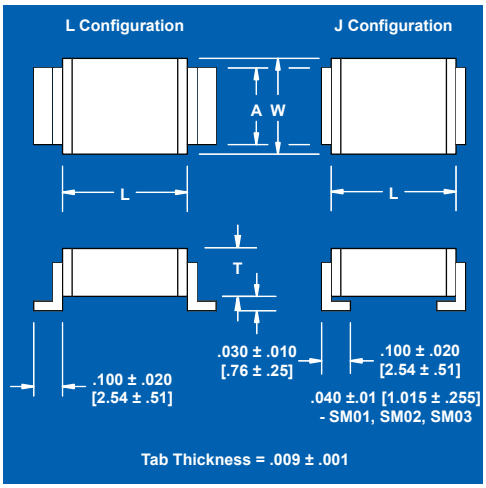
High Voltage Multi-Layer Ceramic Surface Mount Capacitors - Military & Commercial
X7R and NPO (125°C)



Part Number & Ordering Information

SM06	B	103	K	502	M	C	C	L
Style (See table)	**Dielectric** B=X7R N=NPO	**Capacitance Value in pF** First two digits are significant, the last is the number of zeros, i.e. 103=10,000pF	**Tolerance** J=±5% (NPO Only) K=±10% M=±20% P=-0%/ +100% Z=-20%/ +80%	**Voltage** 502=5,000 103=10,000 etc.	**Screening** Group A (Except Corona)	**Partial Discharge Corona Testing**	**Ultrasound** S=SLAM C=C-SAM	**Configuration** L=As Shown J=As Shown

General Information

- Ceramic Chip Capacitors are designed for High Voltage performance and reliability with conservative designs
- Mil-Prf-49467 types for voltage coefficient, BR, BZ, and BP available upon request
- Group A and B screening to Mil-Prf-49467 available upon request (except Corona)
- SLAM or C-SAM available, see part number ordering information
- Partial Discharge testing per Mil-Prf-49467 available, see part number ordering information
- Silver Plated Copper Alloy Tabs
- Chip Capacitors are sensitive to thermal shock during soldering and care should be taken to avoid damage. Refer to our technical bulletin TB100 on our website or contact factory for guidance

Specifications	Dielectric Type (EIA Designation)	
	NPO	X7R
Temperature Range	-55°C to 125°C	-55°C to 125°C
Temperature Coefficient	± 30 ppm/°C	±15%
Voltage Range	500V to 10,000V	500V to 10,000V
IR @ 25°C	100,000MΩ or 1,000MΩ - μF whichever is less	100,000MΩ or 1,000MΩ - μF whichever is less
IR @ 125°C	10,000MΩ or 100MΩ - μF whichever is less	10,000MΩ or 100MΩ - μF whichever is less
Dissipation Factor @ 1kHz, 25 °C	0.1% max	2.5% max
Aging Rate	0	-2% max/decade hour

CalRamic Technologies LLC
(P) 775.851.3580
(FX) 775.851.3582
E-Mail: info@calramic.com

5462 Louie Lane
Reno, NV 89511 USA
http://www.calramic.com

High Voltage Commercial and Military Quality Multi-Layer Ceramic Chip Capacitors

Style	Sizes			
	Length Inches [mm]	Width Inches [mm]	Thickness Inches [mm]	Tab Inches [mm]
SM01	.150 ± .015 [3.81 ± .38]	.150 ± .015 [3.81 ± .38]	.130 [3.30]	.100 [2.54]
SM02	.200 ± .020 [5.08 ± .51]	.200 ± .020 [5.08 ± .51]	.180 [4.57]	.100 [2.54]
SM03	.250 ± .025 [6.35 ± .64]	.200 ± .020 [5.08 ± .51]	.180 [4.57]	.100 [2.54]
SM10	.300 ± .030 [7.62 ± .76]	.150 ± .015 [3.81 ± .38]	.140 [3.55]	.200 [5.08]
SM04	.350 ± .030 [8.89 ± .76]	.300 ± .030 [7.62 ± .76]	.220 [5.59]	.200 5.08]
SM11	.400 ± .030 [10.20 ± .76]	.200 ± .020 [5.08 ± .51]	.130 [3.30]	.100 [2.54]
SM05	.450 ± .030 [11.43 ± .76]	.400 ± .030 [7.62 ± .76]	.220 [5.59]	.300 [7.62]
SM06	.550 ± .030 [14.00 ± .76]	.500 ± .030 [12.70 ± .76]	.220 [5.59]	.400 [10.2]
SM07	.650 ± .030 [16.503 ± .76]	.600 ± .030 [10.20 ± .76]	.220 [5.59]	.500 [12.7]
SM13	.700 ± .030 [17.80 ± .76]	.300 ± .030 [7.62 ± .76]	.180 [4.57]	.200 [5.08]
SM14	.900 ± .030 [22.90 ± .76]	.400 ± .030 [10.20 ± .76]	.220 [5.59]	.300 [7.62]
SM15	1.150 ± .030 [27.90 ± .76]	.500 ± .030 [12.70 ± .76]	.220 [5.59]	.400 [10.2]
SM16	1.300 ± .030 [33.02 ± .76]	.600 ± .030 [15.20 ± .76]	.220 [5.59]	.500 [12.7]

X7R Dielectric Capacitance Ranges

Style	500 VDC		1 KVDC		2 KVDC		3 KVDC		4 KVDC		5 KVDC		7 KVDC		10 KVDC	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
SM01	680 pF	.082 μF	680 pF	.022 μF	270 pF	3900 pF	-	-	-	-	-	-	-	-	-	-
SM02	1200 pF	.180 μF	1200 pF	.068 μF	560 pF	.012 μF	560 pF	3900 pF	-	-	-	-	-	-	-	-
SM03	1200 pF	.220 μF	1200 pF	.082 μF	680 pF	.018 μF	680 pF	5600 pF	-	-	-	-	-	-	-	-
SM04	3300 pF	.560 μF	3300 pF	.270 μF	1200 pF	.033 μF	1200 pF	.015 μF	270 pF	6800 pF	-	-	-	-	-	-
SM05	6800 pF	1.20 μF	6800 pF	.470 μF	2700 pF	.068 μF	2700 pF	.033 μF	470 pF	.010 μF	470 pF	6800 pF	-	-	-	-
SM06	.010 μF	1.80 μF	.010 μF	.680 μF	3900 pF	.100 μF	3900 pF	.039 μF	680 pF	.015 μF	680 pF	.010 μF	-	-	-	-
SM07	.015 μF	2.50 μF	.015 μF	1.00 μF	6800 pF	.180 μF	6800 pF	.082 μF	1200 pF	.027 μF	1200 pF	.015 μF	-	-	-	-
SM10	.1800 pF	.220 μF	1800 pF	.056 μF	390 pF	8200 pF	390 pF	2200 pF	150 pF	1200 pF	-	-	-	-	-	-
SM11	2700 pF	.390 μF	2700 pF	.150 μF	680 pF	.022 μF	680 pF	8200 pF	270 pF	4700 pF	270 pF	2700 pF	-	-	-	-
SM13	.010 μF	1.50 μF	.010 μF	.680 μF	1800 pF	.082 μF	1800 pF	.027 μF	680 pF	.012 μF	6800 pF	8200 pF	220 pF	3300 pF	-	-
SM14	.012 μF	2.20 μF	.012 μF	1.00 μF	3300 pF	.150 μF	3300 pF	.056 μF	1200 pF	.027 μF	1200 pF	.022 μF	470 pF	6800 pF	470 pF	3900 pF
SM15	.018 μF	3.90 μF	.018 μF	1.50 μF	5600 pF	.220 μF	5600 pF	.082 μF	2200 pF	.047 μF	2200 pF	.027 μF	820 pF	.010 μF	820 pF	5600 pF
SM16	.027 μF	5.60 μF	.027 μF	2.20 μF	8200 pF	.250 μF	8200 pF	.120 μF	3300 pF	.068 μF	3300 pF	.039 μF	1200 pF	.039 μF	1200 pF	.010 μF

NPO Dielectric Capacitance Ranges

Style	500 VDC		1 KVDC		2 KVDC		3 KVDC		4 KVDC		5 KVDC		7 KVDC		10 KVDC	
	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
SM01	27 pF	4700 pF	27 pF	1500 pF	12 pF	680 pF	12 pF	150 pF	-	-	-	-	-	-	-	-
SM02	39 pF	8200 pF	39 pF	3900 pF	22 pF	820 pF	22 pF	560 pF	-	-	-	-	-	-	-	-
SM03	47 pF	.010 μF	47 pF	6800 pF	27 pF	1200 pF	27 pF	680 pF	-	-	-	-	-	-	-	-
SM04	120 pF	.022 μF	120 pF	.018 μF	47 pF	1200 pF	47 pF	1500 pF	27 pF	680 pF	-	-	-	-	-	-
SM05	220 pF	.056 μF	220 pF	.033 μF	100 pF	3300 pF	100 pF	3900 pF	18 pF	1500 pF	18 pF	1000 pF	-	-	-	-
SM06	390 pF	.082 μF	390 pF	.047 μF	150 pF	6800 pF	150 pF	6800 pF	27 pF	2200 pF	27 pF	2200 pF	-	-	-	-
SM07	470 pF	.100 μF	470 pF	.068 μF	270 pF	.010 μF	270 pF	8200 pF	47 pF	3900 pF	47 pF	2700 pF	-	-	-	-
SM10	68 pF	.015 μF	68 pF	4700 pF	15 pF	.022 μF	15 pF	390 pF	10 pF	220 pF	-	-	-	-	-	-
SM11	82 pF	.027 μF	82 pF	.010 μF	27 pF	1000 pF	27 pF	820 pF	10 pF	560 pF	10 pF	390 pF	-	-	-	-
SM13	330 pF	.120 μF	330 pF	.068 μF	68 pF	2200 pF	68 pF	4700 pF	27 pF	1500 pF	27 pF	1200 pF	12 pF	470 pF	-	-
SM14	470 pF	.150 μF	470 pF	.056 μF	120 pF	.010 μF	120 pF	5600 pF	47 pF	3300 pF	47 pF	200 pF	18 pF	1000 pF	18 pF	820 pF
SM15	680 pF	.220 μF	680 pF	.100 μF	220 pF	.022 μF	220 pF	.015 μF	82 pF	560 pF	82 pF	3900 pF	33 pF	1800 pF	33 pF	1200 pF
SM16	1000 pF	.330 μF	1000 pF	.150 μF	270 pF	.039 μF	270 pF	.018 μF	120 pF	8200 pF	120 pF	5600 pF	56 pF	2700 pF	56 pF	2200 pF