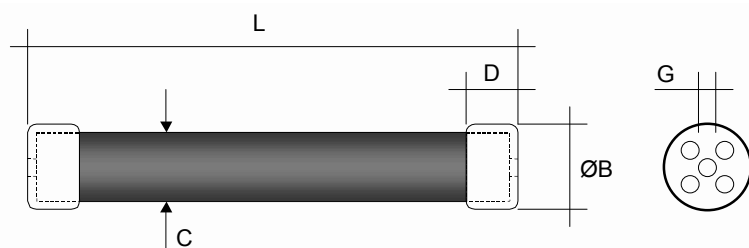


High Voltage Surge Resistors Series P500

High Pulse Energy, High Power, Non-Inductive

High Voltage Surge Resistors Series P500 combine proprietary non-inductive power film resistance system and design to achieve excellent pulse withstand performance, high stability, high power density and high operating voltages. The new Series P500 has been developed to meet the demanding high power / high energy requirements of pulse / transient applications such

as Medical Surge Protection (defibrillator cables), RC Snubber Circuits, Spark-Gap Limiters and High Voltage Power Supplies. Series P500 is also an ideal replacement of carbon composition resistors and bulk ceramic resistors over an extended resistance range. These resistors are ideally suited for high power and high frequency applications.



Model	Wattage	Max. Peak Pulse Voltage	Dimensions in millimeters ± 1.00 [Dimensions in inches ± 0.04]				
			L (max.)	B	C	D	G
P500.10	15.00	35'000	81 \pm 1 [3.19 \pm 0.04]	14.00 [0.55]	13.50 [0.53]	10.00 [0.40]	M4
P500.20	25.00	80'000	156 \pm 1.5 [6.14 \pm 0.06]	14.00 [0.55]	13.50 [0.53]	10.00 [0.40]	M4
P500.50	55.00	70'000	158 \pm 1.5 [6.22 \pm 0.06]	31.50 [1.24]	30.50 [1.20]	17.00 [0.67]	M8
P500.70	75.00	100'000	208 \pm 2 [8.19 \pm 0.08]	31.50 [1.24]	30.50 [1.20]	17.00 [0.67]	M8
P500.100	110.00	150'000	308 \pm 3 [12.12 \pm 0.12]	31.50 [1.24]	30.50 [1.20]	17.00 [0.67]	M8

Characteristics

Resistance Values	from 1 Ω to as high as 1M Ω	
Tolerances	1%, 2%, 5%, 10% (other tolerances to 0.05% on request)	
Temperature Coefficients*	25, 50 and 100 ppm/ $^{\circ}$ C (other temperature coefficients to 10 ppm/ $^{\circ}$ C on request)	
Operating Temperature	-55 .. +225 $^{\circ}$ C	(extended temperature range to 350 $^{\circ}$ C available)
Insulation Resistance	> 10'000 M Ω	500 Volt 25 $^{\circ}$ C 75% relative humidity
Dielectric Strength	> 1'000 Volt	25 $^{\circ}$ C 75% relative humidity
Thermal Shock	$\Delta R/R < 0.5\%$ typ., 1% max.	MIL Std. 202, method 107 Cond. C IEC 68 - 2 - 14
Overload	$\Delta R/R < 0.5\%$ typ., 1% max.	1,5 x Pnom, 5 sec (do not exceed max. voltage)
Moisture Resistance	$\Delta R/R < 0.5\%$ typ., 1% max.	MIL Std. 202, method 106 IEC 68 - 2 - 3
Load Life	$\Delta R/R < 0.5\%$ typ., 1% max.	1000 hours at rated power IEC 115 - 1
Continuous Working Voltage	Power Limited	$= \sqrt{P \times R}$
Encapsulation	Silicone Conformal Coating	Core Material Al ₂ O ₃ (96%)
Lead Material	Brass Caps (lug terminations avail.)	Resistor Material Ruthenium Oxide

* Temperature Coefficient referenced to 25 $^{\circ}$ C, ΔR taken at 125 $^{\circ}$ C.

Single Pulse Energy

Type	Nominal Energy Rating (Pulse Duration 10 ms)*	
	Std. Version	-X Version
P500.10	200 Joules	400 Joules
P500.20	500 Joules	1000 Joules
P500.50	1000 Joules	2000 Joules
P500.70	1400 Joules	2800 Joules
P500.100	2200 Joules	4400 Joules

*Max. Single Pulse Energy is based on a pulse duration of 10 ms.

For shorter pulses the energy rating should be decreased (see Application

Notes for details). In case of repeated pulses, the average pulse power should not exceed the Nominal Power Rating.

Derating Curve

