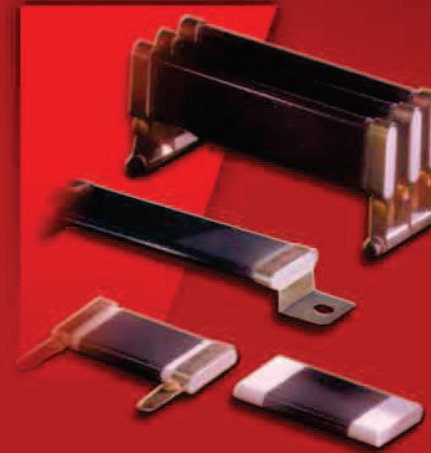
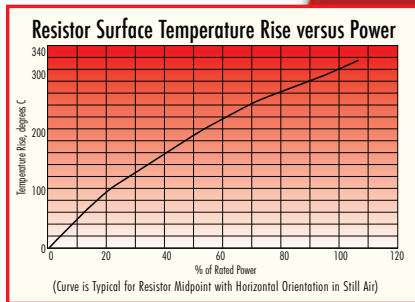
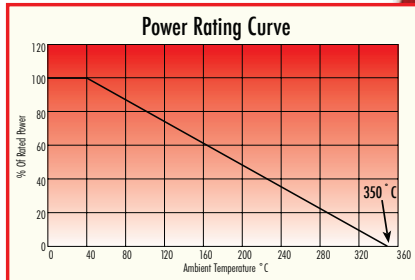


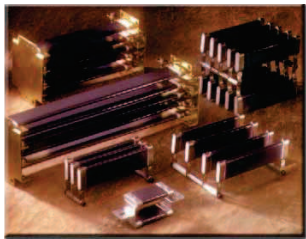
Characteristics	
Operating Temperature (1)	-55°C to +350°C
Temperature Coefficient	+ 0.2 to - 0.08 %/°C
<b>Short Time Overload:</b> Max. % change after 5 cycles – 10 times rated power, 5 seconds on, 90 seconds off	± 2%
<b>Load Life</b> Max. % change after 1000 hrs. rated power 1-1/2 hours on; 1/2 hour off	± 5%
<b>Thermal Shock</b> Max. % change after 10 cycles -55°C to +125°C	± 3%
<b>Moisture Resistance</b> Max. % change when tested per MIL-STD-202, Method 103	± 5%

(1) Note: When required, Type SP material can withstand short periods of use at red-heat conditions, i.e. up to 550 to 600°C

Typical Physical Properties:	
Density	2.2 - 2.4 gm/cc
Specific Heat	0.24 - 0.26 cal/gm°C
Thermal Conductivity	0.14 - 0.16 cal/(cm.°C - sec)



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### PACKAGED ASSEMBLIES

Individual standard components can be packaged in series, parallel, or series/parallel arrays to optimize energy and power dissipation in available space. Custom assembly packages are available.

**KANTHAL  
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**SERIES 500SP  
NON-INDUCTIVE BULK CERAMIC SLAB RESISTORS**



# KANTHAL GLOBAR



## Series 500SP Non-Inductive Bulk Ceramic Slab Resistors

Series 500SP Non-Inductive Bulk Ceramic Slab Resistors provide high power and energy dissipation in a compact size. Proprietary bulk ceramic "SP" material is used in a simple, efficient design that permits energy to be uniformly absorbed throughout the resistor body, thereby avoiding failure in a peripheral film or wire.

### The advantages of KANTHAL GLOBAR Bulk Ceramic Slab Resistors include:

- Inherently non-inductive, high reliability due to bulk ceramic construction
- 15 watts per inch of length power dissipation
- Excellent pulse/overload capability
- Slim profile for excellent volumetric power efficiency
- Resistance range from 0.2Ω to 800Ω
- Resistance tolerances 5, 10, 20% standard on individual components, available to ±2% on assemblies
- Rated at 8.5KV for 10" length
- Temperature coefficient from +0.2 to -0.08 %/°C

### Typical Applications:

- Motor Drive Controls
- Power Supplies
- Power Conditioning Equipment
- Soft Start/Current Limit Circuits
- Dynamic Braking
- Snubber Circuits
- RF Dummy Load Circuits
- Capacitor Dump Circuits

### A cost-effective, space-saving solution.

The 500SP Series design enables the designer to minimize resistor package size and cost while providing unequaled performance and reliability. The slim, compact resistors offer a number of termination options allowing easy configuration for specific requirements.

## SPECIFICATIONS

Type	Length (L)	Resistance Range (Ohms)	Average Power @ 40°C Amb. (Watts)	Peak* Energy @ 40°C Amb. (Joules*)	Peak Voltage (Volts)	Resistor Weight (Grams)
502SP	2" [50.8mm]	0.2 110	30	150	900	15
503SP	3" [76.2mm]	0.3 190	45	290	1900	22.5
504SP	4" [101.6mm]	0.4 280	60	480	2800	30
506SP	6" [152.4mm]	0.8 450	90	800	4700	45
508SP	8" [203.2mm]	1.0 630	120	1100	6700	60
510SP	10" [254.0mm]	1.3 800	150	1400	8500	75

\*Based on energy absorption in less than 10 milliseconds. Energy rating can be substantially greater for longer pulses. Contact Kanthal Globar.

- Standard units are 1" wide by 1/4" thick in variable lengths of 2, 3, 4, 6, 8 and 10 inches. Other lengths to 10" maximum are available.
- Rated average power is 15 watts per inch of length based on 350°C maximum operating temperature with 40°C ambient.
- Peak impulse current rating is 1000 amps. For applications requiring higher current ratings contact Kanthal Globar.

## STANDARD PRODUCTS

Figure 1. Without Tabs

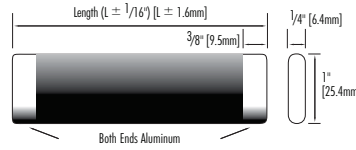


Figure 2. With Straight Radial Tabs (G1)

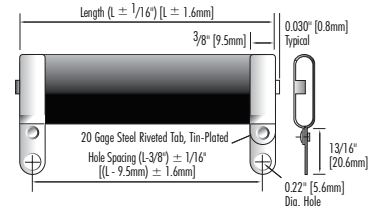


Figure 3. With Right Angle Radial Tabs - same direction - (G2)

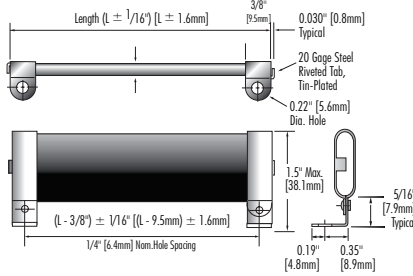


Figure 4. With Right Angle Radial Tabs - opposite direction - (G3)

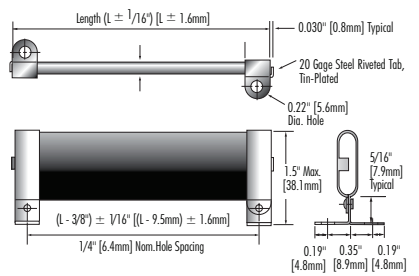


Figure 5. With Low Profile Axial Tabs (H1)

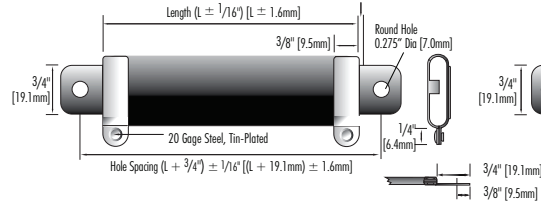
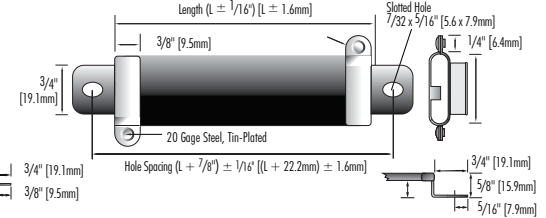


Figure 6. With Standoff Axial Tabs (H2)



## STANDARD PART NUMBERS

Example Part Number: 504SP101KG1 504SP 101 K G1 ← Terminal End Options

### Construction Type

### Resistance Value (Ω)

For ≥ 10 Ω: First 2 digits are significant figures, third digit is number of zeros to follow, e.g. 101 = 100 Ω  
For < 10 Ω An R replaces the decimal point, e.g. R50 = .50 Ω  
7R5 = 7.5 Ω

### Resistance Tolerance

J = ± 5%  
K = ± 10%  
L = ± 20%

No Suffix	Standard aluminum metallized ends, no tabs, per Fig. 1
G1	Straight radial tab, per Fig. 2
G2	Right angle radial tabs, oriented in same direction, per Fig. 3
G3	Right angle radial tabs, oriented in opposite direction, per Fig. 4
H1	Low profile axial tabs, per Fig. 5
H2	Elevated axial tabs, per Fig. 6

Tin plated steel radial tabs are standard. Consult factory for other tab materials.