

800 & 1000 Series

Tubular High Energy Bulk Ceramic

The Ohmite Ceramic Resistor Division Tubular Non-Inductive Bulk Ceramic Resistors provide excellent performance for high peak power or high-energy pulses. Bulk construction advantageously produces an inherently non-inductive resistor; and it allows energy and power to be uniformly distributed through the entire ceramic resistor body – there is no film or wire to fail. Ohmite offers a full line of rugged, reliable ceramic resistors. Ohmite offers three distinctly different ceramic materials to allow designers to meet the most demanding requirements.



MATERIAL TYPES

TYPE SP

Material composition type SP is formulated to withstand high operating temperatures resulting in high power dissipation. Maximum continuous operating temperature is specified at 350°C. This type is suitable for use in oil without an oil-resistant coating.

Applications

- Motor drive circuits
- Snubber circuits
- High-frequency circuits
- RF dummy loads
- Dynamic braking
- Transformer protection
- Harmonic filter

TYPE AS

Material composition type AS is formulated to withstand high energy and high voltage applications. Maximum continuous operating temperature is specified at 230°C. The standard dielectric coating is recommended for use in air, and the oil-resistant coating is recommended for use in oil.

Applications

- Impulse generators
- High-voltage circuits
- X-ray equipment
- High voltage power supplies
- Laser/Imaging equipment
- Capacitor charge/discharge

TYPE BA

Material composition type BA is formulated with to reach higher resistance values. Maximum continuous operating temperature is specified at 230°C. The standard dielectric coating is recommended for use in air, and the oil-resistant coating is recommended for use in oil.

Applications

- Bleeder
- Capacitor charge/discharge

(continued)

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SPECIFICATIONS

Series 800 and 1000 Tubular Resistors are available in a wide variety of sizes and terminations from 50.8mm to 610mm in length and 12.7mm to 50.8mm in diameter. These resistors can handle up to 1000 watts, 165 kJ and 165 kV in resistance values from 1 ohm to 1 megohm.

* Allowable peak energy/voltage will depend on the resistance value. Consult factory.

** Derate by 50% with oil resistant coating on Type AS resistors. Energy ratings are based on pulses <10 milliseconds. Type SP ratings can be substantially greater for longer pulses. Consult factory.

Type	Length x Diameter	Resistance Min.	Resistance Max.	Avg. Power Peak* @40°C (W)	Peak* Energy (J)	Voltage** (V)
884SP	50.8x12.7mm	1.0	200	22.5	250	1,000
885SP	63.5x19.1mm	1.0	130	45	250	1,000
885AS		6.0	1200	15	2,800	8,000
885BA		1500	220K	15	750	3,750
886SP	127x19.1mm	1.0	330	90	500	4,000
886AS		15.0	3300	30	7,000	20,000
886BA		3900	390K	30	1,500	10,000
887SP	152x25.4mm	1.0	330	150	1,600	4,000
887AS		12.0	3300	50	13,000	30,000
887BA		3900	390K	50	6,000	12,000
1026AS	152x38.1mm	5.0	1200	70	30,000	30,000
888SP	203x25.4mm	1.0	390	190	2,100	6,000
888AS		15.0	3900	75	16,500	45,000
888BA		4700	470K	60	7,500	15,000
1028AS	203x38.1mm	6.5	1900	100	46,000	45,000
889SP	305x25.4mm	1.0	680	275	3,200	10,000
889AS		25.0	6800	100	27,000	75,000
889BA		8200	680K	90	12,500	25,000
1032AS	305x38.1mm	9.0	2500	150	75,000	75,000
890SP	457x25.4mm	1.0	1000	375	4,200	16,000
890AS		40.0	10K	150	43,000	120,000
890BA		12K	1M	125	20,000	40,000
1038AS	457x38.1mm	15.0	3800	225	119,000	120,000
891SP	457x50.8mm	1.0	450	750	15,000	16,000
892SP	610x50.8mm	1.0	600	1000	17,500	22,000
1044AS	610x38.1mm	20.0	4800	300	164,000	165,000

CHARACTERISTICS

Characteristic	Test	Type SP	Type AS	Type BA
Operating Temp.		-55°C to +350°C*	-55°C to +230°C	-55°C to +230°C
Resistance Temp. Coefficient		+0.2 to -0.08 %/°C (+ 2000 ppm - 800 ppm)	+0.0 to -0.08 %/°C (+ 0 ppm - 800 ppm)	+0.0 to -0.2 %/°C (+ 0 ppm - 2000 ppm)
Voltage Coefficient	Max. % per kilovolt per inch active length	-1.0%	-1.0%	-
Short Time Overload	Max. % change after 10 cycles of 1000% rated power 5 sec. On, 90 sec. Off	±5%	±2%	-
Load Life	Max. % change after 1,000 hours at rated power	±5%	±5%	-
Thermal Shock	Max. % change after 10 cycles -55°C to +125°C	±3%	±3%	-
Moisture Resistance	Max. % change when tested per MIL-STD-202, Method 103	±5%	±5%	±5%
Density		2.2-2.4 gm/cc	2.2-2.6 gm/cc	2.2-2.6 gm/cc
Specific Heat		0.24-0.26 cal/gm -°C	0.23-0.25 cal/gm -°C	0.23-0.25 cal/gm -°C
Thermal Conductivity		0.14-0.16 cal/(cm-°C-sec)	0.003-0.006 cal/(cm-°C-sec)	0.003-0.006 cal/(cm-°C-sec)

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

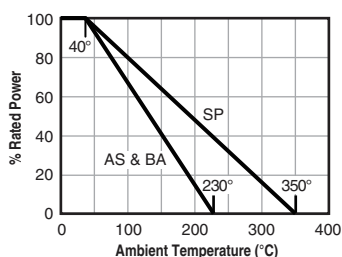
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CHARACTERISTICS

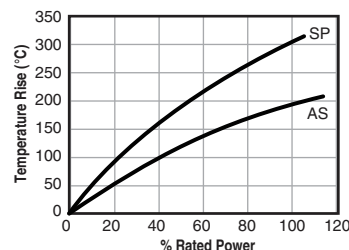
Derating

Power ratings are based on maximum allowable surface temperature in still air at 40°C ambient temperature.



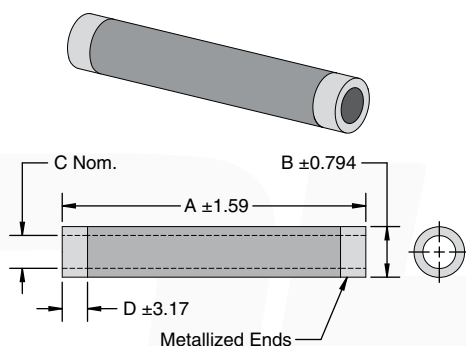
Surface Temperature

Curve is typical for resistor midpoint with horizontal orientation in still air.



DIMENSIONS

(mm)



Series	A	B	C (SP & AS)	C (A)	D
884 SP	50.8	12.7	5.59	—	6.35
885 SP, AS, & BA	63.2	19.1	12.7	N/A*	12.7
886 SP, AS, & BA	127	19.1	12.7	N/A*	15.7
887 SP, AS, & BA	152	25.4	19.1	12.7	12.7
888 SP, AS, & BA	203	25.4	19.1	12.7	22.4
889 SP, AS, & BA	305	25.4	19.1	12.7	22.4
890 SP, AS & BA	457	25.4	19.1	12.7	22.4
891 SP	457	50.8	38.1	—	25.4
892 SP	610	50.8	38.1	—	25.4
1026 AS	152	38.1	25.4	—	12.7
1028 AS	203	38.1	25.4	—	22.4
1032 AS	305	38.1	25.4	—	22.4
1038 AS	457	38.1	25.4	—	22.4
1044 AS	610	38.1	25.4	—	22.4

Special sizes are available. Consult factory.

*885 and 886 in type BA material are solid rods

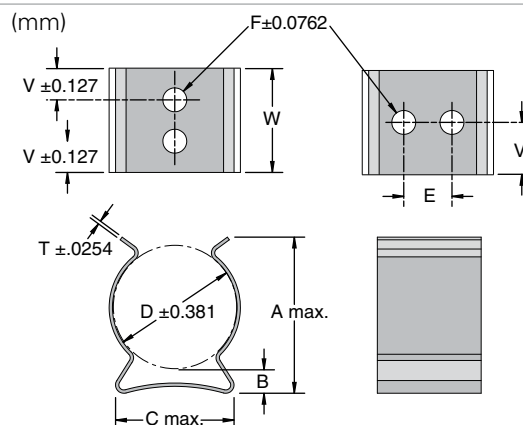
TERMINATION OPTIONS

Electrical connection to the resistive bodies of resistors is made by metal end bands. The standard metal is aluminum for Type SP, silver for Type AS and nickel for Type BA. Special terminations of brass, copper or soldered ends are also available.

Mounting Clips

In most cases, connections to the resistors may be made by using these stock clips.

Material: Beryllium Copper
Finish: Electro Tin Plate



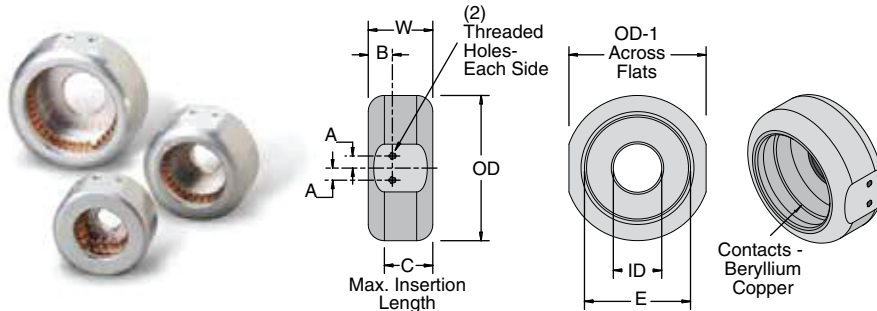
Part No.	Resistor series	Resistor OD	Holes	A	B	C	D	E	F	T	V	W (mm)
35370	884	1/2	1	15.7	2.29	14.2	12.7	N/A	2.36	0.508	4.78	9.53
35267	885, 886	3/4	1	23.9	3.94	21.1	19.1	N/A	3.66	0.508	7.92	15.9
35268	887 - 890	1	2	31.2	4.32	27.2	25.4	8.13	3.25	0.61	3.96	15.9
35371	1026 - 1044	1 1/2	2	41.9	2.54	41.9	38.1	23.5	2.62	0.813	6.35	12.7
35269	891, 892	2	2	60.3	13.8	27.4	50.8	9.53	4.78	1.09	9.53	19.1

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TERMINATION OPTIONS

Aluminum Connector Caps



Part No.	Resistor OD	OD	OD-1	W	E	ID	A	B	C	Threaded Holes(mm)
36075	19.1	38.1	34.9	19.1	21.1	9.53	4.76	4.76	12.7	M3 x .5P x 4.76mm DP
36100	25.4	44.5	41.3	25.4	27.4	12.7	4.76	9.53	19.1	M3 x .5P x 4.76mm DP
36150	38.1	57.1	54	25.4	40.1	19.1	4.76	9.53	19.1	M4 x .7P x 4.76mm DP
36200	50.8	76.2	69.8	28.6	52.8	25.4	7.94	11.1	22.4	M5 x .8P x 6.35mm DP

Optional No-Arc Termination

"N" suffix

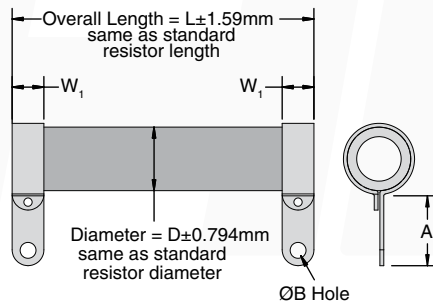


D1	D2 (mm)
25.4	39.6
38.1	46.7

Optional Radial Tab Termination

"G1" suffix - riveted only

"G" suffix - riveted with solder

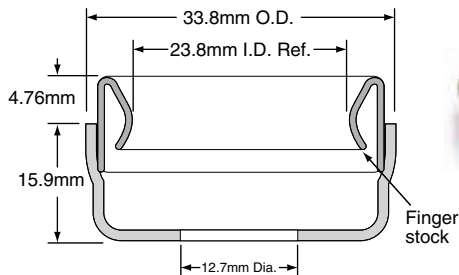


D	W1	A	B	(mm)
12.7	4.76	13.5	1.57	
19.1	9.53	19.8	3.96	
25.4	9.53	19.8	3.96	
38.1	9.53	19.8	3.96	
50.8	15.9	31.8	7.14	

25.4mm Copper Connector Cap

Part No. NG5746

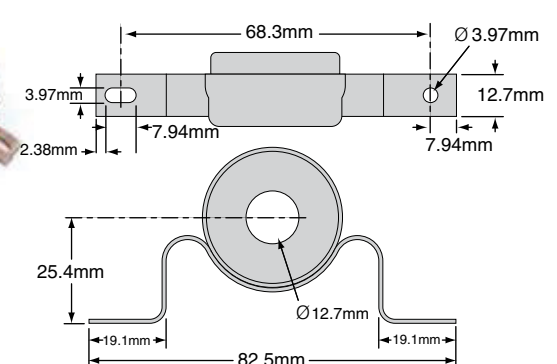
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25.4mm Copper Connector Cap with Strap

Part No. NG5747

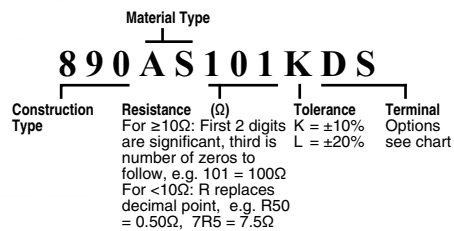
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ORDERING INFORMATION



Type	Terminal Option
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SP	No Suffix = Standard aluminum metalized ends
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	No-arc terminal not available on SP products
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	G = Radial tab, riveted and soldered
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	G1 = Radial tab, riveted and no solder
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AS	DS = Standard dielectric coating and silver metalized ends
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	N = No-arc terminal and dielectric coating
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	NO = No-arc terminal with oil resistant coating
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	DG = Radial tab, riveted and soldered with dielectric coating
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	DG1 = Radial tab, riveted and no solder with dielectric coating
--	---

	GO = Radial tab, riveted and soldered with oil resistant coating
--	--

	TO = Soldered end and oil resistant coating
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BA	No Suffix = Standard nickel metalized ends
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	D = Dielectric coating
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	DG = Radial tab, riveted and soldered with dielectric coating
--	---

	DS = Standard dielectric coating and silver ends
--	--

	N = No-arc terminal and dielectric coating
--	--

	NO = No-arc terminal with oil resistant coating
--	---

	DG = Radial tab, riveted and soldered with dielectric coating
--	---

	DG1 = Radial tab, riveted and no solder with dielectric coating
--	---

	GO = Radial tab with oil resistant coating
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	TO = Soldered end and oil resistant coating
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