

# FPR 2-T218

Precision Shunt Resistors

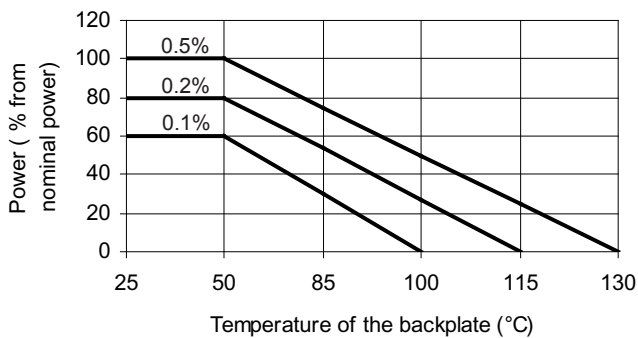


- Resistances from 0.002Ohm to 50Ohms
- Power Rating to 30Watt
- Resistance Tolerances to  $\pm 0.25\%$
- TCR to  $\pm 15\text{ppm/K}$
- Load Stability to 0.1%
- TO-218 (TO-247) Housing

## SPECIFICATIONS

Type	FPR 2-T218
Resistance Range	0.002 to 50 Ohms
Power rating free air 70°C with heatsink	2 W 30 W
Thermal Resistance Rthj-c	2.5 K/W
Tolerances from 0.002 Ohms from 0.01 Ohms from 0.02 Ohms	1% / 2% / 5% 0.5% / 1% / 2% / 5% 0.25% / 0.5% / 1% / 2% / 5%
Stability	0.1% / 0.2% / 0.5% (depends on stress)
Temperature Coefficient	R > 0.2 Ohms $\pm 15\text{ppm/K}$ (20 to 60°C) R $\leq$ 0.2 Ohms TCR see table A next page
Voltage Proof	300 VDC
Thermal EMF	< 0.1 $\mu\text{V/K}$
Operating Temperature Range	-40 to 130°C
Resistor Material	CuNiMn-Foil
Substrate	anodized aluminium
Housing	PPS
Connector Material	Cu tinned
Terminals	2
Max. Torque	1 Nm

## Derating



### Power Rating Notes -

The FPR Series Resistors must be attached to a suitable heat-sink. The maximum internal resistor temperature is 130°C.

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 )

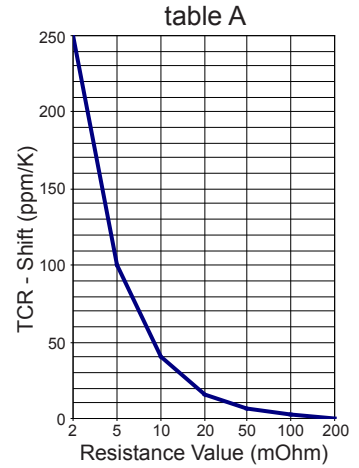
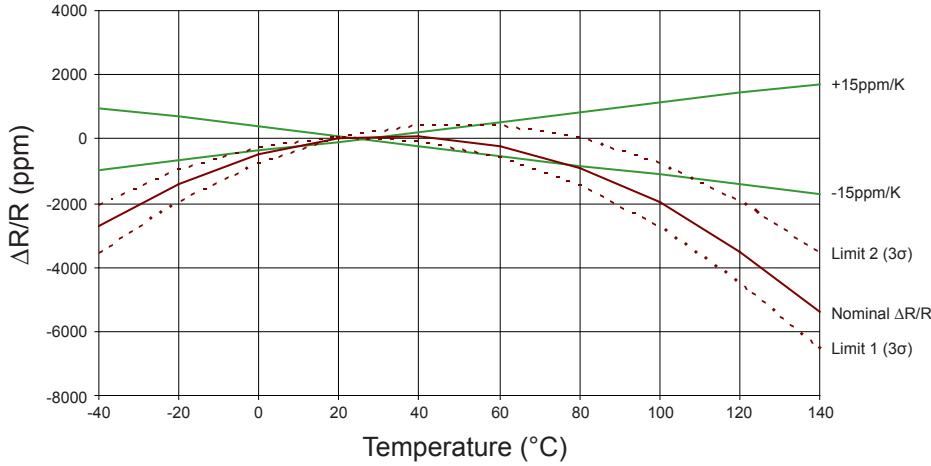
## Ordering Information

Part Number - Resistance - Contact - Tolerance

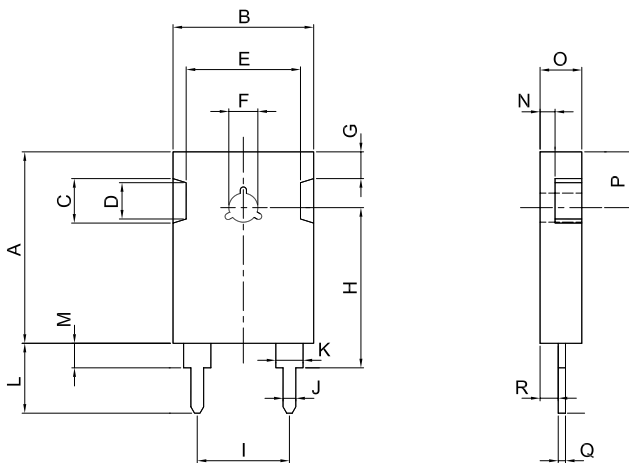
FPR 2-T218 0.068 Ohms C 0.5%

**SPECIFICATIONS** (continued)

**Temperature Coefficient**



**Dimensions**



Dimension	mm	tol. (±mm)	inches	tol. (±inches)
A	21.10	0.2	0.83	0.008
B	15.50	0.2	0.61	0.008
C	4.90	0.1	0.19	0.004
D	4.00	0.1	0.16	0.004
E	12.60	0.2	0.50	0.008
F	Ø3.2	0.1	Ø0.13	0.004
G	2.95	0.1	0.12	0.004
H (C-Contact)	17.75	0.2	0.70	0.008
I	10.16	0.2	0.40	0.008
J	1.40	0.1	0.06	0.004
K	3.00	0.1	0.12	0.004
L (C-Contact)	14.50	0.2	0.57	0.008
M (C-Contact)	2.80	0.1	0.11	0.004
N	1.65	0.1	0.06	0.004
O	4.60	0.1	0.18	0.004
P	6.15	0.2	0.24	0.008
Q	0.80	0.1	0.03	0.004
R	2.00	0.1	0.08	0.004