

**FEATURES**

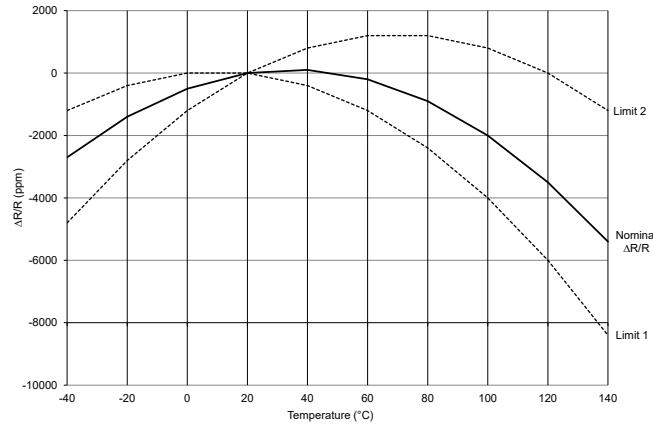
- Resistances from 0.001Ohm to 50Ohms
- Power Rating to 80Watt
- Resistance Tolerances to  $\pm 0.1\%$
- TCR to  $\pm 25\text{ppm/K}$
- Load Stability to 0.1%



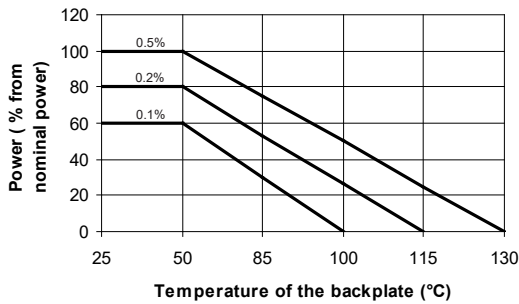
TABLE 1 – SPECIFICATIONS			
TYPE		FPR 4-T227	FNR 4-T227
Resistance Range		0.001 to 50 Ohms	
Power Rating	With heatsink	60 W	80 W
Tolerances from 0.001 from 0.020		1% / 2% / 5% 0.1% / 0.25% / 0.5% / 1% / 2% / 5% (others upon request)	
Thermal Resistance		1.3 K/W	1.0 K/W
Stability (1000h)		0.1% / 0.2% / 0.5% (depends on stress)	
Temperature Coefficient Standard (Q) Extended Temperature Range (R)		$\pm 25$ ppm/K (20 to 60°C) $\pm 50$ ppm/K (-40 to 130°C) other specifications upon request	
Voltage Proof		1.5 kV DC	
Maximum Current		50 A contact G 150 A contact I	
Thermal EMF		< 1 $\mu\text{V/K}$	
Operating Temperature Range		-40°C to 130°C	
Resistor Material		CuNiMn-Foil	
Substrate		Al <sub>2</sub> O <sub>3</sub>	AlN
Backplate		Copper / Nickel-plated	
Housing		Epoxy	
Connector Material		Cu / tinned	
Terminals		4 (Standard contact G - bended)	
Max. Torque		backplate: 1.5Nm terminals: 1.3 Nm	

ORDERING INFORMATION
Part Number - Resistance - Contact - Tolerance - TCR
FPR 4-T227 0R010 I 1% Q

**FIGURE 1 – TEMPERATURE COEFFICIENT**



**FIGURE 2 – DERATING**



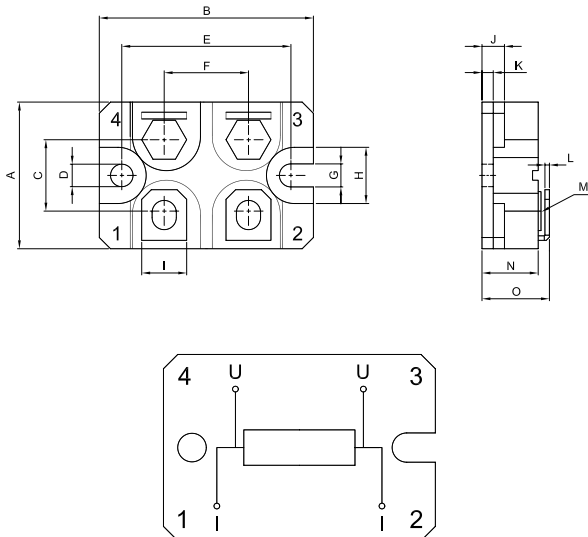
**Power Rating Notes -**

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 )

**FIGURE 3 – DIMENSIONS** in mm (inches)



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



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