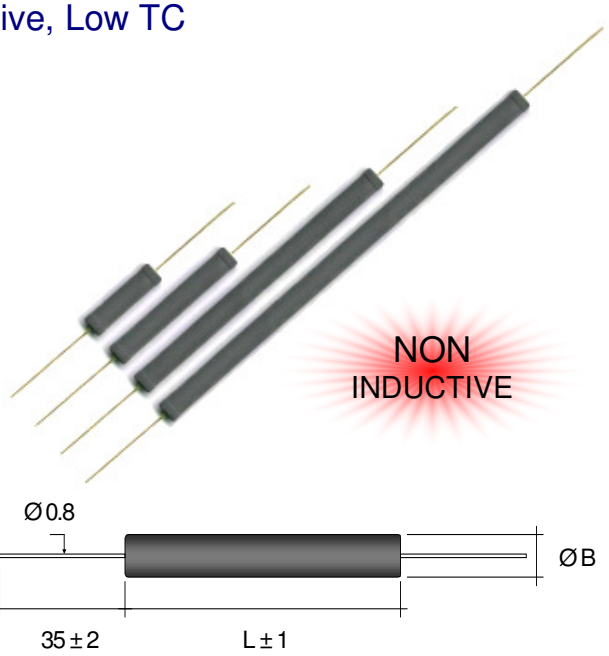
High Voltage Resistors Series 400
Precision, Non-Inductive, Low TC

High Voltage Resistors Series 400 have been developed to meet the precision temperature stability requirements of high accuracy and high voltage systems, combining proprietary non-inductive resistance system and design to achieve low temperature coefficient, low voltage coefficients, high stability and increased high operating voltages.
Low TC Precision High Voltage Resistors Series 400 are designed to meet the demanding requirements of TWT power supplies, electron microscopes, X-ray systems, high resolution CRT displays and geophysical instruments.



Model	Wattage	Max. Oper. Voltage	Dimensions in millimeters ± 0.50 [Dimensions in inches ± 0.02]	
			L	B
400.2	3.80	15'000	27.00 [1.07]	8.00 [0.32]
400.3	5.00	21'000	37.00 [1.46]	8.00 [0.32]
400.4	6.50	26'000	45.00 [1.77]	8.00 [0.32]
400.5	7.50	30'000	52.00 [2.05]	8.00 [0.32]
400.7	10.00	45'000	77.00 [3.03]	8.00 [0.32]
400.10	13.50	60'000	102.00 [4.02]	8.30 [0.33]
400.12	16.00	72'000	122.00 [4.80]	8.50 [0.34]
400.15	20.00	90'000	152.00 [5.98]	8.50 [0.34]

Characteristics

Resistance Values	from 1KΩ to as high as 100GΩ on all models (to 1TΩ on request)		
Tolerances	0.05%, 0.1%, 0.25%, 0.5%, 1%, 2%, 5%, 10% (0.05% avail. to 10G, 0.25% to 100G, other on request)		
Temperature Coefficients*	5, 10, 15, 25, 50 and 100 ppm/°C (10 ppm/°C available to 10G, 25 ppm/°C to 100G, other on request)		
Operating Temperature	-55 .. +225°C	(extended temperature range to 350°C available)	
Insulation Resistance	> 10'000 MΩ	500 Volt 25 °C 75% relative humidity	
Dielectric Strength	> 1'000 Volt	25 °C 75% relative humidity	
Thermal Shock	Δ R/R < 0.1% typ., 0.20% max.	MIL Std. 202, method 107 Cond. C	IEC 68 - 2 -14
Overload	Δ R/R < 0.1% typ., 0.25% max.	1,5 x Pnom, 5 sec (do not exceed max. voltage)	
Moisture Resistance	Δ R/R < 0.1% typ., 0.25% max.	MIL Std. 202, method 106	IEC 68 - 2 - 3
Load Life	Δ R/R < 0.1% typ., 0.25% max.	1000 hours at rated power	IEC 115 - 1
Encapsulation	Silicone Conformal Coating **	Core Material	Al_2O_3 (96%)
Lead Material	Gold Plated	Resistor Material	Ruthenium Oxide

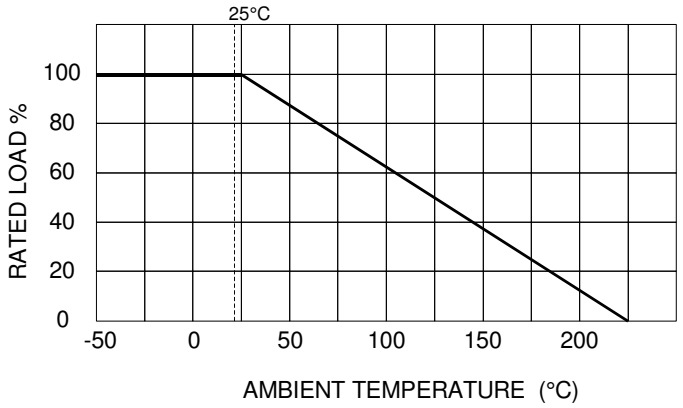
* Temperature Coefficient referenced to 25°C, ΔR taken at +125°C.
** We recommend 2 x Polyimide Coating or Epoxy version 400E for use in oil and potted applications (ask for details).

Voltage Coefficients of Resistance

Type	Resistance Range	VCR (-ppm/V)*
400.2	1K .. 500M 500M .. 5G	< 0.40 < 0.75
400.3	1K .. 1G 1G .. 10G	< 0.20 < 0.40
400.4	1K .. 1G3 1G3 .. 13G	< 0.17 < 0.35
400.5	1K .. 1G5 1G5 .. 15G	< 0.15 < 0.30
400.7	1K .. 2G5 2G5 .. 25G	< 0.10 < 0.15
400.10	1K .. 3G 3G ..30G	< 0.08 < 0.12
400.12	1K .. 4G 4G .. 40G	< 0.06 < 0.10
400.15	1K .. 5G 5G .. 50G	< 0.04 < 0.08

* typical values, contact factory for details

Derating Curve



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