

Laser Discharge Capacitors Ceramic 20 - 50kV

This high voltage resin encapsulated disc capacitor range features a new strontium based, low-loss, high permittivity dielectric. It has been specifically designed to function in circuits with high peak current and high repetition rates such as those found in gas laser applications.

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Features

Resin Encapsulation - which in conjunction with the high dielectric strength ceramic allows for high energy densities.

Low dielectric loss resulting in low self heating Linear temperature coefficient of capacitance

Negligible piezoelectric/electrostrictive effect - allowing use in extremely high peak current (fast discharge) / high shot life applications

Low DC and AC voltage coefficients

Small size

Applications Include

Gas Lasers
DC Power Supplies
Electrostatic Copying Machines
Lightning Arrestor
AC Voltage Distribution
X-Ray Power Supplies

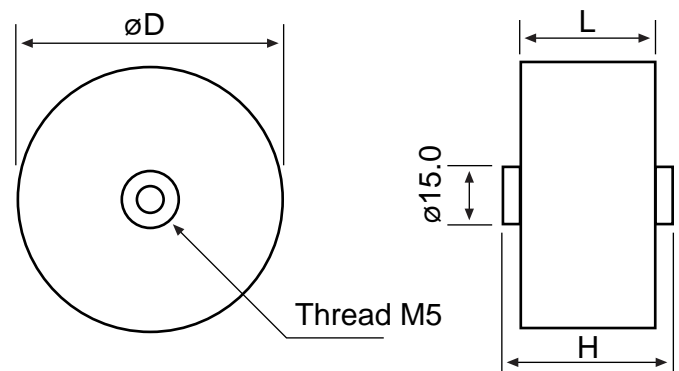
Material Characteristics

EIA Category
Available Tolerance
Typical Dissipation Factor @ 1kHz 20°C 1Vrms
Proof Voltage; $\leq 40\text{kV}$
Proof Voltage; $> 40\text{kV}$
Partial Discharge
Insulation Resistance @ 1kVdc, 60secs, 20°C
Operating Temperature Range

Z5T (N4700 from 10 – 85°C)
10%, 20%
 $\leq 1 \times 10^{-4}$
 $1.5 \times U_r / 60\text{secs}$
 $1.3 \times U_r / 60\text{secs}$
 $< 5\text{pC @ AC rated Voltage}$
 $\geq 10^{11}\text{ohm}$
-10 to +85°C

Endurance
Rapid Change of Temperature
Humidity test

1000hrs @ 1.1 U_r @ 60°C
-10 to +85°C, 5 cycles, 1hr soak, 2°C/min
95%RH, 40°C for 500Hours
for Cap Change $\leq \pm 10\%$
Tan $\delta \leq 15 \times 10^{-4}$
IT $\geq 1 \times 10^{11}\Omega$

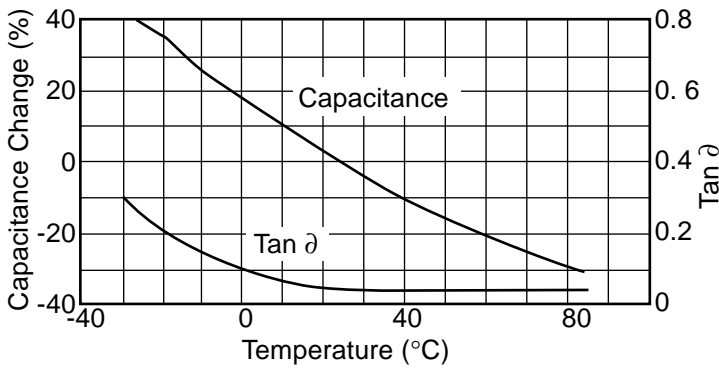


All dimensions in mm, $\pm 1.0\text{mm}$

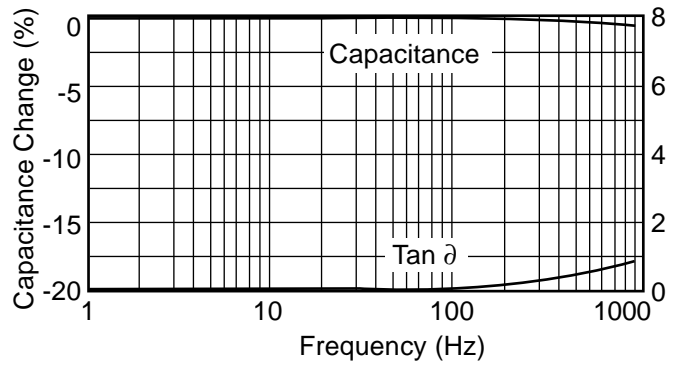
Type	Cap Value pF	Rated Voltage kV dc	Rated Voltage kV rms	Dim ϕ D mm (± 1)	Dim H mm (± 1)	Dim L mm (± 1)
301 / 1 / 09000 / 01T	1400	20	5	38	25	21
301 / 1 / 09000 / 02T	2500	20	5	48	25	21
301 / 1 / 09000 / 03T	4000	20	5	60	25	21
301 / 1 / 09000 / 04T	940	30	7.5	38	28	24
301 / 1 / 09000 / 05T	1700	30	7.5	48	28	24
301 / 1 / 09000 / 06T	2700	30	7.5	60	28	24
301 / 1 / 09000 / 07T	700	40	10	38	32	28
301 / 1 / 09000 / 08T	1300	40	10	48	32	28
301 / 1 / 09000 / 09T	2000	40	10	60	32	28
301 / 1 / 09000 / 010T	560	50	12.5	38	35	31
301 / 1 / 09000 / 11T	1000	50	12.5	48	35	31
301 / 1 / 09000 / 12T	1700	50	12.5	60	35	31

Note : 'T' is Capacitance Tolerance:- 1 = 10%, 2 = 20%

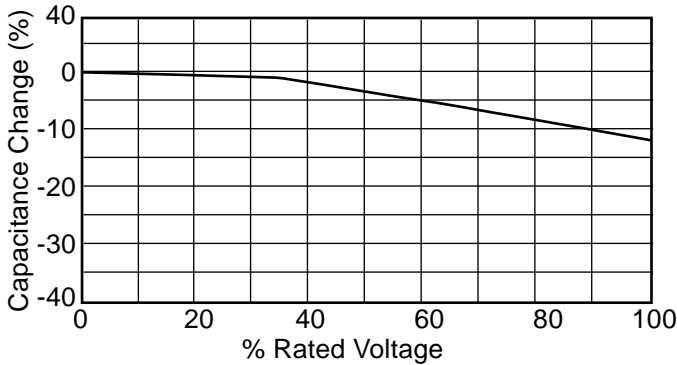
Temperature Coefficient



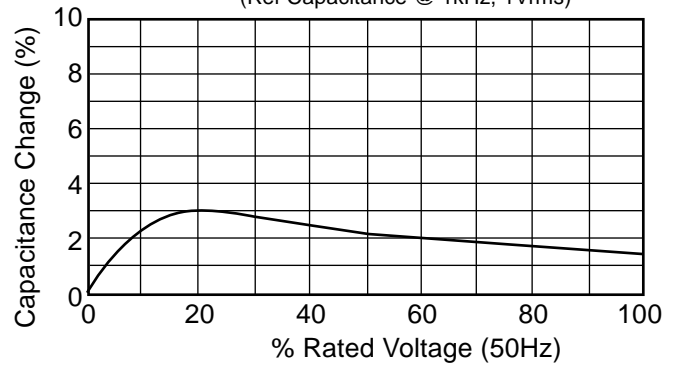
Frequency Characteristic



DC Voltage Characteristic



AC Voltage Characteristic
(Ref Capacitance @ 1kHz, 1Vrms)



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