

# High Reliability "SR" Capacitors

(Tested similarly to MIL-PRF-123 Group A)

For applications that require the highest level of reliability, Presidio recommends its high reliability "SR" capacitors. Tested similarly to MIL-PRF-123 Group A, Presidio manufactures these chips on the same manufacturing line as its military product line. They may be used in both military and space applications. Please note these capacitors are **NOT** MIL-qualified.

## Quality Assurance Provisions

Every lot undergoes the following inspection and tests:

- **Destructive Physical Analysis (DPA):** A representative sample is pulled from each lot and examined per relevant sections of EIA 469 and to verify adherence to Presidio's internal design criteria. Sample size is per MIL-PRF-123.
- **Ultrasonic Scanning (optional):** This screening may be performed on lots to assure the highest quality microstructure. Ultrasonic scanning is not required for each lot, and must be specified on the customer purchase order.
- **Thermal Shock:** All parts are temperature cycled for 20 cycles in accordance with MIL-PRF-123.
- **Voltage Conditioning:** All parts receive a voltage conditioning at 2X rated voltage and 125°C for a minimum of 168 hours and a maximum of 264 hours. Voltage conditioning may be terminated at any time between 168 and 264 hour time intervals when failures are less than .1% or 1 piece, during the last 48 hours of the test. Tested in accordance with MIL-PRF-123 except resistors are used in place of fuses.
- **Insulation Resistance (IR @ 125°C):** All parts are tested at 125°C and rated voltage in accordance with Method 302 of MIL-STD-202. The minimum IR required is 10,000 megohms or 100 megohm-microfarads.
- **Dielectric Withstanding Voltage (DWV):** All parts are tested at 2.5X rated voltage in accordance with Method 301 of MIL-STD-202, or according to EIA/MIL Standards.
- **Insulation Resistance (IR @ 25°C):** All parts are tested at 25°C and rated voltage in accordance with Method 302 of MIL-STD-202. The minimum IR required is 100,000 megohms or 1,000 megohm-microfarads.
- **Capacitance:** All parts are tested at 25°C and 1VACRMS in accordance with Method 305 of MIL-STD-202.

- **Dissipation Factor (DF):**

Voltage Rating	NPO	BX	X7R
16 / 25	.15%	2.5%	3.5%
≥ 50	.15%	2.5%	2.5%

- **Percent Defective Allowed (PDA):** The cumulative PDA after voltage conditioning is 5%. Pieces rejected as out of tolerance for capacitance or visual screening will be removed from the lot but not counted in the PDA calculation.
- **Visual:** Performed on pieces in accordance with MIL-PRF-123 Appendix B.
- **Mechanical:** Level 1 AQL 1% in accordance with MIL-PRF-123.
- **Class K Element Evaluation (optional):** A MIL-PRF-38534 Appendix C Passive Element Class K element evaluation is available when the customer requires this testing. Element evaluation is not required on each lot, and must be specified on the purchase order.
- **Operating Temperature Range:** -55°C to +125°C



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### Standard Packaging

Product will be packaged in individual waffle trays or tape and reel as specified by customer.

### Data Package

Data will be sent with each shipment including:

- **Destructive Physical Analysis Report (optional):** Destructive Physical Analysis (DPA) report and photographs for each lot will be sent. Extra charge may apply.
- **Certificate of Compliance:** Certificate of Compliance and attributes test data sheet will be sent with each shipment.
- **Class K Element Evaluation:** If a Class K element evaluation is required, all variables test data for subgroup 3 tests will be included in the data package.
- **Ultrasonic Scanning Report (optional):** An ultrasonic scanning report will be sent, including a typical scan. Extra charge may apply.

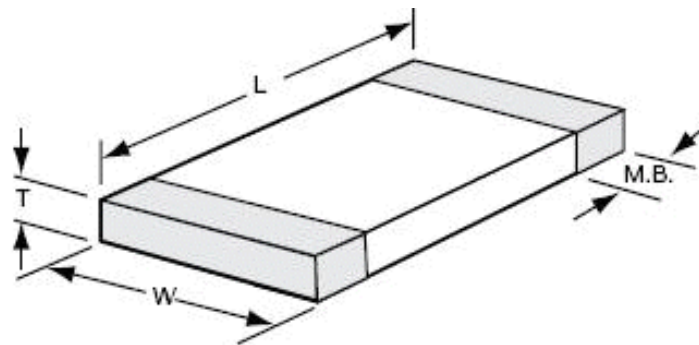


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SIZE	L Inches (mm)	W Inches (mm)	THICKNESS MAX. (T) Inches (mm)	METALIZATION BAND (M.B.) Inches (mm)	VVDC	DIELECTRIC		
						NPO	BX	X7R
0402	0.040 (1.02) ± 0.004 (0.10)	0.020 (0.51) ± 0.004 (0.10)	0.024 (0.61)	0.004 (0.10) min. band 0.015 (0.38) min. space	16 V	68 pF	1200 pF	3300 pF
					25 V	47 pF	820 pF	2200 pF
					50 V	27 pF	560 pF	1500 pF
					100 V	18 pF	330 pF	680 pF
0403	0.040 (1.02) ± 0.010 (0.25)	0.030 (0.76) ± 0.010 (0.25)	0.030 (0.76)	0.004 (0.10) min. band 0.015 (0.38) min. space	16 V	270 pF	3300 pF	0.010 µF
					25 V	180 pF	2200 pF	6800 pF
					50 V	120 pF	1500 pF	5600 pF
					100 V	56 pF	680 pF	1800 pF
0504	0.050 (1.27) ± 0.010 (0.25)	0.040 (1.02) ± 0.010 (0.25)	0.040 (1.02)	0.005 (0.13) min. band 0.015 (0.38) min. space	16 V	560 pF	6800 pF	0.027 µF
					25 V	330 pF	5600 pF	0.018 µF
					50 V	270 pF	3900 pF	0.012 µF
					100 V	100 pF	1800 pF	3900 pF
0603	0.063 (1.60) ± 0.006 (0.15)	0.032 (0.81) ± 0.006 (0.15)	0.035 (0.89)	0.005 (0.13) min. band 0.025 (0.64) min. space	16 V	470 pF	4700 pF	0.018 µF
					25 V	270 pF	3300 pF	0.012 µF
					50 V	220 pF	2200 pF	8200 pF
					100 V	68 pF	1000 pF	2200 pF
0805	0.080 (2.03) ± 0.010 (0.25)	0.050 (1.27) ± 0.010 (0.25)	0.050 (1.27)	0.020 (0.51) ± 0.010 (0.25)	16 V	1500 pF	0.022 µF	0.056 µF
					25 V	1000 pF	0.018 µF	0.039 µF
					50 V	820 pF	0.010 µF	0.027 µF
					100 V	330 pF	5600 pF	0.012 µF
1206	0.126 (3.20) ± 0.008 (0.20)	0.063 (1.60) ± 0.008 (0.20)	0.059 (1.50)	0.020 (0.51) ± 0.010 (0.25)	16 V	5600 pF	0.082 µF	0.22 µF
					25 V	3900 pF	0.056 µF	0.15 µF
					50 V	2700 pF	0.039 µF	0.12 µF
					100 V	1000 pF	0.022 µF	0.047 µF
1209	0.125 (3.18) ± 0.010 (0.25)	0.095 (2.41) ± 0.010 (0.25)	0.065 (1.65)	0.020 (0.51) ± 0.010 (0.25)	16 V	0.010 µF	0.22 µF	0.47 µF
					25 V	6800 pF	0.18 µF	0.33 µF
					50 V	5600 pF	0.12 µF	0.22 µF
					100 V	2200 pF	0.047 µF	0.10 µF
1712	0.175 (4.45) ± 0.013 (0.33)	0.125 (3.18) ± 0.010 (0.25)	0.065 (1.65)	0.020 (0.51) ± 0.010 (0.25)	16 V	0.018 µF	0.33 µF	0.68 µF
					25 V	0.012 µF	0.22 µF	0.47 µF
					50 V	0.010 µF	0.18 µF	0.39 µF
					100 V	4700 pF	0.068 µF	0.18 µF
1725	0.175 (4.45) ± 0.013 (0.33)	0.250 (6.35) ± 0.018 (0.46)	0.065 (1.65)	0.020 (0.51) ± 0.010 (0.25)	16 V	0.047 µF	0.82 µF	1.8 µF
					25 V	0.039 µF	0.56 µF	1.2 µF
					50 V	0.027 µF	0.47 µF	1.0 µF
					100 V	0.010 µF	0.22 µF	0.47 µF
2225	0.220 (5.59) ± 0.015 (0.38)	0.250 (6.35) ± 0.018 (0.46)	0.080 (2.03)	0.020 (0.51) ± 0.010 (0.25)	16 V	0.068 µF	1.2 µF	3.3 µF
					25 V	0.047 µF	1.0 µF	2.2 µF
					50 V	0.033 µF	0.68 µF	1.8 µF
					100 V	0.020 µF	0.33 µF	0.68 µF

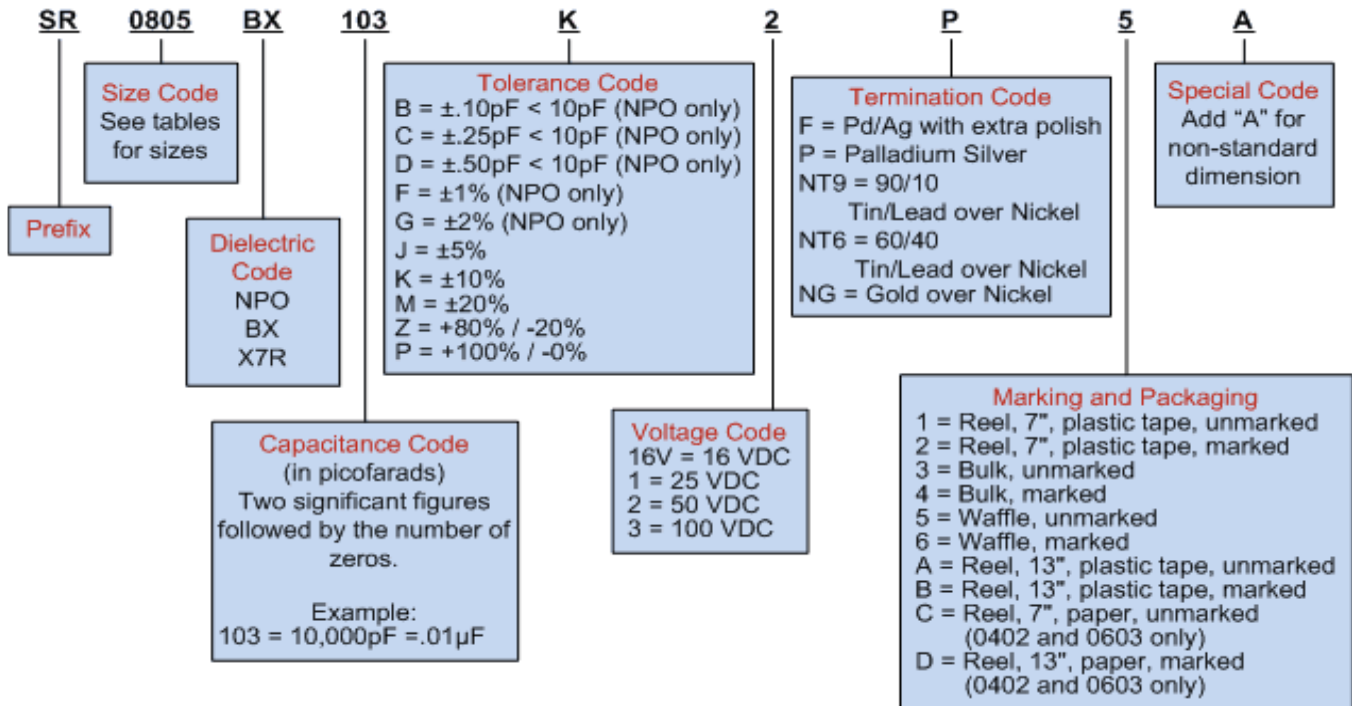
## Dimensions



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## How To Order



Consult factory for other voltages, capacitance options and parts outside a given range.

The above example is of Presidio's Manufacturing part number.

If a shorter part number is desired, use our conversion tool to create our Global part number.

