

FEATURES

- Resistances from 0.01Ohm to 100Ohms
- Power Rating to 40Watt
- Resistance Tolerances to $\pm 0.5\%$
- TCR to $\pm 50\text{ppm/K}$
- Very Low Inductance
- Stability to 0.1%



RoHS*
COMPLIANT

TABLE 1 – SPECIFICATIONS		
TYPE		FHR 2-3025 FHR 2-3818
Resistance Range		0.010 to 100Ohms
Power Rating	Free air 70°C	3W
	With heatsink	40W
Tolerances from 0R01 from 0R02		0.5% / 1% / 2% / 5% 0.25% / 0.5% / 1% / 2% / 5%
Thermal Resistance		2.0 K/W
Stability (1000h)		0.1% / 0.2% / 0.5% (depends on stress)
Temperature Coefficient		$\pm 50\text{ppm/K}$ (20 to 60°C) other specifications upon request
Voltage Proof		500 VDC
Maximum Current		150 A
Thermal EMF		<0.1 $\mu\text{V/K}$
Operating Temperature Range		-40°C to 130°C
Resistor Material		CuNiMn-Foil
Housing		Epoxy
Substrate		Anodized aluminium
Connector Material		Cu / tinned
Terminals		2
Max. torque		1 Nm

ORDERING INFORMATION
Part Number - Resistance - Contact - Tolerance
FHR 2-3818 0R050 A 1%

FIGURE 1 – TEMPERATURE COEFFICIENT

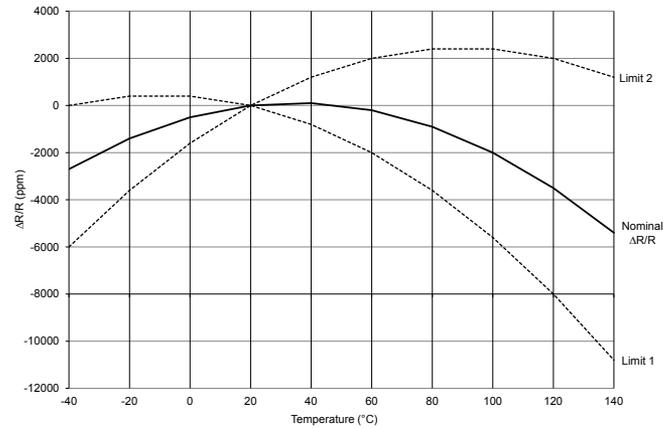
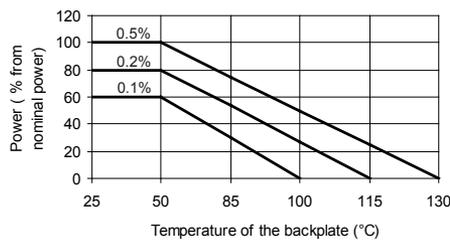


FIGURE 2 – DERATING



Power Rating Notes -

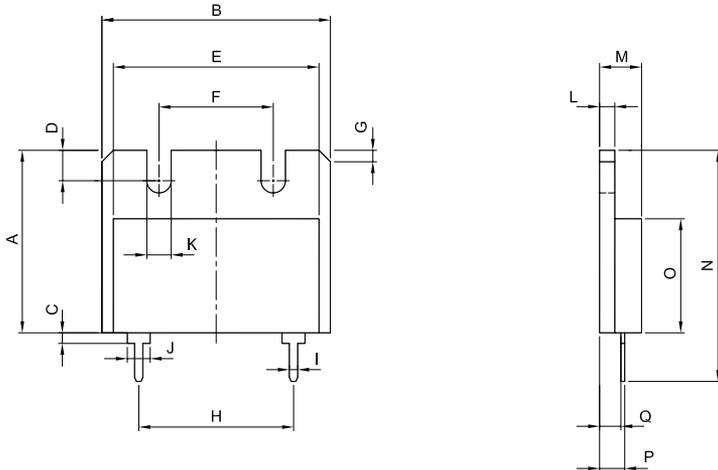
The FHR Series Resistors must be attached to a suitable heat-sink. The maximum internal resistor temperature is 130°C. To specify an appropriate heatsink use the following formula :

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

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)

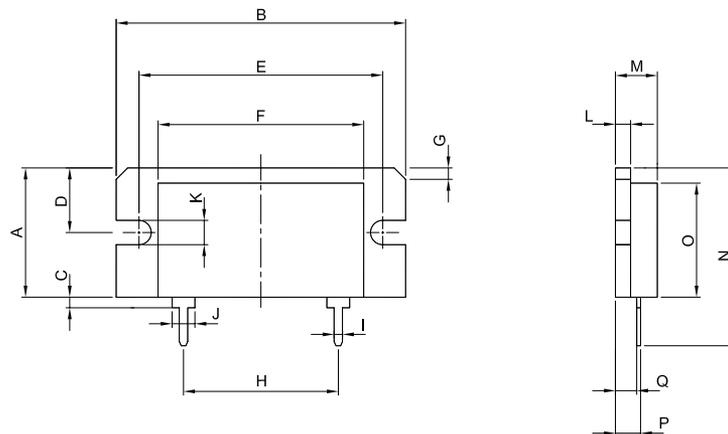
FIGURE 3—DIMENSIONS in mm (inches)

FHR 2-3025



Dimension	A-Contact	K-Contact
A ±0.2 (±0.008)	24.00 (0.94)	
B ±0.2 (±0.008)	30.00 (1.18)	
C ±0.4 (±0.016)	1.40 (0.06)	
D ±0.1 (±0.004)	4.00 (0.16)	
E ±0.2 (±0.008)	27.00 (1.06)	
F ±0.2 (±0.008)	15.00 (0.59)	
G ±0.1 (±0.004)	1.5x45° (0.06x45°)	
H ±0.2 (±0.008)	20.32 (0.80)	
I ±0.1 (±0.004)	1.50 (0.06)	1.10 (0.04)
J ±0.1 (±0.004)	1.10 (0.04)	
K ±0.1 (±0.004)	3.20 (0.13)	
L ±0.1 (±0.004)	2.00 (0.08)	
M ±0.2 (±0.008)	max.5.5 (0.22)	
N ±0.4 (±0.016)	30.40 (1.20)	
O ±0.2 (±0.008)	15.00 (0.59)	
P ±0.1 (±0.004)	3.60 (0.14)	3.30 (0.13)
Q ±0.2 (±0.008)	2.80 (0.11)	

FHR 2-3818



Dimension	A-Contact	K-Contact
A ±0.2 (±0.008)	17.00 (0.67)	
B ±0.3 (±0.012)	38.00 (1.50)	
C ±0.4 (±0.016)	1.40 (0.06)	
D ±0.2 (±0.008)	8.50 (0.33)	
E ±0.3 (±0.012)	32.00 (1.26)	
F ±0.2 (±0.008)	27.00 (1.06)	
G ±0.1 (±0.004)	1.5x45° (0.06x45°)	
H ±0.2 (±0.008)	20.32 (0.80)	
I ±0.1 (±0.004)	1.50 (0.06)	1.10 (0.04)
J ±0.1 (±0.004)	1.10 (0.04)	
K ±0.1 (±0.004)	3.20 (0.13)	
L ±0.1 (±0.004)	2.00 (0.08)	
M ±0.2 (±0.008)	max.5.5 (0.22)	
N ±0.4 (±0.016)	23.40 (0.92)	
O ±0.2 (±0.008)	15.00 (0.59)	
P ±0.1 (±0.004)	3.60 (0.14)	3.30 (0.13)
Q ±0.2 (±0.008)	2.80 (0.11)	

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