

# High Value / High Voltage Resistor



# Type HVR Series



Tyco Electronics is a leading European supplier of high specification power resistors for specialist applications. The HVR range consists of high power, high voltage resistors capable of operating up to 50kV (continuous) and dissipating 50W in air or 100W oil. The thick film resistor element is designed to minimise inductance and capacitance giving optimum performance at MHz frequencies, and resistance to high voltage surges.

The resistors are made from quality materials for optimum reliability and stability. Tyco Electronics can test resistors to conform to relevant international, MIL or customer specifications.

Tyco Electronics is happy to advise on the use of resistors for pulse applications and to supply information for high voltage use and low-ohmic value, alternative mountings and termination type.

#### **Key Features**

- Highly Versatile Product
  Resistance values from 2kΩ to 1GΩ and a range of mounting options
- 50 kV Continuous Operating Voltage
  - Unique specification for the most demanding applications
- Low Inductance and Capacitance
   For high frequency
  - applications into the MHz range
- Established Product
  High stability with proven reliability

Applications

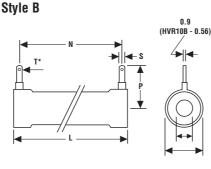
- High Frequency Switching (MHz)
- Balancing
- Voltage Divider
- High Voltage

# Type HVR Series

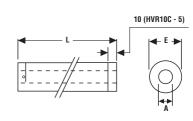
#### Characteristics -Electrical

	HVR10	HVR20	HVR30	HVR50
Ohmic Value Min (Ω):	2k0	2k0	2k0	2k0
Max:	1G0	1G0	1G0	1G0
Resistor Tolerance - Standard (%):	10%	10%	10%	10%
Options (R<400M):	5%, 1%	5%, 1%	5%, 1%	5%, 1%
Power Dissipation at 20°C (W):	5W	15W	25W	50W
At 70°C:	3W	10W	15W	25W
In Oil at 20°C:	10W	30W	50W	100W
Continuous Operating Voltage Max (V):	10kV	20kV	30kV	50kV
Temperature Coefficient of Resistance				
20°C to 70°C (ppm/°C):	< ±300ppm/°	C< ±300ppm/°C	< ±300ppm/°C	< 300ppm/°C
Voltage Coefficient of Resistance - V > 100V (%):	< ±2%	< ±2%	< ±2%	< ±2%
Stability $\Delta R$ - 1000h Load Life (%)	< ±2%	< ±2%	< ±2%	< ±2%

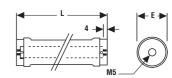
# Dimensions



Style C



Style D



### Style B

Туре	Α	E	L	Ν	Р	S	Т
HVR10	6.3	12.0	60.0	53.2	18.2	28	-
HVR20	10.0	22.6	120.0	109.0	27.0	4.8	2.4
HVR30	17.5	30.6	120.0	109.0	34.0	6.3	3.1
HVR50	17.5	30.6	240.0	229.0	34.0	6.3	3.1
Style C							
Туре	A	E	L	N	Р	S	Т
HVR10	6.3	10.5	60.0	-	-	-	-
HVR20	10.0	20.2	120.0	-	-	-	-
HVR30	17.5	28.2	120.0	-	-	-	-
HVR50	17.5	28.2	240.0	-	-	-	-
Style D							
Туре	Α	E	L	N	Р	S	T
HVR10	6.3	10.0	70.0	-	-	-	-
HVR20	10.0	21.5	140.0	-	-	-	-
HVR30	17.5	30.0	140.0	-	-	-	-
HVR50	17.5	30.0	260.0	-	-	-	-

Dimensions are in millimetres unless otherwise specified. Specifications subject to change.

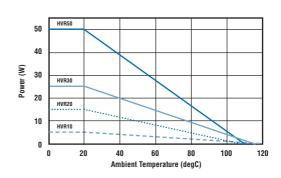
www.tycoelectronics.com passives.tycoelectronics.com



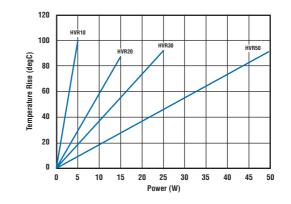


**Type HVR Series** 

# Derating Curve



## **Surface Temperature Rise**



#### How to Order HVR 10 В 2K J Voltage Rating **Terminal Style Resistance Value Common Part** Tolerance F - 1% $2k\Omega$ 10 - 10kV B - Steel Lugs (2000Ω) G - 2% HVR- Aluminium 20 - 20kV C - Silver Ferrule 2K Housed Power E - 3% 30 - 30kV D - Tapped Brass $1 M \Omega$ Resistor J - 5% 50 - 50kV Ferule (1x10<sup>6</sup>Ω) K - 10% 1M0 $1 \text{G} \Omega$ (1x10ºΩ)

1G0