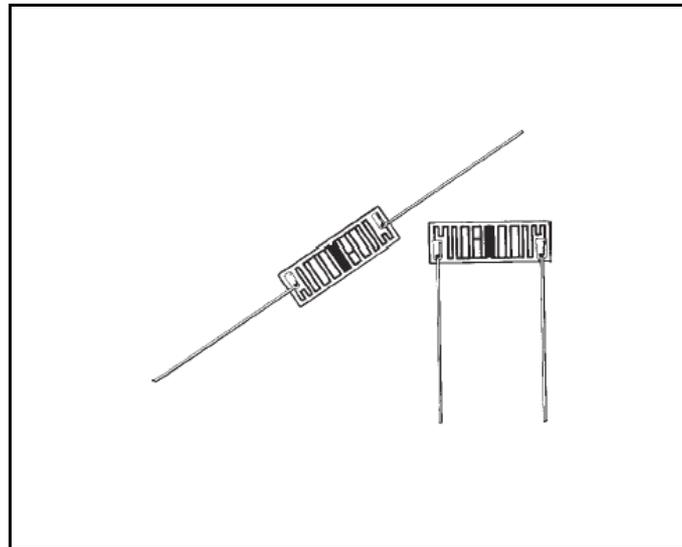

High Value / Voltage Resistors



TYPE HB SERIES

Tyco are pleased to offer the new wider HB range of high value, high voltage resistors. The CGS HBO and HVF ranges and the Holsworthy TFR2 Series were merged into one new important high voltage plate resistor - the HB. This new series offers an epoxy coated package with axial or radial leads, values up to 1 gig ohm, and an operating voltage to 20KV as standard and 30KV to order. Custom designs are particularly welcomed.

KEY FEATURES

- Element Voltage up to 15KV
- Excellent Size to Power Ratio
- Resistance Values up to 1 Gig Ohm
- High Reliability
- Low Noise at Low Values
- Attractively Priced
- Custom Designs Particularly Welcome
- All Sizes Stocked at RS Components

STOCKISTS:

This product is stocked by RS.

TYPE HB SERIES

1st April 2003
ISSUE 6

ELECTRICAL

TYPE	Working Voltage KV Maximum DC	Watts at 20°C	Watts at 70°C	Value Range
HBA	1.0	0.8	0.4	1K - 120 Meg
HB1	7.5	2.0	1.0	10K - 1 Gig
HB3	15.0	4.0	2.0	10K - 1 Gig

Resistance Tolerance:	HBA, HB1 Types	1%, 2%, 5%
Temperature Coefficient:	Increasing to 0.02ppm/Volt applied at 800K.	± 100ppm/°C
Voltage Coefficient:	Increasing to 2.0ppm/Volt applied at 50M.	Negligible up to 100K.
	HB3 Type.	Increasing to 1.0ppm/Volt applied at 5M0
	Increasing to 0.01ppm/Volt applied at 1M0.	Increasing to 8.0ppm/Volt applied at 1000M.
	Increasing to 2.0ppm/Volt applied at 100M.	Negligible up to 200K.
		Increasing to 1.0ppm/Volt applied at 10M.
		Increasing to 8.0ppm/Volt applied at 1000M.
Noise (Quantech):	Dependent on resistor type and ohmic value.	-20db (0.1µ V/V) at lower values. (Up to + 10db (3.3 µ V/V) at higher values.)
Insulation Resistance:	Better than 10 ⁶ Meg ohms at 500V dc. Epoxy Encapsulation only.	
Derating Curve:	Wattage rating at 70°C derates linearly to zero at 150°C	

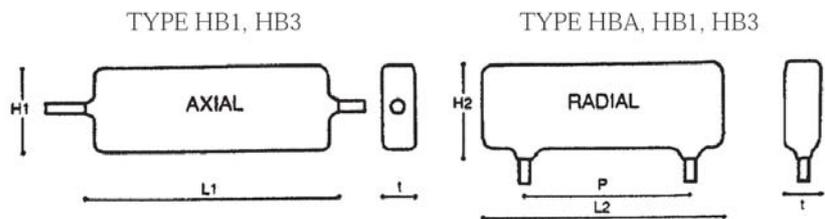
ENVIRONMENTAL

Ambient Temperature Range:	-55°C to +125°C
Load Stability:	Better than 0.5% (1000 hrs. at 70°C)
Long Term Damp Heat:	Better than 0.25% (Steady state 56 days 95% RH at 40°C)
Rapid Change of Temperature:	Better than 0.1% (-55°C to +125°C for 5 cycles)
Resistance to Soldering Heat:	Better than 0.05% (350 °C for 3.5 secs)
Encapsulation:	Conformal coating. Epoxy Resin
Resistor Marking:	Legend printed - Type, Value, Tolerance, Date Code.
Solvent Resistance:	The print will withstand the action of all commonly used industrial cleansing solvents.
Lead Material:	Tinned Copper Wire.
Lead Length:	Minimum 20mm
Lead Diameter:	Nominal 0.63mm

DIMENSIONS

N.B. HB1RE, HB3RE. The following values are stock. For non-stock values we normally seek a print run of 500 pieces.
10K, 100K, 200K, 300K, 1M, 3M, 5M, 10M, 20M, 50M, 100M, 200M, 300M, 500M, 1G1G.

	HBA (HVFI)	HBA1
L1	N/A	28.8 Max
L2	8.0	26.5
H1	N/A	9.2
H2	12.5	10.4
d	2.6	3.0
P Nominal	5.0	22.9
Weight (grms)	0.7	1.35



All Dimensions are nominal and in 'mm' unless otherwise stated. Do not Scale.

HOW TO ORDER

COMMON PART	DISSIPATION AT 70°C	RESISTANCE VALUES	TOLERANCE	TEMPERATURE COEFFICIENT OF RESISTANCE	LEAD STYLES	COATING STYLES
HB	A - 0.4 Watts 1 - 1.0 Watts 3 - 2.0 Watts	1Kohm (1000ohms) 1K0 1Megohm(1,000,000ohms) 1M0	F - 1% G - 2% J - 5%	Z - 100ppm	R - Radial Leads A - Axial Leads (HB1, HB3 Only for Axial Leads)	E - Epoxy Blue Coating

This publication is issued to provide outline information only and (unless specifically agreed to the contrary by the Company in writing) is not to form part of any order or be regarded as a representation relating to the products or service concerned. We reserve the right to alter without notice the specification, design, price or conditions of supply of any product or service. Whilst Tyco Electronics Components products are of the very highest quality and reliability, all electronic components can occasionally be subject to failure. Where failure of a Tyco Electronics Components product could result in life threatening consequences, then the circuit and application must be discussed with the Company. Such areas might include ECG, respiratory and other medical and nuclear applications and any non fail-safe applications circuit.