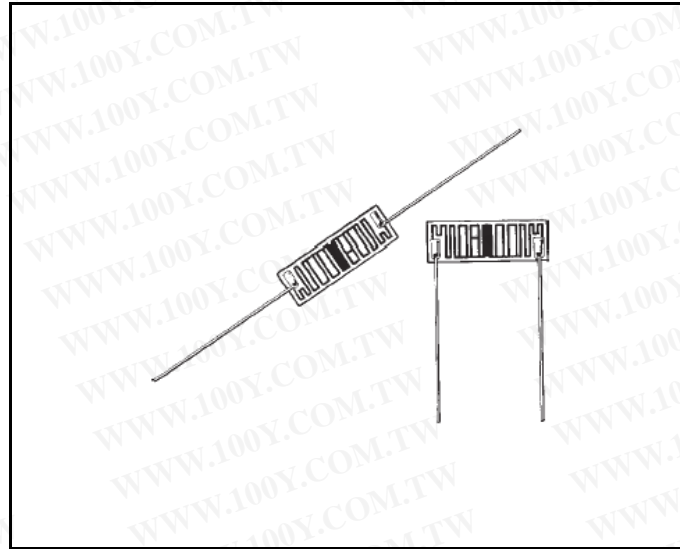


TYPE HB SERIES

1<sup>st</sup> April 2003  
ISSUE 6

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

勝特力材料 886-3-5753170  
勝特力电子(上海) 86-21-34970699  
勝特力电子(深圳) 86-755-83298787  
[Http://www.100y.com.tw](http://www.100y.com.tw)

STOCKISTS:

This product is stocked by RS.

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### ELECTRICAL TYPE

|     | Working Voltage<br>KV Maximum DC | Watts at<br>20°C | Watts at<br>70°C | Value<br>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:  
Temperature Coefficient:  
Voltage Coefficient:

HBA, HB1 Types

Increasing to 0.02ppm/Volt applied at 800K.

Increasing to 2.0ppm/Volt applied at 50M.

HB3 Type.

Increasing to 0.01ppm/Volt applied at 1M0.

Increasing to 2.0ppm/Volt applied at 100M.

1%, 2%, 5%  
± 100ppm/°C

Negligible up to 100K.

Increasing to 1.0ppm/Volt applied at 5M0

Increasing to 8.0ppm/Volt applied at 1000M.

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<sup>6</sup> 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

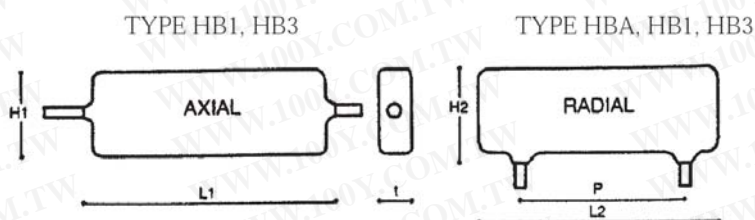
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### DIMENSIONS

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, 1GIG.

|               | HBA (HVF1) | 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<br>1 - 1.0 Watts<br>3 - 2.0 Watts | 1Kohm (1000ohms) 1K0<br>1Megohm (1,000,000ohms) 1M0 | F - 1%<br>G - 2%<br>J - 5% | Z - 100ppm                            | R - Radial Leads<br>A - Axial Leads<br>(HB1, HB3 Only for Axial Leads) | E - Epoxy Blue Coating |

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