

PFS35

Power SMD Film Resistors



- TO-263 Housing (D-Pak)
- Resistances from 0.01Ohm to 51kOhms
- Power Rating to 35Watt
- Resistance Tolerances to $\pm 1\%$
- TCR to $\pm 50\text{ppm}/^\circ\text{C}$
- Load Stability to 1%
- Low Ohm Values for Current Sense Applications
- Exceptional Pulse Performance
- Solder Reflow Secure at $260^\circ\text{C} / 20\text{s}$
- Isolated Back Plate



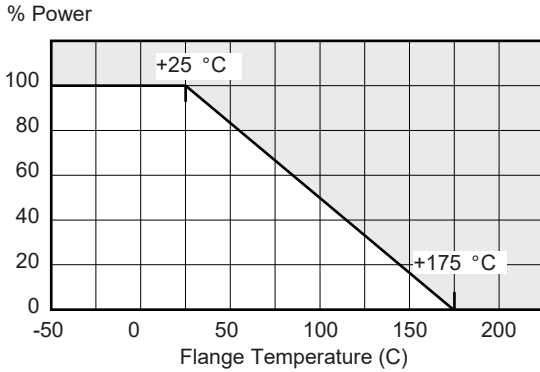
SPECIFICATIONS

Type	PFS35		
Terminals	2		
Terminal Finish	Tin Plated Copper		
Power Rating (with heatsink)	35 W (2W on Simple Solder Pad)		
Thermal Resistance Rthj-c	3.3 K/W		
Resistance Range	0.01 to 0.099Ohms	0.1 to 9.9Ohms	10 to 51KOhms
Tolerances (others upon request)	5%	1% / 5%	1%
Temperature Coefficient	$\pm 250\text{ ppm}/^\circ\text{C}$	$\pm 100\text{ ppm}/^\circ\text{C}$	$\pm 50\text{ ppm}/^\circ\text{C}$
Operating Temperature	-55°C to 175°C		
Max Operating Voltage	500V		
Inductance	8.4 nH		
Voltage Proof	2.0kV DC		
Insulation Resistance	Over 1,000 Megohm		
Resistor Material	Thin Film		
Load Life	$\pm 1\%$	90 min ON, 30 min OFF, 1000 hrs @ 25C	
Humidity	$\pm 1\%$	90-95% RH, 0.1W, 1000 hrs @ 40C	
Temperature Cycle	$\pm 0.25\%$	-55C for 30 min, +155C for 30 min, 5 cycles	
Solder Heat	$\pm 0.1\%$	350C $\pm 5\text{C}$ for 3 seconds	
Vibration	$\pm 0.25\%$	IEC60068-2-6	
Flammability	UL94V-0		
Reflow soldering	lead-free soldering $260^\circ\text{C} / 20\text{s}$ (2 reflow cycles maximum)		
Moisture Sensitivity Level	MSL-1		
Mass	1.5g		

Ordering Information

Part Description: Part Type - Resistance - Tolerance
PFS35 10 Ohms 1%

Power Derating



Power Rating Notes -

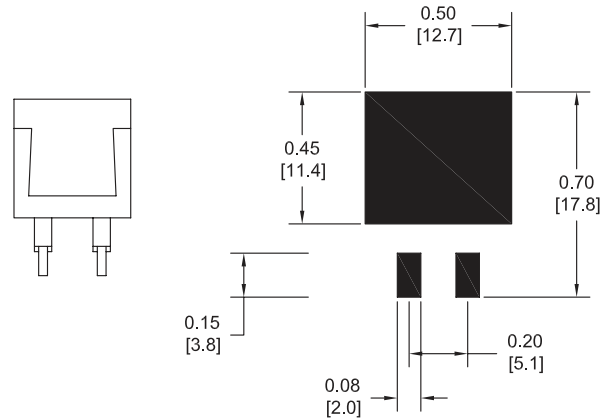
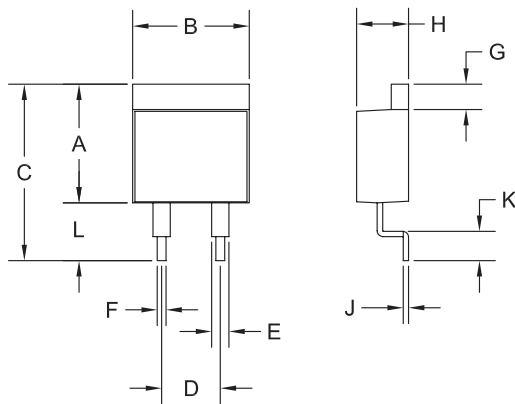
The PFS35 Series Resistors must be attached to a suitable heatsink. The maximum internal resistor temperature is 175°C. To specify an appropriate heatsink use the following formula :

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

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

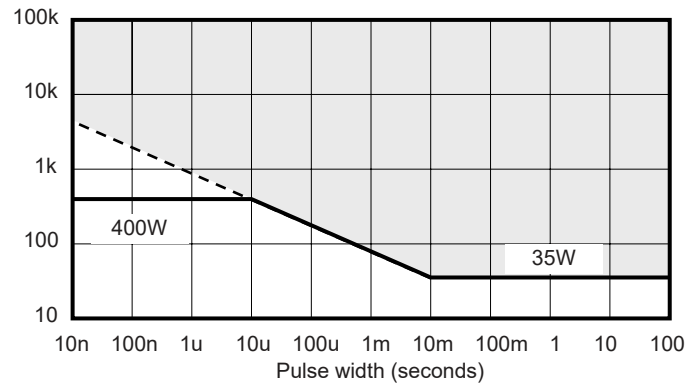
DIMENSIONS

Back plate is isolated from both pins.



Dimension	mm	tol. (±mm)	inches	tol. (±inches)
A	10.3	0.2	0.405	0.008
B	10.1	0.2	0.400	0.008
C	15.3	1.2	0.602	0.047
D	5.08	0.1	0.200	0.004
E	1.5	0.05	0.060	0.002
F	0.75	0.05	0.030	0.002
G	2.2	0.2	0.087	0.008
H	4.5	0.2	0.177	0.008
J	0.5	0.05	0.020	0.002
K	2.5	0.5	0.10	0.02
L	5.0	1.0	0.20	0.04

Pulse peak power (W)



Tentative continuous-pulse allowance at duty 0.01. Load life test will be necessary in actual equipment, because curve may be changed by resistance, repetition, duty and derating temperature.