

# PF2270 Series

Thin & Thick Film Power Resistors



- Resistances from 0.1 Ohms to 100K Ohms
- Power Rating to 600 Watts
- Resistance Tolerances to  $\pm 1\%$
- TCR of  $\pm 100\text{ppm}/\text{C}$
- TO-227 (TO-238) Housing
- M4x5mm Screws Included
- Isolated Back Plate

## SPECIFICATIONS

Type	PF2272	PF2274	PF2276
Power Rating (with heatsink)	200 W	300 W	600 W
Resistance Range	0.1 to 100K Ohms	0.1 to 100K Ohms (0.1 to 1 Ohm only available Terminal Z)	50 to 1K Ohms
Resistance Values	E12 ( Plus 2 Ohm and 5 Ohm )		
Thermal Resistance	0.5 °C/W	0.32 °C/W	0.11 °C/W
Tolerances	5% ( 1% optional )		
Temperature Coefficient	$\pm 100\text{ ppm}/\text{C}$		
Operating Temperature	-55°C to 155°C		
MAX Continuous Voltage	$\sqrt{P * R}$		
MAX Continuous Current	55A		
Isolation Voltage	2500VAC		
Load Life ( 25°C, 90m ON, 30m OFF, 1000hr )	$\pm 1\%$		
Humidity ( 40°C, 90-95% RH, DC0.1W, 1000hr )	$\pm 1\%$		
Temp. Cycle ( -55°C 30m, 120°C 30m, 20X )	$\pm 1\%$		
Vibration ( 0.75mm, 100m/s <sup>2</sup> , 10-54Hz, 10X, XYZ )	$\pm 0.25\%$		
Insulation Resistance	> 1000 MegOhm		
Technology	Thick Film		Thin Film
Substrate	AIO	Alumina / Cu Flange	AlN
Torque	Terminals: 1.0 Nm Max / 0.6 Nm Recommended Mounting: 1.6 Nm Max / 1 Nm Recommended		

## Ordering Information

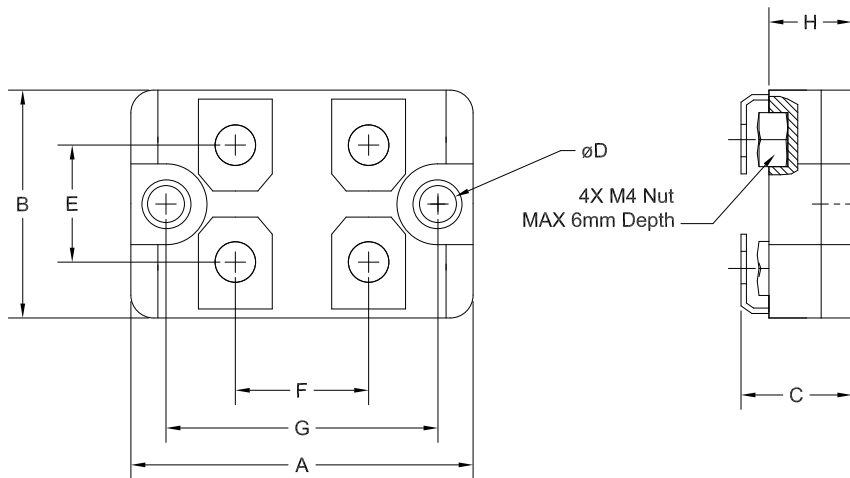
Part Description: Part Type - Resistance - Terminal Style - Tolerance  
 PF2274 10 Ohms X 5%

# PF2270 Series

Thin Film Power Resistors

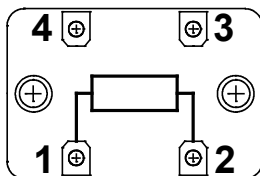


## SPECIFICATIONS (continued)

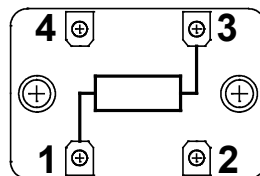


Dimension	mm	( $\pm$ mm)	inches	( $\pm$ inches)
A	38.0	0.2	1.50	0.008
B	25.0	0.2	0.98	0.008
C	11.8	0.5	0.47	0.020
D	4.2	0.1	0.165	0.008
E	13.0	0.3	0.512	0.012
F	15.0	0.4	0.591	0.016
G	30.0	0.1	1.181	0.004
H	10.0	0.2	0.394	0.008

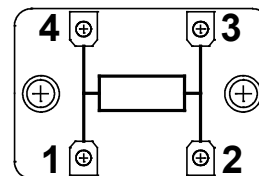
### Termination Styles



**Style X**  
Standard



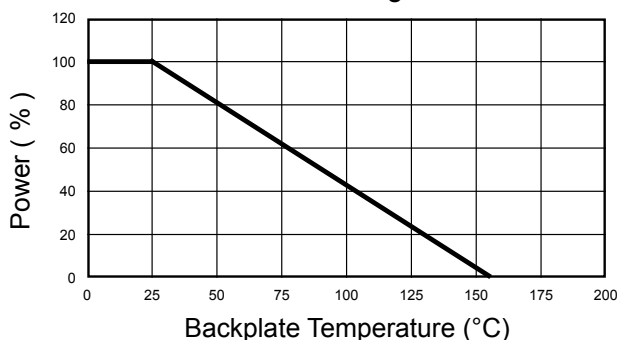
**Style Y**



**Style Z**

Note: Style Z is not a true 4-terminal measurement  
Current can be applied to any pins

### Power Derating Curve



### Power Rating Notes -

The PF2270 Series Foil Resistors must be attached to a suitable heatsink. The maximum internal resistor temperature is 155°C.

To specify an appropriate heatsink 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 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 )