

# 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%
- Solder Reflow Secure at  $260^\circ\text{C} / 20\text{s}$
- Isolated Back Plate

## SPECIFICATIONS

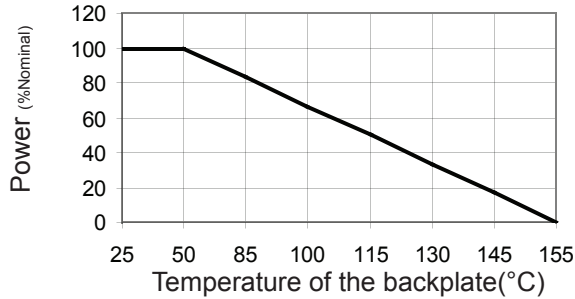
| Type                             | PFS35                                      |   |                                    |
|----------------------------------|--|---|------------------------------------|
| Terminals                        | 2  |   |                                    |
| Power Rating (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            | $-55^\circ\text{C}$ to $155^\circ\text{C}$ |   |                                    |
| 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                | $\pm 0.25\%$                               | $-55\text{C}$ for 30 min, $+155\text{C}$ 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  |                                    |

## Ordering Information

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

### SPECIFICATIONS (continued)

#### Derating Curve



#### Power Rating Notes -

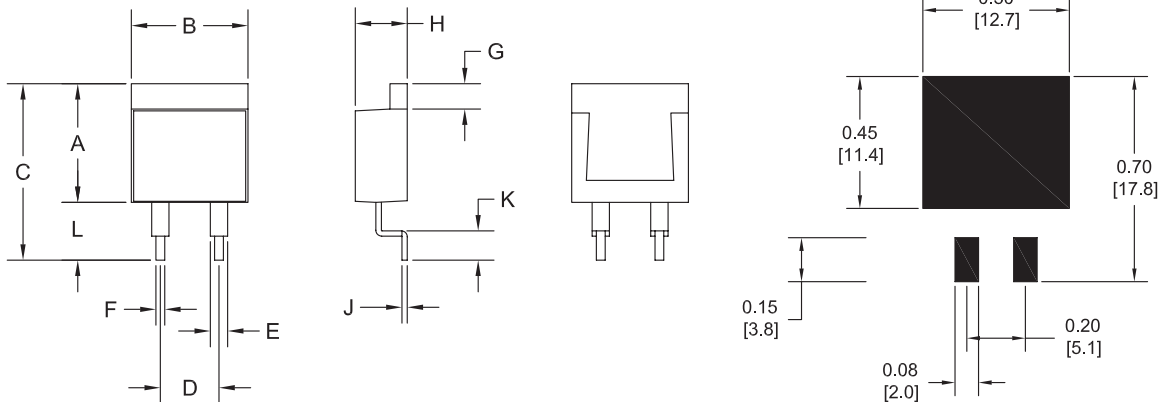
The PFS35 Series Resistors must be attached to a suitable heatsink. The maximum internal resistor temperature is 175°C. To specify an appropriate heatsink use the following formula :

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

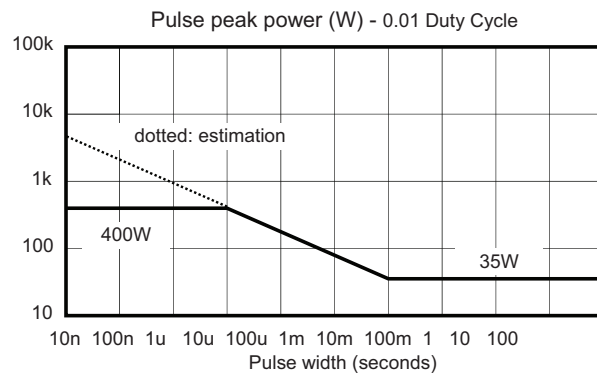
Where:  $R_{\theta H}$  = Thermal Resistance of Heatsink ( K/W )  
 $R_{\theta R}$  = Thermal Resistance of Resistor ( K/W )  
 $T_{MAX}$  = Maximum Temperature of Resistor  
 $T_A$  = Ambient Temperature of Heatsink ( °C )  
 $P$  = Power Through Resistor ( W )

### 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 | 1.0        | 4.54   | 0.04           |
| 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           |



Load life test will be necessary in actual equipment.