



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



Contact us

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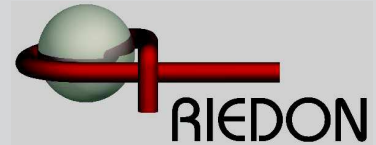
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FPR FNR 2-T227 4-T227

Foil Power Resistors



- Resistances from 0.001Ohm to 100Ohms
- Power Rating to 80Watt
- Resistance Tolerances to $\pm 0.1\%$
- TCR to $\pm 25\text{ppm}/^\circ\text{C}$
- 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 50 Ohms	0.01 to 100 Ohms	0.001 to 50 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 ²	± 25 ppm/K (20 to 60°C) ± 50 ppm/K (- 40 to 130°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 $\mu\text{V}/\text{K}$			
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 ₂ O ₃		AlN	
Housing	Epoxy			
Connector Material	Cu / tinned or nickel plated			
Max. Torque	backplate: 1.5Nm terminals: 1.3 Nm			
MSL Level	MSL 1			

¹ Please inquire for low ohm values

² Contact office for additional TCR values

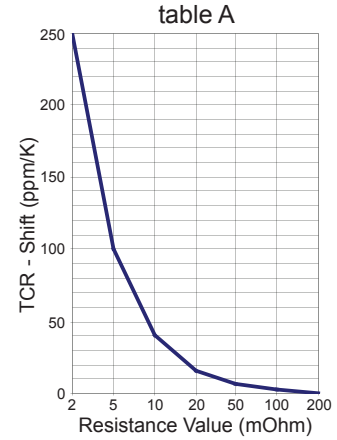
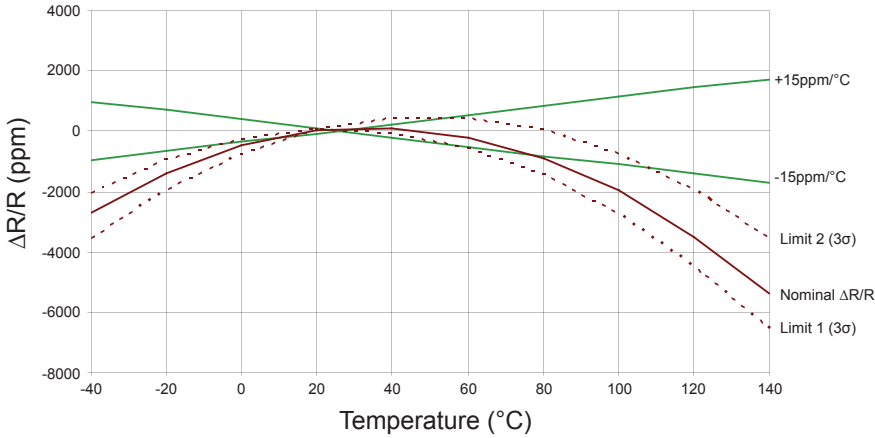
Ordering Information

Part Description: Part Type - Resistance - Tolerance

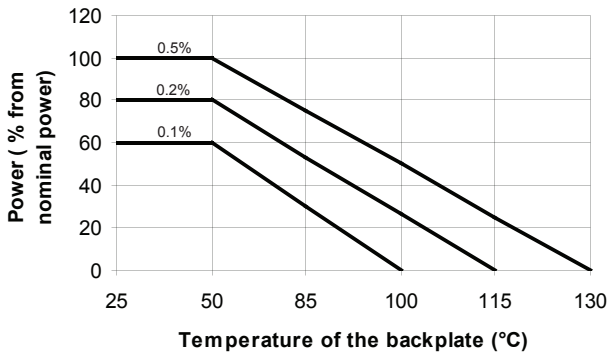
FPR 2-T227 1.1 Ohms 1%

SPECIFICATIONS (continued)

Temperature Coefficient



Derating and Stability



Power Rating Notes -

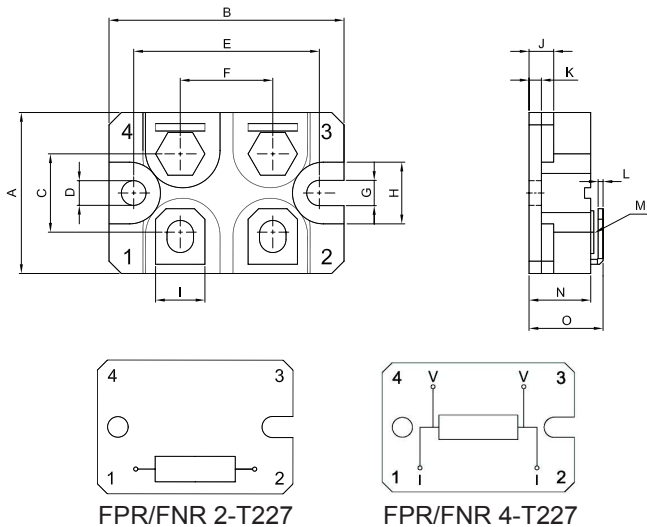
The FPR/FNR Series Foil Resistors must be attached to a suitable heatsink. The maximum internal resistor temperature is 130°C for a 0.5% stability part.

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



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