

FEATURES

- Resistances from 0.001Ohm to 500Ohms
- Power Rating to 2500Watt
- Resistance Tolerances to $\pm 0.1\%$
- TCR to $\pm 30\text{ppm/K}$
- Load Stability to 0.1%
- Very Low Inductance (<50nH)

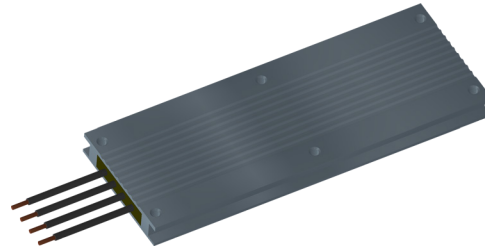


TABLE 1 – SPECIFICATIONS						
TYPE		8065	80110	80216	80320	80370
Resistance Range (Ohms)		0.001 to 400	0.001 to 500	0.002 to 500	0.002 to 500	0.005 to 400
Power Rating	Free air 70°C	24 W	32 W	60 W	80 W	90 W
	With heatsink	350 W	600 W	1200 W	2000 W	2500 W
Tolerances from 0.001 Ohms from 0.01 Ohms from 0.02 Ohms		0.5% / 1% / 2% / 5% 0.25% / 0.5% / 1% / 2% / 5% 0.1% / 0.25% / 0.5% / 1% / 2% / 5%				
Thermal Resistance		0.16 K/W	0.16 K/W	0.04 K/W	0.026 K/W	0.022 K/W
Stability (1000h)		0.1% / 0.2% / 0.5% (depends on stress)				
Temperature Coefficient		$\pm 30\text{ppm/K}$ (20 to 60°C) $\pm 50\text{ppm/K}$ (-400 to 130°C)				
Voltage Proof		1.5 kVDC (higher upon request)				
Maximum Current		60 A upon request special cable up to 250 A				
Inductivity		< 50 nH				
Capacity against housing		500 pF	850 pF	1.7 nF	2.5 nF	2.9 nF
Thermal EMF		< 0.1 $\mu\text{V/K}$				
Operating Temperature Range		-40 to 130°C				
Resistor Material		CuNiMn-Foil				
Substrate		Anodized aluminium				
Housing		Anodized aluminium				
Connector Material		Cu / tinned				
Terminals		4				
Connector Material		Cu-Cable / 4mm ² / 500mm length (other upon request / AWG possible)				

ORDERING INFORMATION

Part Number - Resistance - Contact - Tolerance

FHR 4-80216 1.0 Ohms D 1%

FIGURE 1 – TEMPERATURE COEFFICIENT

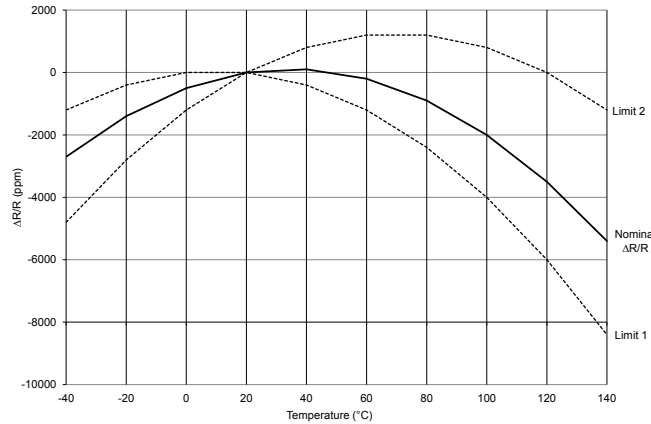
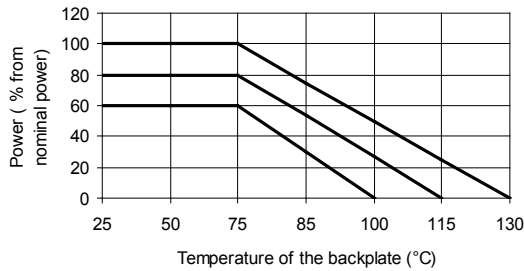


FIGURE 2 – DERATING



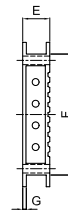
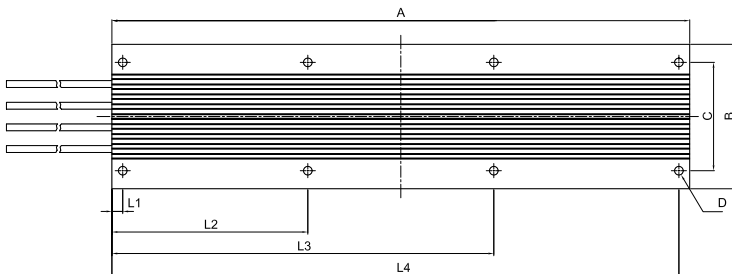
Power Rating Notes -

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)



Dimension	mm
B ±0.3 (±0.012)	80.00 (3.15)
C ±0.3 (±0.012)	60.00 (2.36)
D ±0.2 (±0.008)	Ø4.75 (Ø0.19)
E ±0.2 (±0.008)	15.00 (0.59)
F ±0.3 (±0.012)	67.00 (2.64)
G ±0.1 (±0.004)	2.00 (0.08)

Dimension	8065	80110	80216	80320	80370
A ±0.3(±0.012)	65.00 (2.56)	110.00 (4.33)	216.00 (8.50)	320.00 (12.60)	370.00 (14.57)
L1 ±0.3(±0.012)	6.00 (0.24)	6.00 (0.24)	6.00 (0.24)	6.00 (0.24)	6.00 (0.24)
L2 ±0.3(±0.012)	59.00 (2.32)	104.00 (4.09)	108.00 (4.25)	108.50 (4.27)	125.50 (4.94)
L3 ±0.3(±0.012)	-	-	210.00 (8.27)	211.50 (8.33)	244.50 (9.63)
L4 ±0.3(±0.012)	-	-	-	314.00 (12.36)	364.00 (14.33)

FIGURE 4—STABILITY AGAINST IMPULSES (Reference values without heatsink)

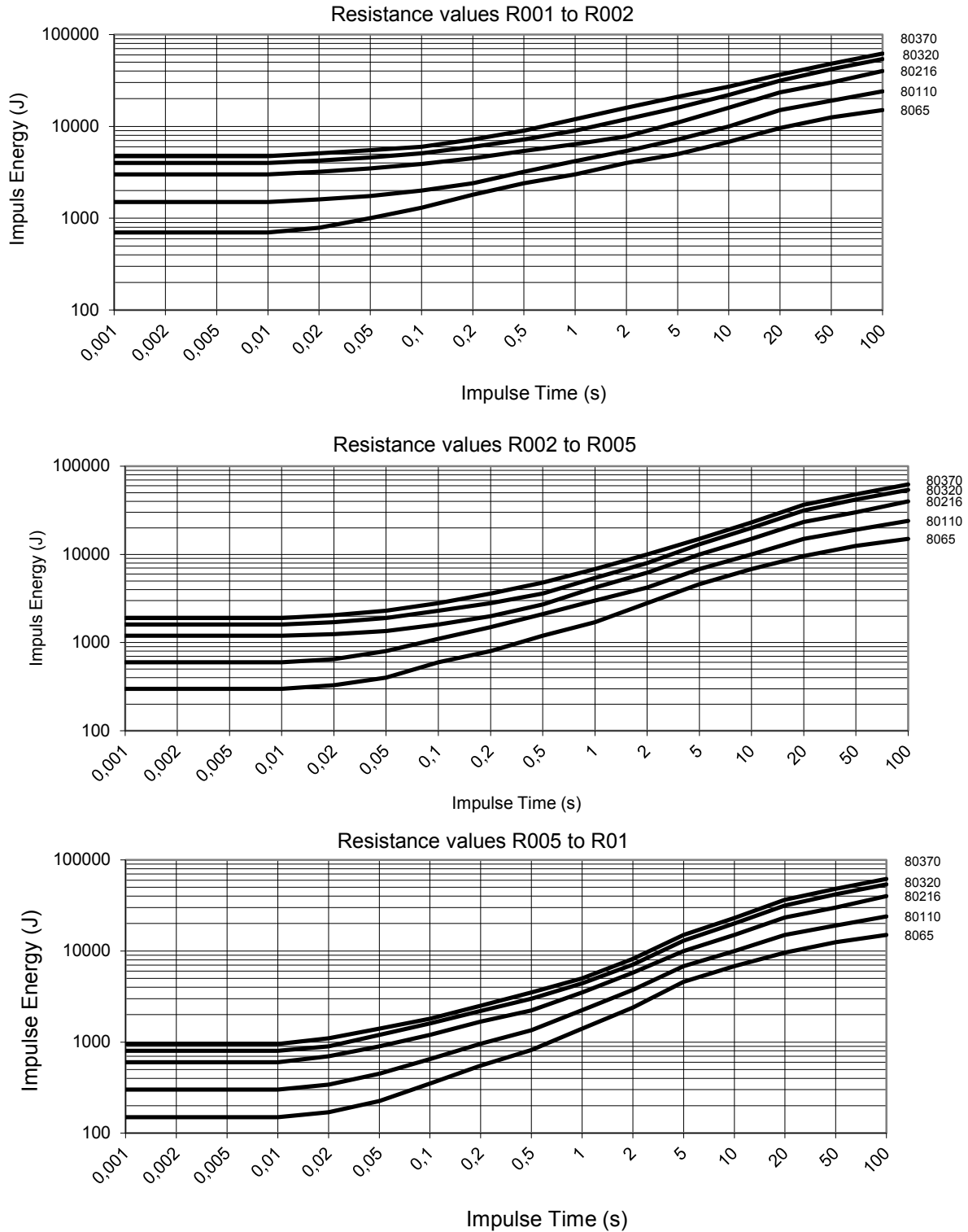


FIGURE 4—STABILITY AGAINST IMPULSES (Reference values without heatsink)

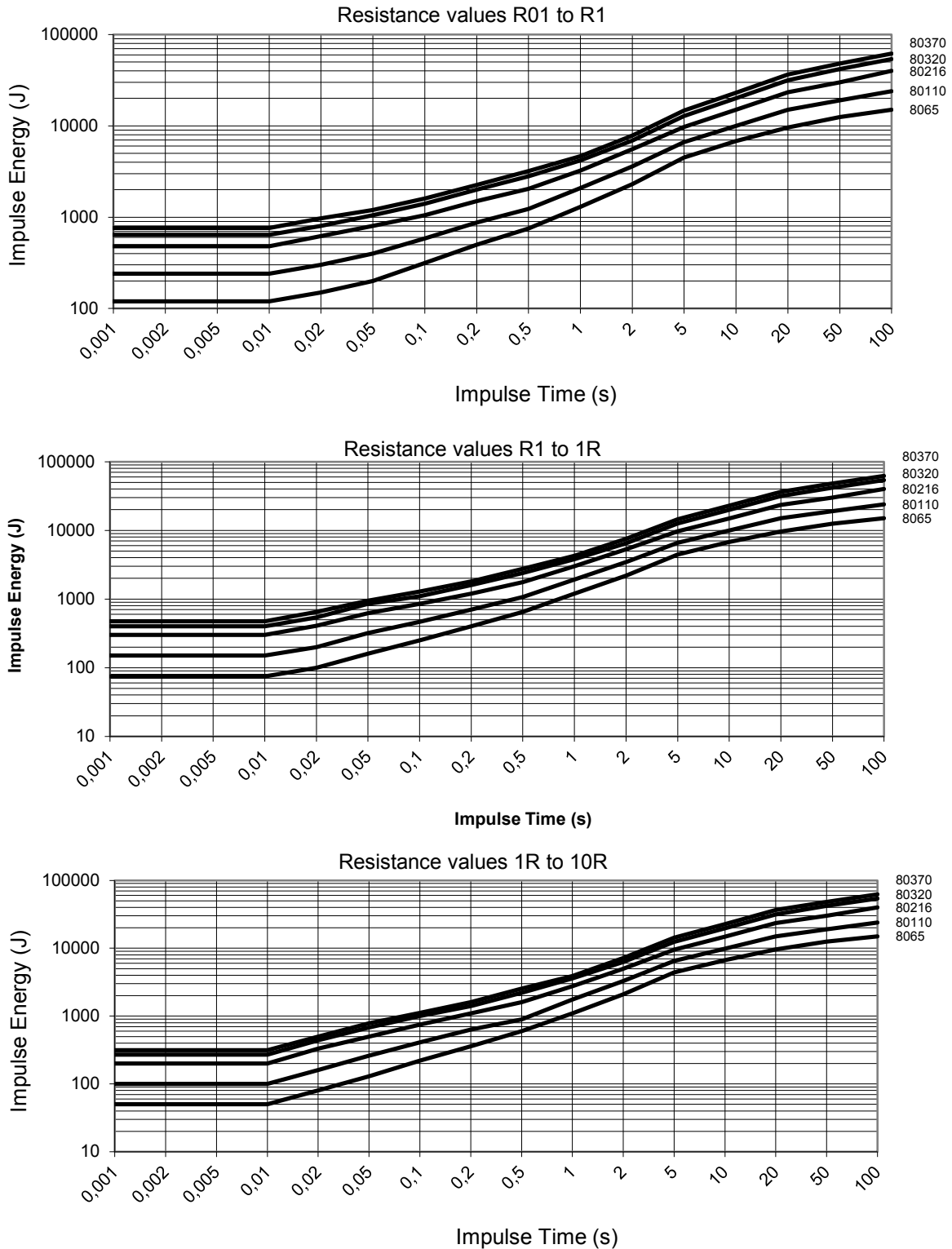


FIGURE 4—STABILITY AGAINST IMPULSES (Reference values without heatsink)

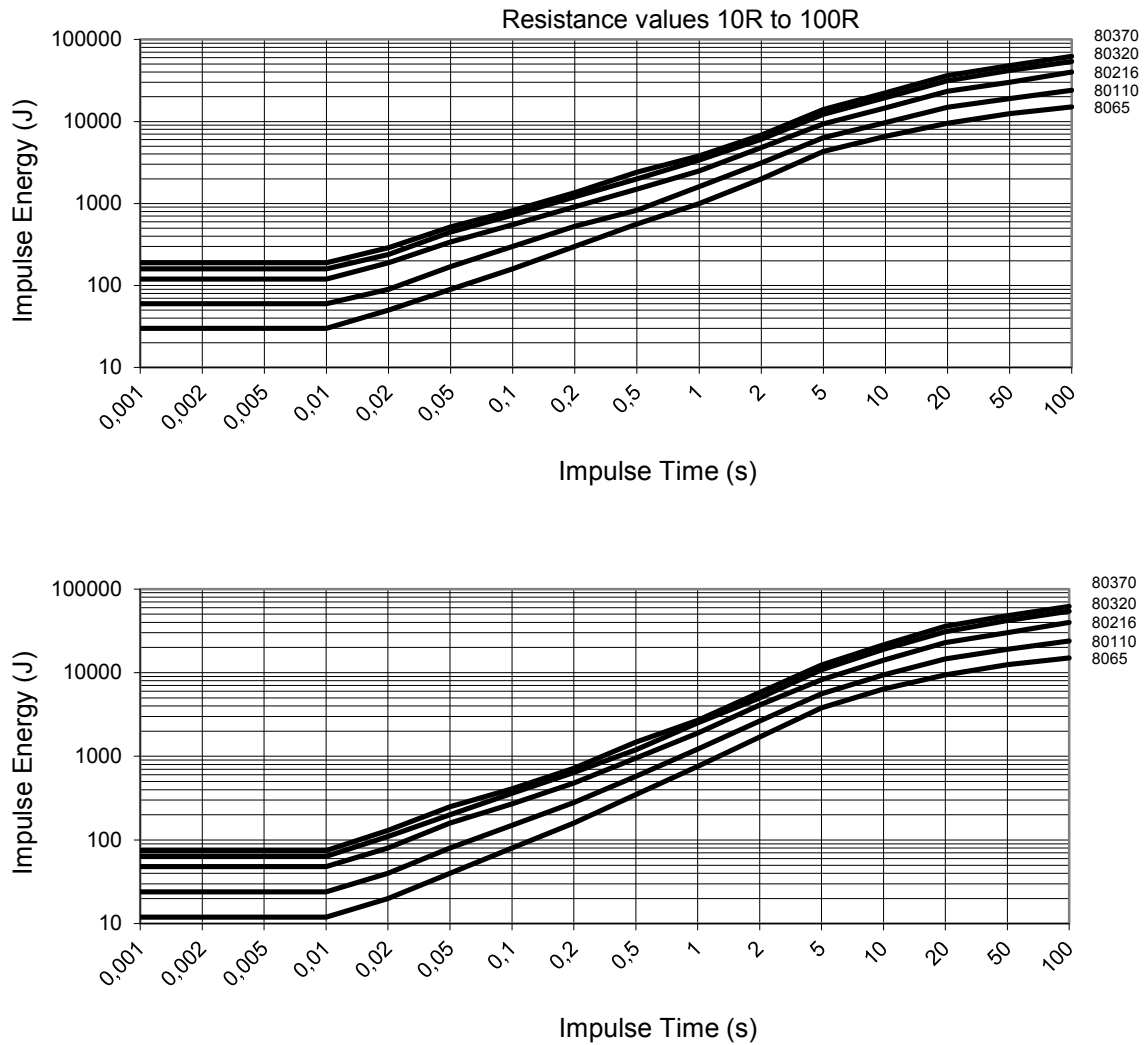


FIGURE 5—LEAD VARIATIONS

Type	max. Current	Description
D	60 A	insulated round cable (cu-tinned)
H1	70 A	insulated Cu-flat cable
H2	85 A	insulated Cu-flat cable
H3	100 A	insulated Cu-flat cable
H4	120 A	insulated Cu-flat cable
H5	150 A	insulated Cu-flat cable
H6	250 A	insulated Cu-flat cable