# FPR FNR 2-T227 4-T227

Foil Power Resistors

In Stock At Riedon

RIEDON



RoHS compliant

- **Resistances from 0.001Ohm to 100Ohms**
- **Power Rating to 80Watt**
- **Resistance Tolerances to ±0.1%**
- **TCR to ±15ppm/°C**
- **Load Stability to 0.1%**

## SPECIFICATIONS

| Type | FPR 2-T227 | FPR 4-T227 | FNR 2-T227 | FNR 4-T227 |
|---|---|---|---|---|
| Terminals | 2 | 4 (kelvin connection) | 2 | 4 (kelvin connection) |
| Resistance Range | 0.01 to 100 Ohms | 0.001 to 100 Ohms | 0.01 to 100 Ohms | 0.001 to 100 Ohms |
| Power Rating (with heatsink) | 60W | | 80W | |
| Thermal Resistance Rthj-c | 1.3 K/W | | 1.0 K/W | |
| Tolerances (depends on resistance) | 0.1%[1] / 1% / 2% / 5% (others upon request) | | | |
| Stability | 0.1% / 0.2% / 0.5% (depends on stress) | | | |
| Temperature Coefficient | ±15 ppm/K (20 to 60°C) from R < 0.02 Ohms ±20 ppm/K (20 to 60°C) FPR 2-T227 / FNR 2-T227 TK Shift depends from resistance value (see graph next page) | | | |
| Voltage Proof | 1.5 kV DC ( higher upon request ) | | | |
| Thermal EMF | < 1 µV/K | | | |
| Max. Current | 45A (85A on request) | | 50A (100A on request) | |
| Operating Temperature | -40°C to 130°C | | | |
| Resistor Material | Metalfoil CuNiMn (DIN 17471) | | | |
| Substrate | $Al_2O_3$ | | AlN | |
| Housing | Epoxy | | | |
| Connector Material | Cu / tinned or nickel plated | | | |
| Max. Torque | backplate: 1.5Nm terminals: 1.3 Nm | | | |

[1]Please inquire for low ohm values

## Ordering Information

Part Description: Part Type - Resistance - Tolerance
FPR 2-T227 1.1 Ohms 1%

**Riedon Inc.** 300 Cypress Avenue Alhambra CA 91801 ☎ (626) 284-9901 (626) 284-1704
**www.riedon.com**

## SPECIFICATIONS (continued)

### Temperature Coefficient

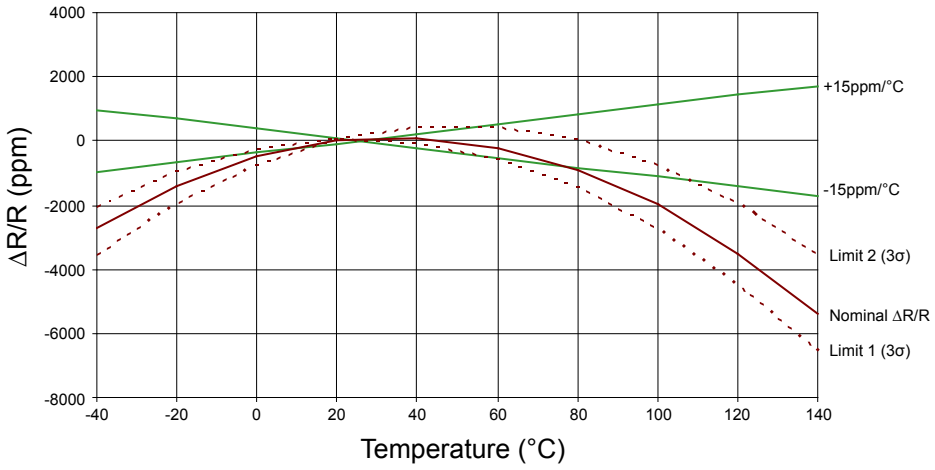
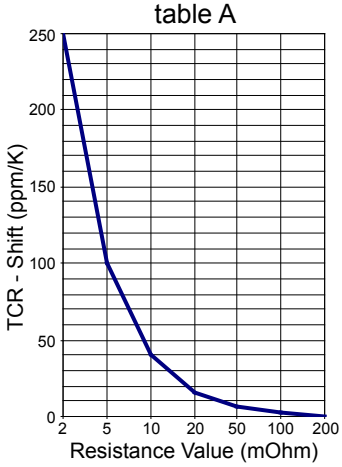
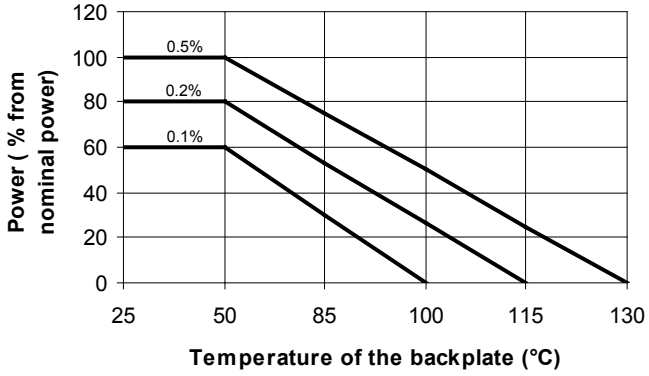



table A




### Derating and Stability




Power Rating Notes -

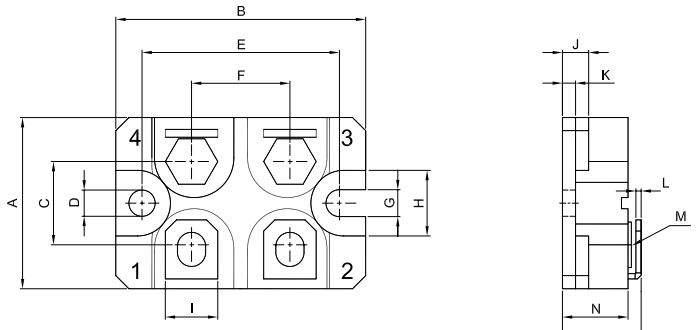
The FPR/FNR Series Foil Resistors must be attached to a suitable heatsink. The maximum internal resistor temperature is 130°C for a 0.5% stability part.

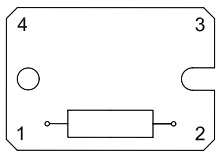
To specify an appropriate heatsink use the following formula :

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

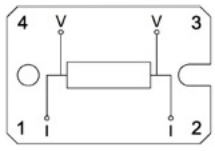
Where: $R_{\theta H}$ = Thermal Resistance of Heatsink ( K/W )
$R_{\theta R}$ = Thermal Resistance of Resistor ( K/W )
$T_{MAX}$ = Maximum Temperature of Resistor
$T_A$ = Ambient Temperature of Heatsink ( °C )
P = Power Through Resistor ( W )

### Dimensions and Attachment Variations




FPR/FNR 2-T227




FPR/FNR 4-T227

| Dimension | mm | tol. (±mm) | inches | tol. (±inches) |
|---|---|---|---|---|
| A | 26 | 0.5 | 1.02 | 0.020 |
| B | 38 | 0.5 | 1.50 | 0.020 |
| C | 12.7 | 0.2 | 0.50 | 0.008 |
| D | 4 | 0.2 | 0.16 | 0.008 |
| E | 30 | 0.2 | 1.18 | 0.008 |
| F | 15 | 0.2 | 0.59 | 0.008 |
| G | 4.1 | 0.2 | 0.16 | 0.008 |
| H | 10 | 0.2 | 0.39 | 0.008 |
| I | 8 | 0.2 | 0.31 | 0.008 |
| J | 4 | 0.2 | 0.16 | 0.008 |
| K | 2 | 0.2 | 0.08 | 0.008 |
| L | 0.8 | 0.1 | 0.03 | 0.004 |
| M | M4 | | M4 | |
| N | 10 | 0.2 | 0.39 | 0.008 |
| O | 11.9 | 0.2 | 0.47 | 0.008 |