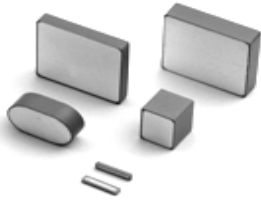


High Voltage Bare Single Layer Ceramic Capacitors



General Information

Single layer capacitors are designed and manufactured under strict quality control guidelines in order to insure performance and reliability for high voltage applications.

Double action pressing is utilized to minimize density gradients and produce uniform fired ceramic density.

Capacitors are available screened to MIL-PRF-49467 established reliability specification.

Testing & Screening Information

- Dielectric withstanding voltage to Mil-Prf-49467, Mil-Std-202, MTD 302
- Insulation Resistance 25°C to Mil-Prf-49467, Mil-Std-202, MTD 302
- Capacitance/Dissipation Factor to Mil-Prf-49467, Mil-Std-202, MTD 305
- Group A & B inspection to Mil-Prf-49467, DSCC 87125, DSCC 89087, and NASA GSFC S-311-P-15C, where applicable.

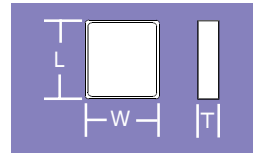
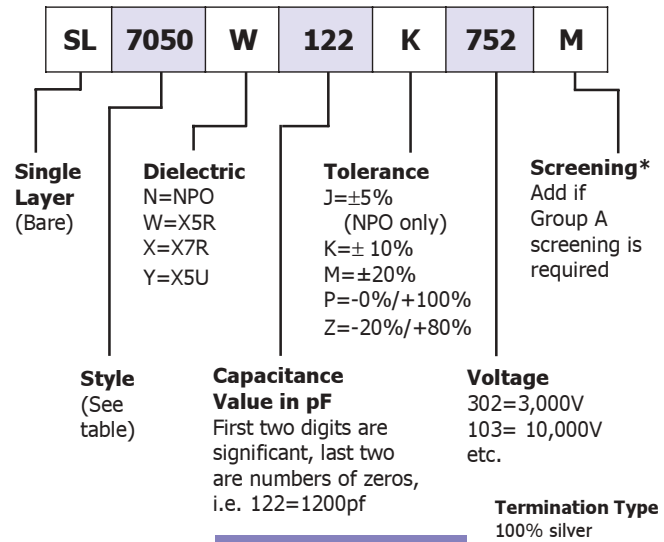
Installation

Higher-voltage parts may require further encapsulation to prevent surface breakdown. Parts should be cleaned and oven dried at 85°C before further encapsulation. Silicone rubbers or an epoxy may be used. De-airing of encapsulates is recommended.

Components should be preheated to approximately 120°C prior to soldering.

Testing higher-voltage parts before encapsulation may be done in a suitable dielectric fluid such as FC-40.

Part Number & Ordering Information



VOLTAGE RATING (kV)	MAX THICKNESS INCHES [MM]	NOMINAL THICKNESS INCHES [MM]
3	0.075 [1.9]	.060 [1.5]
5	0.125 [3.2]	.100 [2.5]
7.5	0.180 [4.6]	.150 [3.8]
10	0.235 [6.0]	.200 [5.1]
15	0.350 [8.9]	.300 [7.6]
20	0.460 [11.7]	.400 [10.2]

SPECIFICATION	DIELECTRIC TYPE (EIA DESIGNATION)			
	NPO	X5R	X7R	X5U
TEMPERATURE RANGE	-55°C to 125°C	-55°C to 85°C	-55°C to 125°C	-55°C to 85°C
TEMPERATURE COEFFICIENT	± 30ppm/°C	±15%	±15%	+22%/-56%
VOLTAGE COEFFICIENT	0	-25% @ rated voltage and temperature	-25% @ rated voltage and temperature	N/A
VOLTAGE RANGE	3kV to 20kV	3kV to 20kV	3kV to 20kV	3kV to 20kV
DIELECTRIC WITHSTANDING VOLTAGE TEST	3kV to 20kV 1.5x rated	3kV to 20kV 1.5x rated	3kV to 20kV 1.5x rated	3kV to 20kV 1.5x rated
IR @ 25°C	100,000MΩ or 1,000MΩ - μF whichever is less	100,000MΩ or 1,000MΩ - μF whichever is less	100,000MΩ or 1,000MΩ - μF whichever is less	100,000MΩ or 1,000MΩ - μF whichever is less
IR @ EVALUATED TEMPERATURE	10,000MΩ or 100MΩ - μF whichever is less @ 125°C	10,000MΩ or 100MΩ - μF whichever is less @ 85°C	10,000MΩ or 100MΩ - μF whichever is less @ 125°C	10,000MΩ or 100MΩ - μF whichever is less @ 85°C
DISSIPATION FACTOR @ 1kHz, 25°C	0.1% max	2.5% max	2.5% max	2.5% max
AGING RATE	0	-2% max/decade hour	-2% max/decade hour	-3% max/decade hour
COEFFICIENT OF THERMAL EXPANSION @ 25°C	9x10 ⁻⁶ in/in/°C	11x10 ⁻⁶ in/in/°C	11x10 ⁻⁶ in/in/°C	11x10 ⁻⁶ in/in/°C

High Voltage Bare Single Layer Ceramic Capacitors

	STYLE	NPO (PF)		X5R (PF)		X7R (PF)		X5U (PF)	
		MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.
3kVDC	3408	6.8	8.1	230	275	200	240	460	550
	5625	35	42	1200	1400	1000	1200	2400	2900
	5439	53	64	1800	2200	1600	1900	3600	4300
	7050	88	106	3000	3600	2600	3100	6000	7100
	100100	250	300	8500	10200	7500	9000	17000	20000
5kVDC	3408	4.0	5.0	140	170	120	150	270	340
	5625	21	26	700	870	620	770	1400	1700
	5439	32	39	1100	1300	940	1200	2100	2600
	7050	52	65	1800	2200	1500	1900	3500	4400
	100100	150	184	5000	6200	4400	5500	10000	12400
7.5kVDC	3408	-	-	-	-	-	-	-	-
	5625	14	17	470	580	410	500	940	1200
	5439	21	26	700	870	620	760	1400	1700
	7050	35	43	1200	1400	1000	1300	2300	2900
	100100	100	120	3400	4100	2900	3600	6700	8200
10kVDC	3408	-	-	-	-	-	-	-	-
	5625	11	13	350	430	310	380	710	870
	5439	16	19	530	650	470	570	1100	1300
	7050	26	32	880	1100	780	950	1800	2200
	100100	75	92	2500	3100	2200	2700	5000	6200
15kVDC	3408	-	-	-	-	-	-	-	-
	5625	7.0	8.5	240	290	210	250	470	580
	5439	11	13	350	430	310	380	710	870
	7050	17	21	590	720	520	630	1200	1400
	100100	50	60	1700	2100	1500	1800	3400	4100
20kVDC	3408	-	-	-	-	-	-	-	-
	5625	5.2	6.4	180	220	160	190	350	430
	5439	7.9	9.6	270	330	230	290	530	650
	7050	13	16	440	540	390	470	880	1100
	100100	37	46	1300	1500	1100	1400	2500	3100