

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 $\pm 100\text{ppm}/^\circ\text{C}$
- 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
Additional Lead Configurations	Y / Z	Y / Z	Y / Z
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 $^\circ\text{C}/\text{W}$	0.32 $^\circ\text{C}/\text{W}$	0.11 $^\circ\text{C}/\text{W}$
Tolerances	5% (1% optional)		
Temperature Coefficient	$\pm 100\text{ ppm}/^\circ\text{C}$		
Operating Temperature	-55°C to 155°C		
MAX Continuous Voltage	$\sqrt{P * R}$		
MAX Continuous Current	55A		
Isolation Voltage	2500VAC		
Load Life (25 $^\circ\text{C}$, 90m ON, 30m OFF, 1000hr)	$\pm 1\%$		
Humidity (40 $^\circ\text{C}$, 90-95% RH, DC0.1W, 1000hr)	$\pm 1\%$		
Temp. Cycle (-55 $^\circ\text{C}$ 30m, 120 $^\circ\text{C}$ 30m, 20X)	$\pm 1\%$		
Vibration (0.75mm, 100m/s ² , 10-54Hz, 10X, XYZ)	$\pm 0.25\%$		
Insulation Resistance	> 1000 MegOhm		
Technology	Thick Film		Thin Film
Substrate	AIO	Alumina / Cu Flange	AlN

Ordering Information

Part Description: Part Type - Terminal Style - Resistance - Tolerance
PF2274Y 10 Ohms 5%

Part Type	Terminal Style	Resistance	Tolerance
PF 2272	(*)	0.1 to 100K Ohms	5 %
PF 2274	Y	50 to 1K Ohms	(**)
PF 2276	Z		

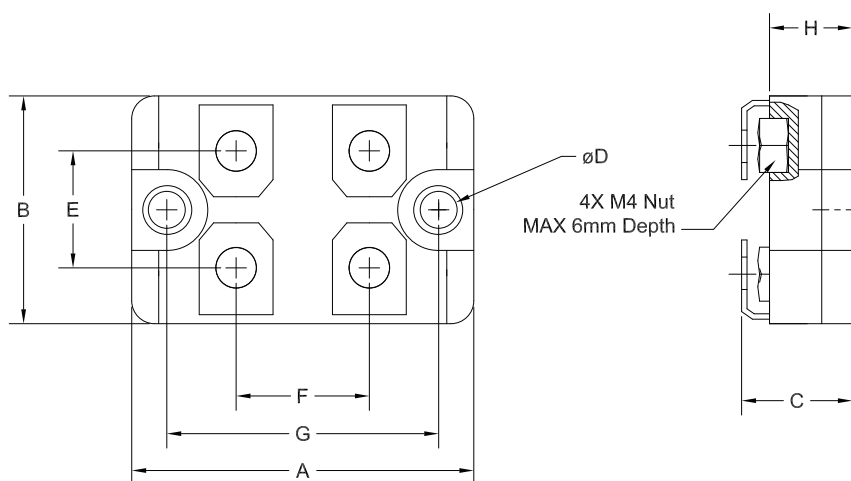
(*) For standard terminal style omit letter
(**) 1% Tolerance Optional

PF2270 Series

Thin Film Power Resistors



SPECIFICATIONS (continued)



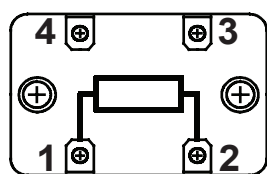
Dimension	mm	(± mm)	inches	(± inches)
A	38.0	0.2	1.50	0.008
B	25.0	0.2	0.98	0.008
C	11.8	0.5	0.47	0.020
D	4.2	0.1	0.165	0.008
E	13.0	0.3	0.512	0.012
F	15.0	0.4	0.591	0.016
G	30.0	0.1	1.181	0.004
H	10.0	0.2	0.394	0.008

Mounting Notes -

The PF2270 Series Thin Film Resistors must be attached to a suitable heatsink. Mount resistor using thermal grease to a clean, flat surface. Use a compression washer to provide 150 to 300 pounds (665 to 1330N) of mounting force. Torque mounting screw to 8 in-lbs (0.9 N-m).

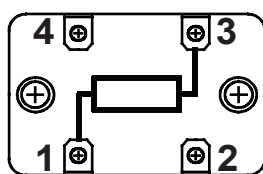
Back plate is isolated from both pins.

Terminal Configuration & Schematics



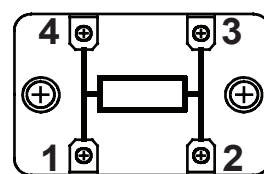
STANDARD

PF2272
PF2274
PF2276



Y

PF2272Y
PF2274Y
PF2276Y



Z

PF2272Z
PF2274Z
PF2276Z

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

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)

Power Derating Curve

