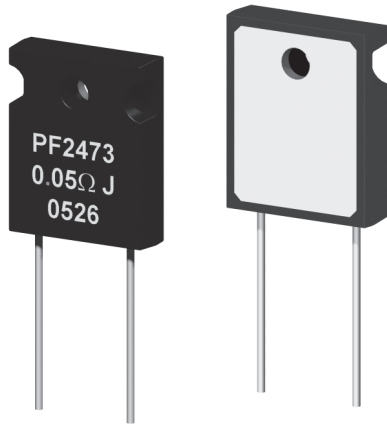
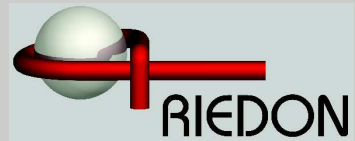


# PF2470 Series

TO-247 Power Film Resistors



- TO-247 Housing
- Rated Power to 140 Watts
- Resistances from 0.02 to 51K Ohms
- High Stability Film Resistance Elements
- Resistance Tolerance to  $\pm 1\%$
- Low Inductance (  $< 50\text{nH}$  )
- Isolated Back Plate

## SPECIFICATIONS

| Type   | Power Rating          |                       | Thermal Resistance | Resistance Range <sup>3</sup> |      | Tolerances                                     | Temperature Coefficients                                                                                                                                                                  |
|--------|-----------------------|-----------------------|--------------------|-------------------------------|------|------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        | Heatsink <sup>1</sup> | Free Air <sup>2</sup> |                    | Min                           | Max  |                                                |                                                                                                                                                                                           |
| PF2473 | 140W                  | 5W                    | 0.9°C/W            | 0.02Ω                         | 51KΩ | $\pm 1\%$ ( $R \geq 0.10\Omega$ )<br>$\pm 5\%$ | $\pm 50\text{ppm}/^\circ\text{C}$ ( $R \geq 10\Omega$ )<br>$\pm 100\text{ppm}/^\circ\text{C}$ ( $0.1\Omega \leq R < 10\Omega$ )<br>$\pm 250\text{ppm}/^\circ\text{C}$ ( $R < 0.1\Omega$ ) |
| PF2472 | 100W                  | 3W                    | 1.3°C/W            | 0.02Ω                         | 51KΩ | $\pm 1\%$ ( $R \geq 0.10\Omega$ )<br>$\pm 5\%$ | $\pm 50\text{ppm}/^\circ\text{C}$ ( $R \geq 10\Omega$ )<br>$\pm 100\text{ppm}/^\circ\text{C}$ ( $0.1\Omega \leq R < 10\Omega$ )<br>$\pm 250\text{ppm}/^\circ\text{C}$ ( $R < 0.1\Omega$ ) |

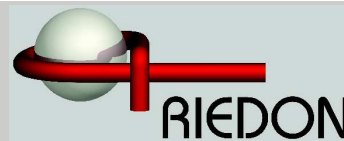
- <sup>1</sup> Power rating based on 25°C Flange Temperature  
<sup>2</sup> Power rating based on 25°C Ambient Temperature  
<sup>3</sup> Consult Factory for Higher or Lower Values

| Specification             | Value                                           |                                              |
|---------------------------|-------------------------------------------------|----------------------------------------------|
| Temperature Range         | -55°C to +155°C                                 |                                              |
| Dielectric Strength       | 2500 VAC                                        |                                              |
| Max. Operating Voltage    | 700 V or $\sqrt{P \cdot R}$ , whichever is less |                                              |
| Inductance                | PF2472 11.7nH / PF2473 12.3nH                   |                                              |
| Insulation Resistance     | >1000 Meg-Ohm                                   |                                              |
| Terminal Finish           | Tin Plated Copper                               |                                              |
| Environmental Performance | $\Delta R$                                      | Test Conditions                              |
| Load Life                 | $\pm 1\% + 0.05\Omega$                          | 25°C, 90 min ON, 30 min OFF, 1000 hr         |
| Humidity Resistance       | $\pm 1\% + 0.05\Omega$                          | 40°C, 90-95% RH, DC 0.1W, 1000 hr            |
| Temperature Cycle         | $\pm 0.25\% + 0.05\Omega$                       | -55°C for 30 min, +155°C for 30 min, 1000 hr |
| Solder Heat               | $\pm 0.1\% + 0.05\Omega$                        | +350°C, 3s                                   |
| Vibration                 | $\pm 0.25\% + 0.05\Omega$                       | IEC60068-2-6                                 |



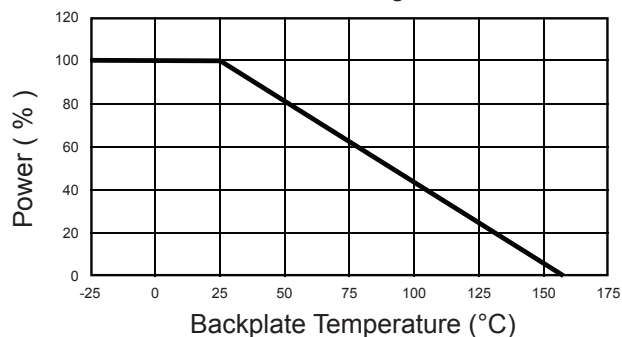
# PF2470 Series

TO-247 Power Film Resistors



## SPECIFICATIONS (continued)

Power Derating Curve



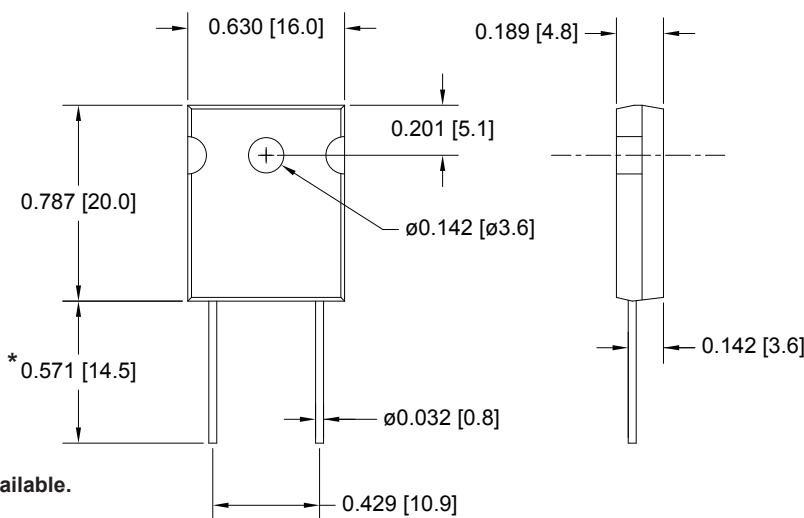
### Power Rating Notes -

The PF2470 Series Thin 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 ( °C/W )  
 $R_{\theta R}$  = Thermal Resistance of Resistor ( °C/W )  
 $T_{MAX}$  = Maximum Temperature of Resistor  
 $T_A$  = Ambient Temperature of Heatsink ( °C )  
 $P$  = Power Through Resistor ( W )



\* Custom lead lengths available.  
Contact factory.

### Mounting Notes -

The PF2470 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.

## Ordering Information

Part Description: Part Type - Resistance - Tolerance

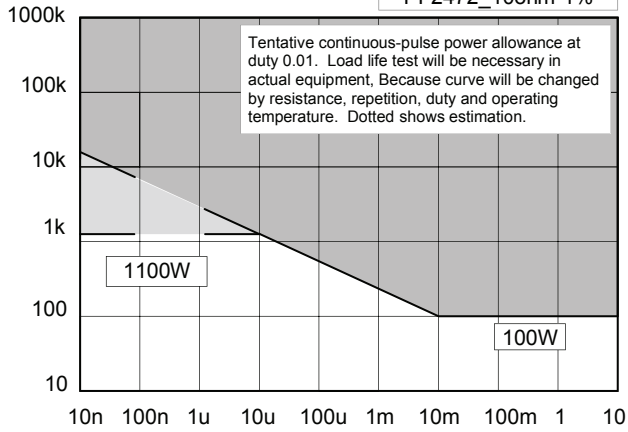
Example: PF2472 10 Ohm 1%



## Pulse Energy Durability

Pulse Peak Power (W)

PF2472\_10ohm-1%



## Pulse Energy Durability

Pulse Peak Power (W)

PF2473\_10ohm-1%

