



CTR

High Voltage Resistors - High Power Resistors - High Energy Resistors

FEATURES

Series 800 and 1000 Ceramic Tubular Resistors(CTR) are available in a wide variety of sizes and terminations from 2" to 24" in length and 1/2" to 2" in diameter. These resistors can handle up to 1000 watts, 165 KJ and 165 KV in resistance values from 1 ohm to 1 megohm.



APPLICATIONS

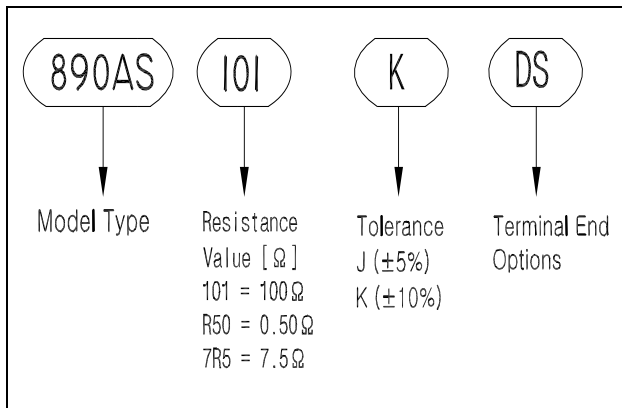
Type SP	Type AS	Type A
<ul style="list-style-type: none"> - Motor drive circuits - Snubber circuits - High-frequency circuits - RF dummy loads - Dynamic braking - Transformer Protection - Harmonic filter 	<ul style="list-style-type: none"> - Impulse generators - High-voltage circuits - X-ray equipment - High voltage power supplies - Laser/Imaging equipment - Capacitor charge/discharge 	<ul style="list-style-type: none"> - Bleeder - Capacitor charge/discharge ... just to name a few uses

CHARACTERISTICS

Characteristics	Type SP	Type AS	Type A	
Maximum operating temperature **	-55°C to +350°C	-55°C to +230°C	-55°C to +230°C	
Temperature coefficient(%/°C)	+0.2 to -0.08%/°C	+0.0 to -0.08%/°C	+0.0 to -0.2%/°C	percent per °C, -55°C to maximum rated temperature
Voltage coefficient	-1.0%	-1.0%	-	Maximum percent per kilovolt per inch active length (overall length less termination)
Short time overload	± 5%	± 2%	-	maximum percent change after 5 cycles 10 times rated power, 5 seconds on, 90 seconds off
Load Life	± 5%	± 5%	-	Max. % change after 1000hours at rated power
Thermal Shock	± 3%	± 3%	-	
Moisture resistance	± 5%	± 5%	± 5%	maximum percent change when tested per MIL-STD-202 Method 103

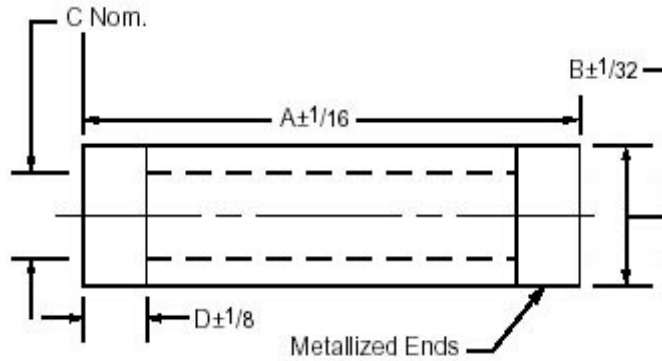
** Note : When required, Type SP material can withstand short periods of use at red-heat conditions, i.e. up to 550°C to 600°C

ORDERING PROCEDURE EXAMPLE & Terminal End Options



SP	No Suffix=Standard aluminum Metalized ends
	No-arc terminal not available on SP products
	G=Radial tab, riveted and soldered G1=Radial tab, riveted and no solder
AS	DS=Standard dielectric coating and silver metalized 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, riveted and soldered with oil resistant coating
	TO=Soldered end and oil resistant coating
A	No Suffix=Standard nickel metalized ends
	D=Dielectric coating DG=Radial tab, riveted and soldered with dielectric coating
	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
	TO=Soldered end and oil resistant coating

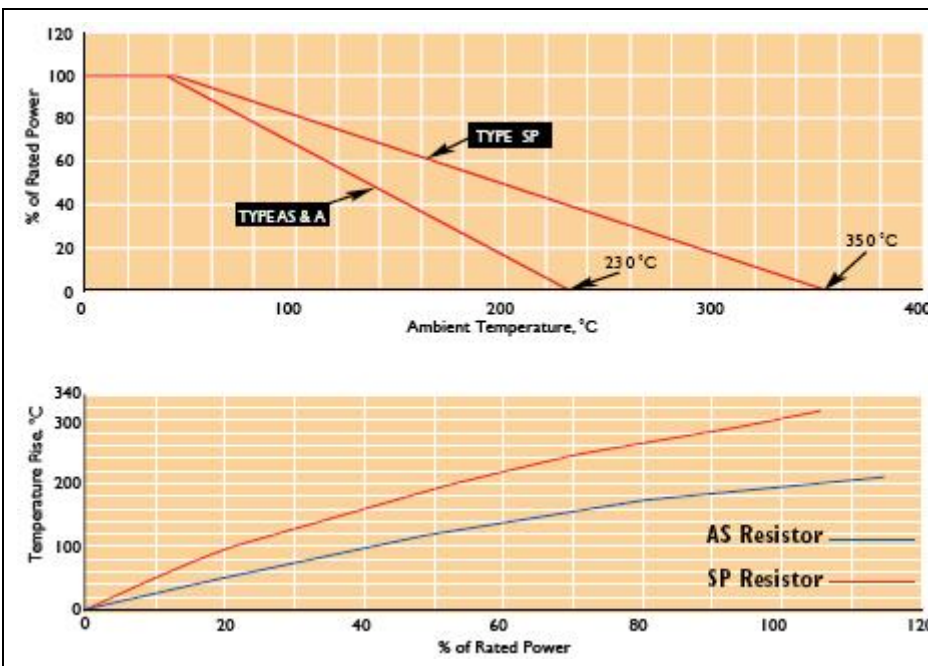
■ DEMENSIONS - Inches(Millimeter)



Special sizes are available; consult factory.

Type	A	B	C(SP & AS)	C(A)	D
884SP	2.0(50.8)	0.50(12.7)	0.22(5.58)	-	0.25(6.35)
885 SP, AS & A	2.5(63.5)	0.75(19.05)	0.50(12.7)	0	0.50(12.7)
886 SP, AS & A	5.0(127)	0.75(19.05)	0.50(12.7)	0	0.62(15.74)
887SP, AS & A	6.0(152.4)	1.00(25.4)	0.75(19.05)	0.5(12.7)	0.50(12.7)
888 SP, AS & A	8.0(203.2)	1.00(25.4)	0.75(19.05)	0.5(12.7)	0.88(22.35)
889 SP, AS & A	12.0(304.8)	1.00(25.4)	0.75(19.05)	0.5(12.7)	0.88(22.35)
890 SP, AS & A	18.0(457.2)	1.00(25.4)	0.75(19.05)	0.5(12.7)	0.88(22.35)
891 SP	18.0(457.2)	2.00(50.8)	1.50(38.1)	-	1.00(25.4)
892 SP	24.0(609.6)	2.00(50.8)	1.50(38.1)	-	1.00(25.4)
1026 AS	6.0(152.4)	1.50(38.1)	1.00(25.4)	-	0.50(12.7)
1028 AS	8.0(203.2)	1.50(38.1)	1.00(25.4)	-	0.88(22.35)
1032 AS	12.0(304.8)	1.50(38.1)	1.00(25.4)	-	0.88(22.35)
1038 AS	18.0(457.2)	1.50(38.1)	1.00(25.4)	-	0.88(22.35)
1044 AS	24.0(609.6)	1.50(38.1)	1.00(25.4)	-	0.88(22.35)

■ DERATING CURVE & SURFACE TEMPERATURE RISE VERSUS POWER



Derating Curve

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

Surface temperature rise versus Power

(Curve is Typical for Resistor Midpoint with Horizontal Orientation in stillAir)

■ Electrical Specifications

Length & Diameter (inches)	Type	Resistance Available (Ohms) Min. to Max.	Average Power @ 40°C (watts)	Peak* Energy (joules)	Peak* Voltage** (volts)
2 x 1/2	884SP	1.0-200	22.5	250	1,000
2-1/2 x 3/4	885SP	1.0-130	45	250	1,000
	885AS...DS	6.0-1200	15	2,800	8,000
	885A	1500-220K	15	750	3,750
5 x 3/4	886SP	1.0-330	90	500	4,000
	886AS..DS	15.0-3300	30	7,500	20,000
	886A	3900-390K	30	1,500	10,000
6 x 1	887SP	1.0-330	150	1,600	4,000
	887AS...DS	12.0-3300	50	13,000	30,000
	887A	3900-390K	50	6,000	12,000
6 x 1-1/2	1026AS..DS	5.0-1200	70	30,000	30,000
8 x 1	888SP	1.0-390	190	2,100	6,000
	888AS..DS	15.0-3900	75	16,500	45,000
	888A	4700-470K	60	7,500	15,000
8 x 1-1/2	1028AS..DS	6.5-1875	100	46,000	45,000
12 x 1	889SP	1.0-680	275	3,200	10,000
	889AS..DS	25.0-6800	100	27,000	75,000
	889A	8200-680K	90	12,500	25,000
12 x 1-1/2	1032AS..DS	9.0-2500	150	75,000	75,000
18 x 1	890SP	1.0-1000	375	4,200	16,000
	890AS..DS	40.0-10K	150	43,000	120,000
	890A	12K-1M	125	20,000	40,000
18 x 1-1/2	1038AS..DS	15.0-3800	225	119,000	120,000
18 x 2	891SP	1.0-450	750	15,000	16,000
24 x 2	892SP	1.0-600	1000	17,500	22,000
24 x 1-1/2	1044AS	20.0-4800	300	164,000	165,000

*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.