


PF2270 Series

Power Film Resistors



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

SPECIFICATIONS

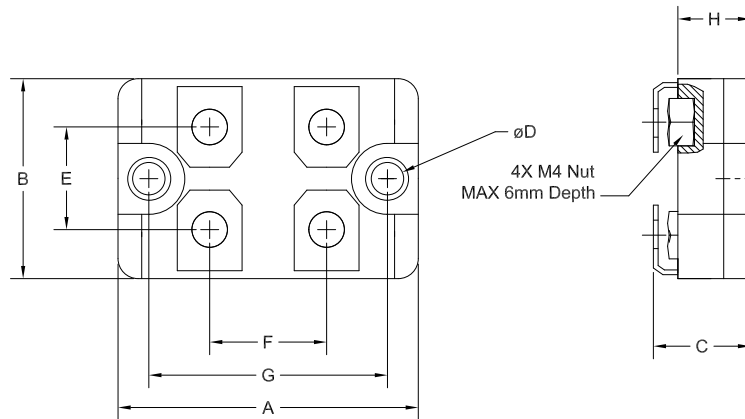
Type	PF2272	PF2274	PF2276
Power Rating (with heatsink)	200 W	300 W	600 W
Power Rating (without heatsink)	5 W	5 W	5 W
Additional Lead Configurations	Y / Z	Y / Z	Y / Z
Resistance Range	0.1 to 1M Ohms (0.1 to 1 Ohm only available Terminal Z)	0.1 to 1M Ohms (0.1 to 1 Ohm only available Terminal Z)	50 to 1K Ohms (0.1 to 1 Ohm only available Terminal Z)
Resistance Values	E12 (Plus 2 Ohm and 5 Ohm)		
Thermal Resistance	0.35 °C/W	0.23 °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		
Inductance	14 nH		
MAX Continuous Voltage	$\sqrt{P * R}$		
MAX Continuous Current	100A		
Isolation Voltage	2500VAC (5000VAC on request)		
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 ² , 10-54Hz, 10X, XYZ)	$\pm 0.25\%$		
Insulation Resistance	> 1000 MegOhm		
Flammability	UL94 V-0		
Substrate	AIO	Alumina / Cu Flange	AIN
Weight (grams)	20	30	30
Torque	Terminals: 1.0 Nm Max / 0.6 Nm Recommended Mounting: 1.6 Nm Max / 1 Nm Recommended		

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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	0.4	0.465	0.016
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

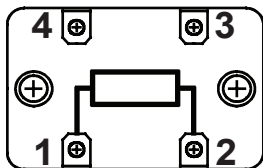
Mounting Notes -

The PF2270 Series Power 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). Torque termination screws to 5 in-lbs (0.6 N-m).

Back plate is isolated from both pins.

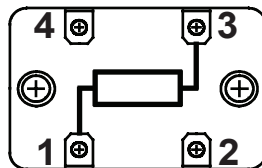
*0.25 mm tolerance available (-T)

Terminal Configuration & Schematics



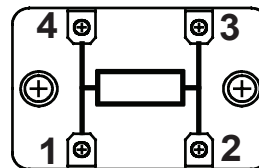
STANDARD

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 -

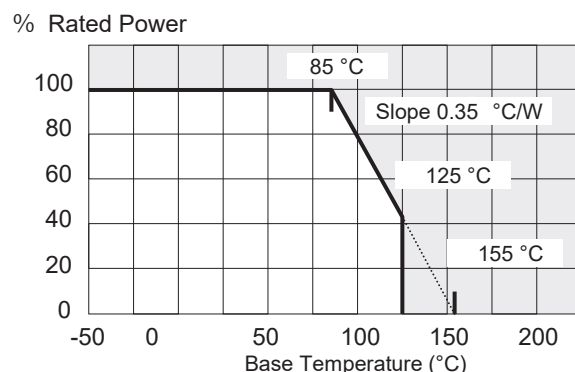
The PF2270 Series Power Film Resistors must be attached to a suitable heatsink. The maximum internal resistor temperature is 155°C.

To specify an appropriate heatsink use the following formula :

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

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)

PF2270 Series Power Derating Curve

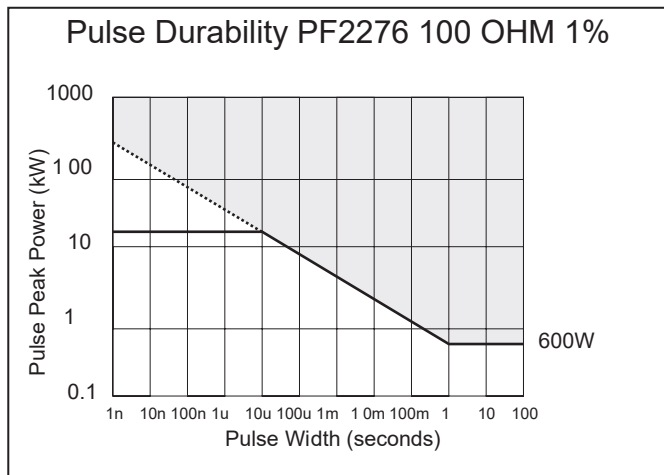
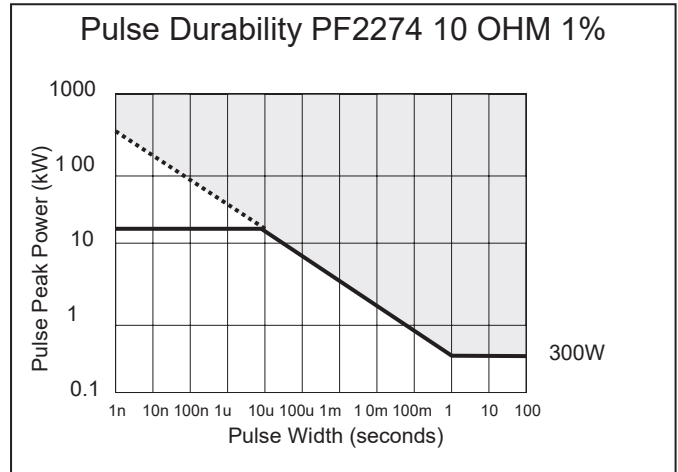
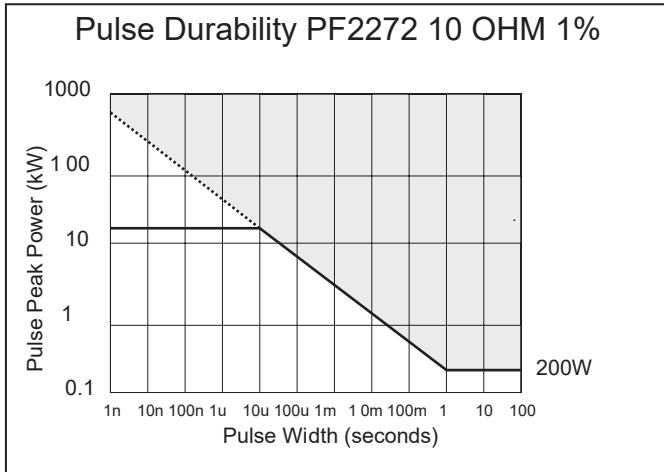


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SPECIFICATIONS (continued)



Tentative continuous pulse power allowance at duty 0.01. Load life test will be necessary in actual equipment because curve may be changed by resistance, repetition, duty, and operating temperature. Dotted line shows estimation.



Note: Flying lead terminations are available for enhanced clearance and creepage. Please contact factory for details.

Ordering Information

Part Description: Part Type - Terminal Style - Resistance - Tolerance

PF2274Y 10 Ohms 5%

Part Type
PF 2272
PF 2274
PF 2276

Terminal Style
(*)
Y
Z

Resistance
0.1 to 100K Ohms
50 to 1K Ohms

Tolerance
5 %
(**)

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