Aluminium Housed Power Resistors

Type KHSA Series

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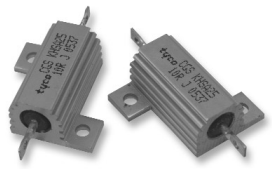


Tyco are the leading European supplier of standard and custom designed aluminium housed resistors for general-purpose use, power supplies, power generation and the traction industry.
The KHSA is a range of extremely stable, high quality wire wound resistors capable of dissipating high power in a limited space with relatively low surface temperature. The power is rapidly dissipated as heat through the aluminium housing to a specified heat sink. The KHSA offers increased dielectric strength over the standard range of HS resistors.
The resistors are made from quality materials for optimum reliability and stability. Tyco can test resistors to conform to relevant international, MIL or customer specifications.
Tyco are 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

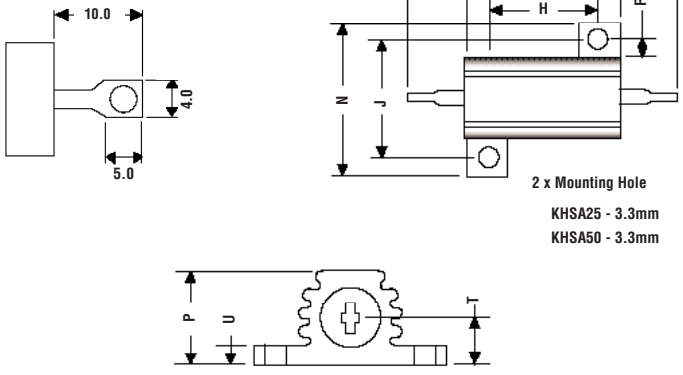
- **Increased Dielectric Strength**
  - **High voltage performance up to 1.25kV**
- **Wide Resistance range: 0.01Ω– 100kΩ**
  - **Coupled with 1% tolerance gives ultimate design flexibility**
- **Broad Range of Options and Custom Design Capability**
  - **The solution for your application**
- **Proven Reliability at a competitive price**
  - **Benefits from over 50 years of HS resistor design and manufacture**

Characteristics - Electrical

	KHSA25	KHSA50
Dissipation @ 25°C with Heatsink (Watts):	25	50
Without Heatsink:	12.5	25
Ohmic Value Min (Ohms):	R01	R01
Max:	36K	100K
Maximum Working Voltage (DC or ACrms) Volts:	550V	1250V
Dielectric Strength (AC peak) Volts:	3.5kV	3.5kV
Insulation Resistance @ 500V (Ohms):	>10GΩ	>10GΩ
Stability (% resistance change, 1000 hours) (%):	≤ 2%	≤ 2%
Temperature Coefficient ppm/°C:	<±50ppm/°C	<±50ppm/°C
Environmental Category:	-55/200/56	-55/200/56

Long Term Stability:	For improvements in long-term stability, resistors must be derated as follows;
	for 50% of stated ΔR maximum dissipation must not exceed 70% of rating;
	for 25% of stated ΔR maximum, dissipation must not exceed 50% of rating
Insulation Resistance:	Dry: 10GΩ minimum. After moisture test: 1GΩ minimum.
Heat Dissipation:	Although the use of proprietary heat sinks with lower thermal resistance is acceptable, up rating is not recommended.
	The use of proprietary heat sink compound to improve thermal conductivity is recommended for optimum performance
Specification:	Temperature coefficient below 100R, 50ppm/°C
	Temperature coefficient above 100R, 30ppm/°C
	Tolerance, 5% standard: 10%, 3%, 2%, 0.5% & 0.25% available
	Tolerance for values below R10, 10% standard

Dimensions



Type	H±0.3	J±0.3	K±0.3	L Max	M Max	N Max	P Max	R Min	T±0.5	U Max
KHSA25	18.3	19.8	3.3	29.0	51.8	28.0	15.0	2.8	7.2	3.2
KHSA50	39.7	21.4	3.3	51.0	72.5	30.0	17.0	2.8	7.9	3.2

Applications

- **High Voltage**
- **Filter**
- **Crowbar**
- **Braking**
- **Balancing**
- **Capacitor Charging & Discharging**
- **Electrical Machinery**

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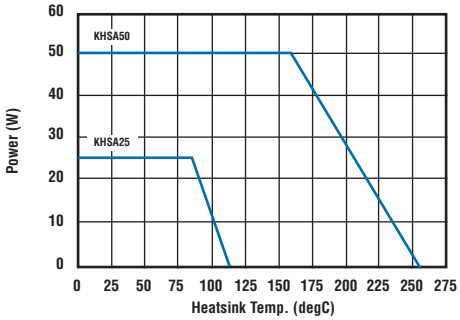
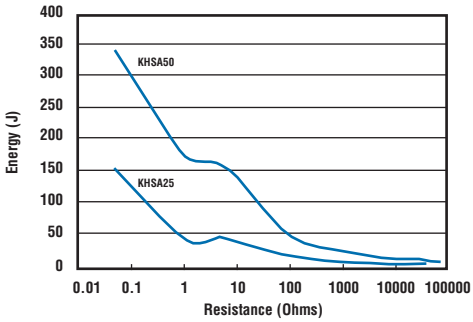
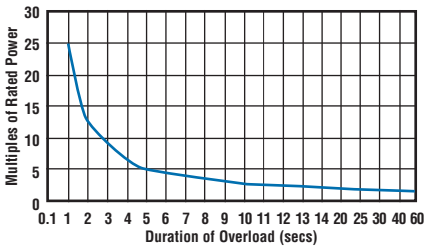
Derating Curve



Pulse Energy

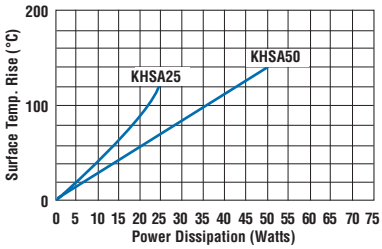


Power Overload



This graph indicates the amount that the rated power (at 20°C) of the standard KHSA Series resistor may be increased for overloads of 100mS to 60S

Surface Temperature Rise



For resistor mounted on standard heatsink, related to power dissipation

How to Order

KHSA	50	680R	J
Common Part	**Power Rating (Watts)**	**Resistance Value**	**Tolerance**
KHSA - Aluminium Housed Power Resistor	25 50	0.1ohm (100mΩ) R10 1 ohm (1000mΩ) 1R0 1K (1000Ω) 1K0	F – 1% G – 2% E – 3% J – 5% K – 10%