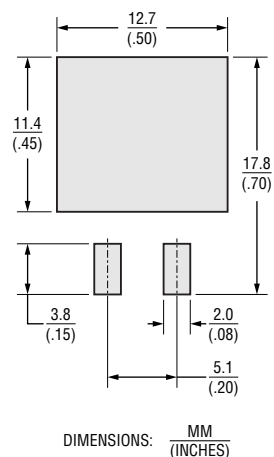


**WARNING Cancer and Reproductive Harm**  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

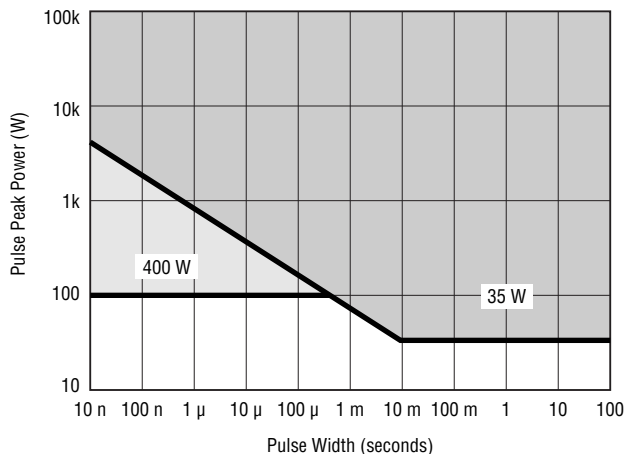
**Product Dimensions**



**Recommended Layout**



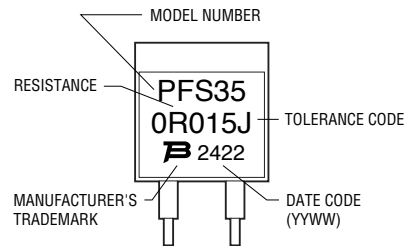
**Pulse Energy Durability**



Tentative continuous-pulse allowance at duty is 0.01 %. A load life test with actual equipment is necessary because the curve may be affected by resistance, repetition, duty and derating temperature.

**Typical Part Marking**

Represents total content. Layout may vary.



**Packaging Specifications**

Tape & Reel ..... 500 pcs. per reel

**BOURNS®**

Americas: Tel: +1 951-781-5500 • Email: [americus@bourns.com](mailto:americus@bourns.com)

Mexico: Tel: +52-614-478-0400 • Email: [mexicus@bourns.com](mailto:mexicus@bourns.com)

Asia: Tel: +886-2-2562-4117 • Email: [asiacus@bourns.com](mailto:asiacus@bourns.com)

EMEA: Tel: +36 88 885 877 • Email: [eurocus@bourns.com](mailto:eurocus@bourns.com)

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