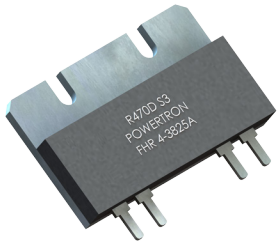
FHR 4-3825 3825H 4618

FEATURES

- Resistances from 0.001Ohm to 100Ohms
- Power Rating to 50Watt
- Resistance Tolerances to ±0.1%
- TCR to ±10ppm/K
- Very Low Inductance
- Load Stability to 0.1%



Pb-free Available

RoHS* COMPLIANT

TABLE 1—SPECIFICATIONS		
TYPE		FHR 4-3825 FHR 4-3825H FHR 4-4618
Resistance Range		0.001 to 100 Ohms
Power Rating	**Free air 70°C**	3W / 5W for 3825H
	With heatsink	50W
Tolerances **from 0R001**		0.1% / 0.25% / 0.5% / 1% / 2% / 5%
Thermal Resistance		1.6 K/W
Stability (1000h)		0.1% / 0.2% / 0.5% (depends on stress)
Temperature Coefficient **Standard (Q)** **Option (R) Extended Temperature Range**		±25ppm/K (20 to 60°C) ±50ppm/K (-40 to 130°C) other specifications upon request
Voltage Proof		500 VDC
Maximum Current		150 A / 200 A for contact F
Thermal EMF		< 1µV/K
Operating Temperature Range		-40 to 130 °C
Resistor Material		CuNiMn-Foil
Substrate		Anodized aluminium
Housing		Epoxy
Connector Material		Cu / tinned
Terminals		4
Max. Torque		1 Nm

ORDERING INFORMATION

Part Number - Resistance - Contact - Tolerance - TCR
FHR 4-4618 0R050 F 1% Q FHR 4-3825H 1R140 A 0.1% N

FIGURE 1—TEMPERATURE COEFFICIENT

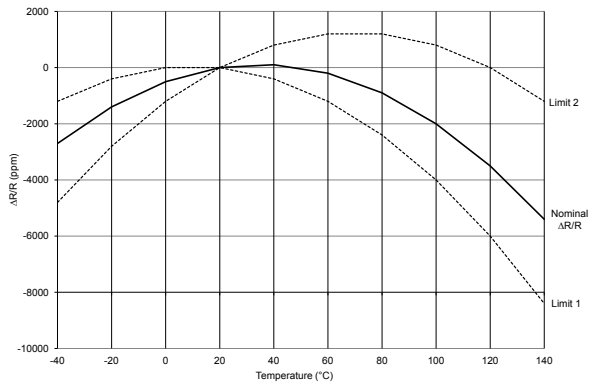
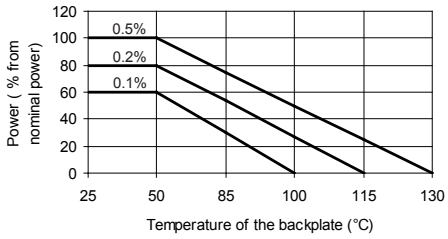


FIGURE 2—DERATING



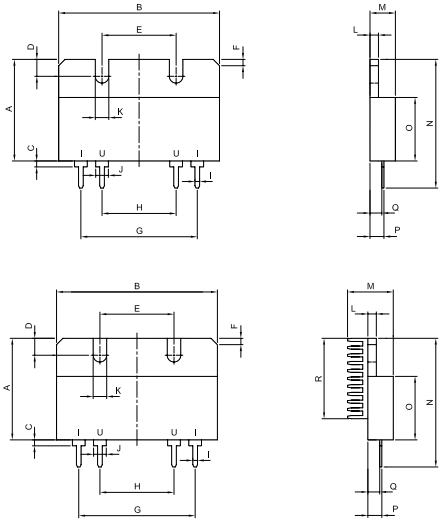
Power Rating Notes -
The FHR Series Resistors must be attached to a suitable heat-sink. The maximum internal resistor temperature is 130°C.
To specify an appropriate heatsink use the following formula :

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

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)

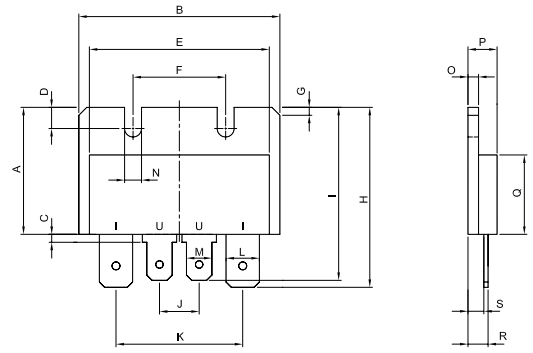
FHR 4-3825 / FHR 4-3825H



Dimension		A-contact	K-contact
A ±0.2 (±0.008)		24.00 (0.94)	
B ±0.3 (±0.012)		38.00 (1.50)	
C ±0.1 (±0.004)		1.40 (0.06)	
D ±0.1 (±0.004)		4.00 (0.16)	
E ±0.2 (±0.008)		17.50 (0.69)	
F ±0.1 (±0.004)		1.5x45° (0.06x45°)	
G ±0.2 (±0.008)		27.50 (1.08)	
H ±0.2 (±0.008)		17.50 (0.69)	
I ±0.1 (±0.004)		1.50 (0.06)	1.10 (0.04)
J ±0.1 (±0.004)		3.00 (0.12)	
K ±0.1 (±0.004)		3.20 (0.13)	
L ±0.1 (±0.004)		2.00 (0.08)	
M ±0.2 (±0.008)	Standard	6.00 (0.24)	
M ±0.2 (±0.008)	Variant H	10.80 (0.43)	
N ±0.4 (±0.016)		30.40 (1.20)	
O ±0.2 (±0.008)		15.00 (0.59)	
P ±0.3 (±0.012)	R > 0R001	3.60 (0.14)	3.30 (0.13)
	R ≤ 0R001	4.10 (0.16)	----
Q ±0.3 (±0.012)	R > 0R001	2.80 (0.11)	
	R ≤ 0R001	3.30 (0.13)	
R ±0.2 (±0.008)		19.00 (0.75)	

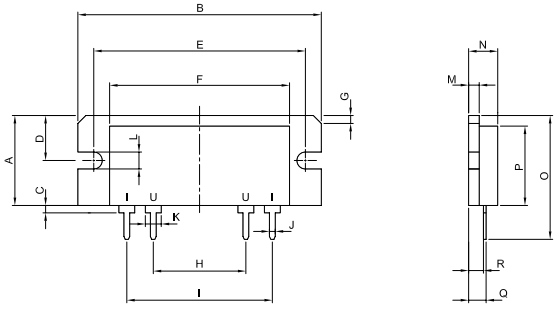
FIGURE 3—DIMENSIONS in mm (inches)

FHR 4-3825 F-contact



Dimension	
A ±0.2 (±0.008)	24.00 (0.94)
B ±0.3 (±0.012)	38.00 (1.50)
C ±0.2 (±0.008)	1.50 (0.06)
D ±0.1 (±0.004)	4.00 (0.16)
E ±0.3 (±0.012)	34.00 (1.34)
F ±0.2 (±0.008)	17.50 (0.69)
G ±0.1 (±0.004)	1.5x45° (0.06x45°)
H ±0.2 (±0.008)	34.00 (1.34)
I ±0.2 (±0.008)	32.70 (1.29)
J ±0.2 (±0.008)	7.50 (0.30)
K ±0.2 (±0.008)	24.00 (0.94)
L ±0.2 (±0.008)	6.30 (0.25)
M ±0.1 (±0.004)	4.80 (0.19)
N ±0.1 (±0.004)	3.20 (0.13)
O ±0.1 (±0.004)	2.00 (0.08)
P ±0.2 (±0.008)	6.00 (0.24)
Q ±0.2 (±0.008)	15.00 (0.59)
R ±0.7 (±0.028)	4.10 (0.16)
S ±0.7 (±0.028)	3.30 (0.13)

FHR 4-4618



Dimension	A-contact	K-contact
A ±0.1 (±0.004)	17.00 (0.67)	
B ±0.3 (±0.012)	46.00 (1.81)	
C ±0.4 (±0.016)	1.40 (0.06)	
D ±0.2 (±0.008)	8.50 (0.33)	
E ±0.3 (±0.012)	40.00 (1.57)	
F ±0.3 (±0.012)	34.00 (1.34)	
G ±0.1 (±0.004)	1.5x45° (0.06x45°)	
H ±0.2 (±0.008)	17.50 (0.69)	
I ±0.2 (±0.008)	27.50 (1.08)	
J ±0.1 (±0.004)	1.50 (0.06)	1.10 (0.04)
K ±0.1 (±0.004)	3.00 (0.12)	
L ±0.1 (±0.004)	3.20 (0.13)	
M ±0.1 (±0.004)	2.00 (0.08)	
N ±0.2 (±0.008)	max.5.5 (0.22)	
O ±0.4 (±0.016)	23.40 (0.92)	
P ±0.2 (±0.008)	15.00 (0.59)	
Q ±0.3 (±0.012)	3.60 (0.14)	3.30 (0.13)
R ±0.3 (±0.012)	2.80 (0.11)	

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