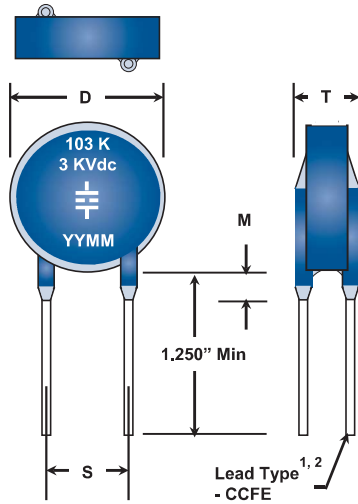


# High Voltage Radial Leaded Disc Capacitors

Military & Commercial Level Class 1 & Class 2 Dielectric – 3 kVdc to 20 kVdc



1. Lead Size: D30, D40 @ 0.025" Dia (#22 AWG) [0.64 mm] D50 & larger @ 0.032" Dia (#20 AWG) [0.81mm].
2. Lead Finish: Solder Plate – Standard / RoHS – 100% Tin Plate
3. Order of marking may vary depending on size of capacitor.

**CalRamic Technologies LLC** manufactures a series of highly reliable, single layer, conformally coated, ceramic disc capacitors, designed with leaded terminals and intended for those applications where the capacitor may be exposed to higher levels of thermal and mechanical shock. These capacitors are manufactured under strict quality control guidelines to ensure unparalleled performance in high voltage applications.

These capacitors, which draw on thirty plus years of proven design and process experience, utilize double action pressing to minimize gradients within the dielectric powder and produce a finished capacitor with a uniform fired ceramic density.

Capacitors are available with ultra stable Class I, NPO dielectrics, essential where low losses and tight capacitance tolerances are critical and stable Class II, X5R, X7R, X5U and Z5U dielectric materials, which are intended for those applications where added dielectric losses and less precision can be tolerated.

These capacitors are ideally suited as snubbers for switching power supplies, coupling and decoupling capacitors, inverter circuitry, lighting ballasts, and other high voltage pulse applications.

## Performance Characteristics

Specification	Dielectric Type (EIA Designation)					
	NPO (COG) (N)	Y5P (P)	X7R (X)	X5R (W)	X5U (Y)	Z5U (Z)
Material Classification	Type I, Ultra Stable, K76	Type II, Stable, K2450	Type II, Stable, K2350	Type II, Stable, K2500	Type II, Stable, K5000	Type II, Stable, K10000
Coef of Thermal Expansion	9 x 10 <sup>-6</sup> / °C					
Density	72 g / in <sup>3</sup>					
Operating Temperature Range	-55 to +125°C	-30 to +85°C	-55 to +125°C	-55 to +85°C		+10 to +85°C
Aging Rate	0	-2% Max per decade hour			-3% Max per decade hour	
Temperature Coefficient	±90 PPM / °C	±10%	±15%		+22 / -56%	
Voltage Coefficient	Negligible	-40% Max @ WVDC			-65% Max @ WVDC	-65% Max @ WVDC
Capacitance Range	1.6 pF to 600 pF	52 pF to 0.020 μF	52 pF to 0.020 μF	52 pF to 0.020 μF	100 pF to 0.037 μF	200 pF to 0.077 μF
Voltage Range	3 kVdc to 20 kVdc					
Insulation Resistance @ +25°C	100,000 MΩ or 1000 MΩ - μF, W/E is less					
Insulation Resistance @ T Max	10,000 MΩ or 100 MΩ - μF, W/E is less					
Dissipation Factor	0.1% Max	2.5% Max				
DWV	1.5 x WVDC					

## General Information

1. Custom voltages, package sizes and capacitance values available. Contact factory.
2. Higher voltage parts may require further encapsulation to prevent surface arc over and breakdown. When required, parts should first be cleaned, and oven dried at +85°C. Silicone rubbers or a suitable epoxy may be used and de-airing of encapsulates is recommended.
3. Testing of higher voltage parts before installation and / or supplemental encapsulation, may be done in a suitable, non-contaminating dielectric fluid like FC-40.
4. Large ceramic capacitors, even leaded devices are susceptible to damage when exposed to thermal and / or mechanical shock. Refer to Technical Bulletin AN103/AN112 for handling and installation recommendations.

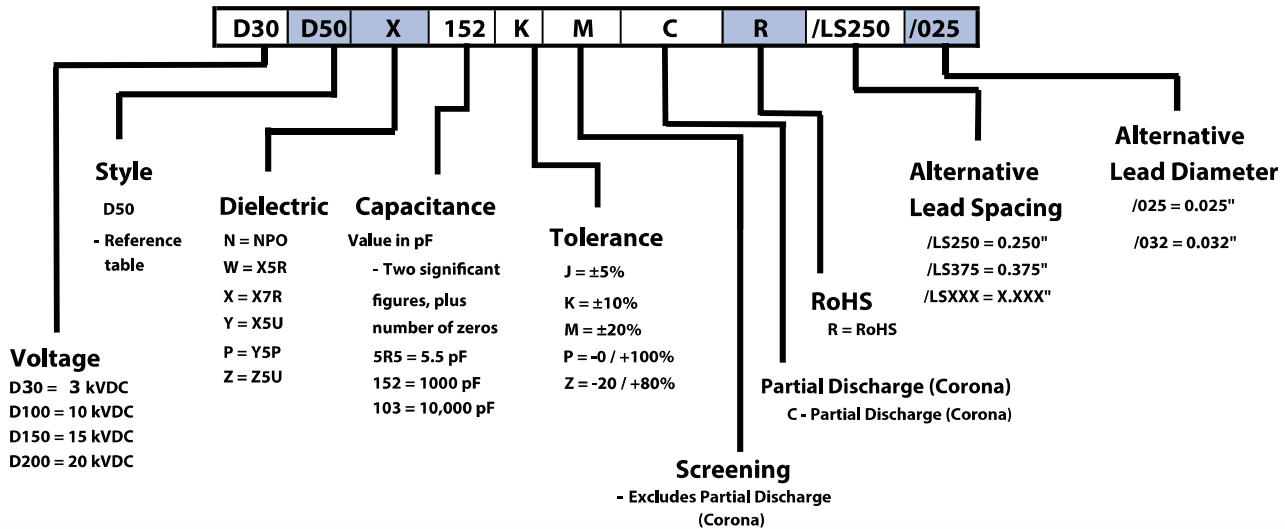


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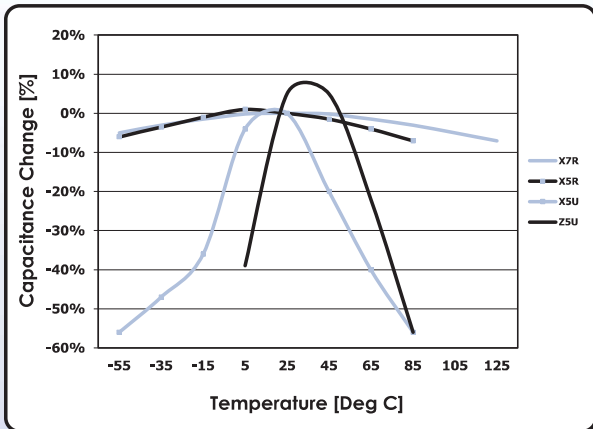
Military & Commercial Level Class 1 & Class 2 Dielectric – 3 kVdc to 20 kVdc



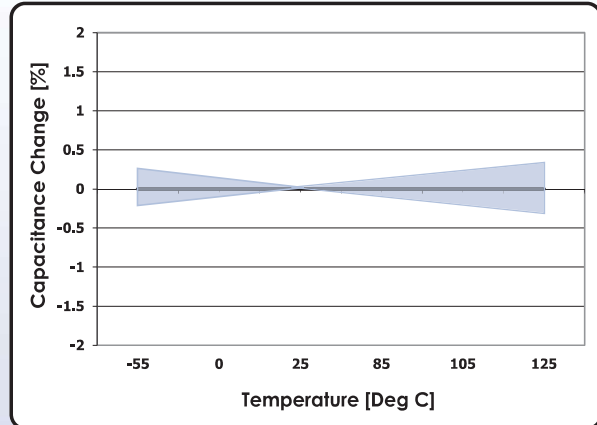
## Part Number / Ordering Information



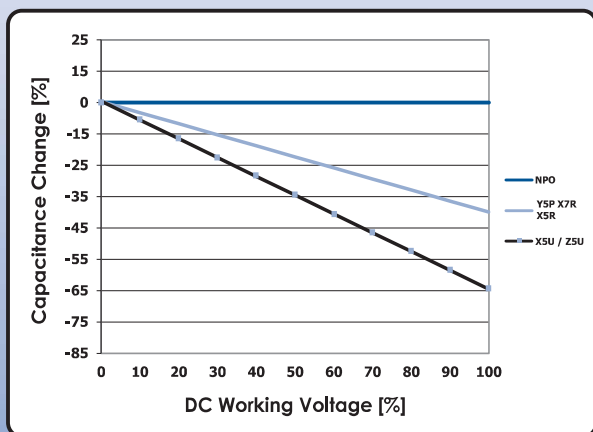
## Performance Charts (Typical)



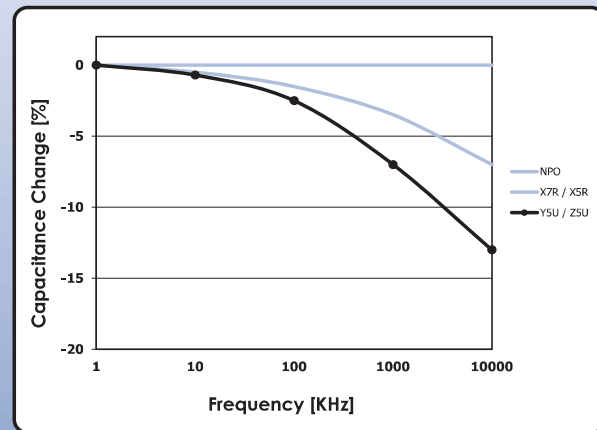
Class II Temperature Coefficient



NPO Temperature Coefficient



Voltage Coefficient



Capacitance Vs Frequency

C