HIGH RELIABILITY "CR" CAPACITORS

(TESTED SIMILARLY TO MIL-PRF-55681)

For applications that require a high level of reliability, Presidio recommends its high reliability **"CR"** capacitors. Tested similarly to MIL-PRF-55681 Group A, Presidio manufactures these chips on the same manufacturing line as its military product line. They may be used in both industrial and military applications. Please note these capacitors are NOT MIL-qualified.

QUALITY ASSURANCE PROVISIONS

Every lot undergoes the following inspection and tests:

a) Destructive Physical Analysis (DPA) — A 32-piece sample is pulled from each lot and examined per relevant sections of EIA 469 and to verify adherence to Presidio's internal design criteria.

b) Voltage Conditioning — All parts receive a voltage conditioning at 2X rated voltage and 125°C for 100 hours. An accelerated voltage conditioning, following MIL-PRF-55681 guidelines, may be used at Presidio's discretion.

c) Capacitance — All parts are tested at 25°C and 1VACRMS in accordance with method 305 of MIL-STD-202.

d) Dissipation Factor (DF) — See following table:

Voltage Rating	NPO	BX/BR	X7R	Y5V
Below 16V	0.15%	5.0%	7.5%	13%
16V	0.15%	5.0%	7.5%	13%
25V	0.15%	3.5%	5.0%	13%
50V	0.15%	2.5%	3.5%	10%
> 50V	0.15%	2.5%	2.5%	10%

e) 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.

f) 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.

g) Percent Defective Allowed (PDA) — The cumulative PDA after voltage conditioning is 8%. Pieces rejected as out of tolerance for capacitance or visual screening will be removed from the lot but not counted in the PDA calculation.

h) Visual — Performed on pieces in accordance with Presidio internal workmanship criteria.

i) Mechanical — Level 1 AQL 1% in accordance with this catalog.

j) Operating Temperature Range: –55°C to +125°C

k) (Optional) Class H Element Evaluation per MIL-PRF-38534 Rev L — Must be specified on the RFQ and Purchase Order (charge will apply). Data package included.

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:

a) Certificate of Compliance — A Certificate of Compliance will be sent with each shipment.

b) (Optional) Destructive Physical Analysis Report — Destructive Physical Analysis (DPA) report and photographs for each lot. Extra charge may apply.

c) (Optional) Class H Element Evaluation per MIL-PRF-38534 Rev L — Must be specified on the RFQ and Purchase Order (charge will apply). Data package included.

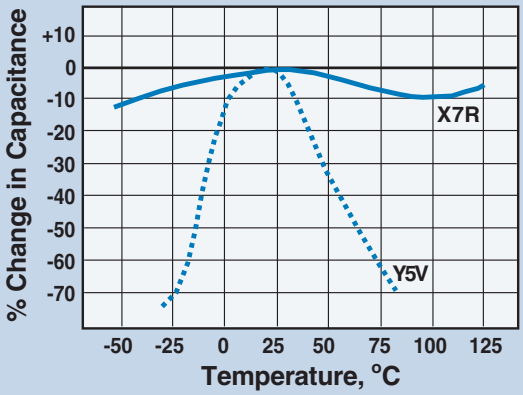
EXAMPLE PART NUMBER

CR0402X7R104KENT91

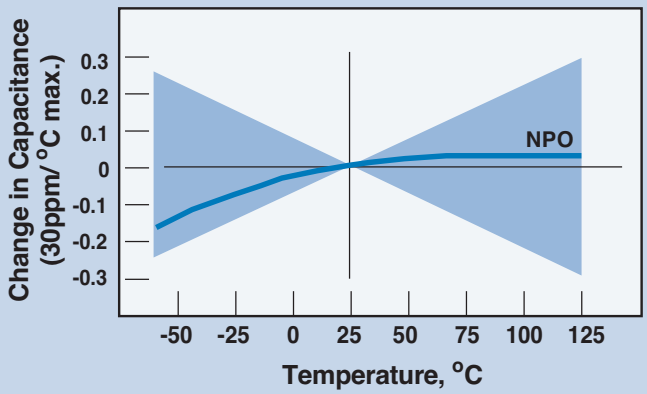
Add "CR" to the beginning of the standard Presidio part number. See Page 3 "HOW TO ORDER A PRESIDIO PART"

Visit Presidio's website for additional technical information on these products.

TYPICAL X7R AND Y5V TEMPERATURE COEFFICIENT



TYPICAL NPO TEMPERATURE COEFFICIENT



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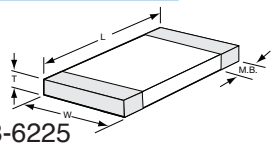

HIGH RELIABILITY "CR" CAPACITORS

SIZE	L inches (mm)	W inches (mm)	THICKNESS MAX. (T) inches (mm)	METALIZATION BAND (M.B.) inches (mm)	WVDC	DIELECTRIC		
						NPO	BX	X7R
0201	**0.024** (0.61) ± 0.003 (0.08)	**0.0115** (0.29) ± 0.0015 (0.029)	0.013 (0.33)	0.004 (0.10) min. band .008(0.20) min. space	4 V	N/A	Contact Factory	0.022 µF
					10 V	100 pF		0.010 µF
0402	**0.040** (1.02) +0.006/-0.004 (+0.15/-0.10)	**0.020** (0.51) +0.005/-0.004 (+0.13/-0.10)	0.025 (0.63)	0.004 (0.10) min. band 0.015 (0.38) min. space	4 V	N/A	N/A	0.22 µF
					10 V	390 pF	6800 pF	0.10 µF
					16 V	200 pF	3300 pF	0.033 µF
					25 V	120 pF	2200 pF	4700 pF
					50 V	100 pF	1000 pF	3900 pF
					100 V	39 pF	470 pF	1200 pF
0403	**0.040** (1.02) ± 0.010 (0.25)	**0.030** (0.76) ± 0.010 (0.25)	0.03 (0.76)	0.004 (0.10) min. band 0.015 (0.38) min. space	10 V	1200 pF		0.047 µF
					16 V	560 pF	3900 pF	0.022 µF
					25 V	390 pF	2700 pF	0.015 µF
					50 V	330 pF	2200 pF	0.012 µF
					100 V	68 pF	820 pF	2200 pF
0504	**0.050** (1.27) ± 0.010 (0.25)	**0.040** (1.02) ± 0.010 (0.25)	0.04 (1.02)	0.005 (0.13) min. band 0.015 (0.38) min. space	10 V	2700 pF		0.12 µF
					16 V	1800 pF	8200 pF	0.082 µF
					25 V	1500 pF	6800 pF	0.047 µF
					50 V	1200 pF	4700 pF	0.039 µF
					100 V	180 pF	2200 pF	6800 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	10 V	2200 pF		0.22 µF
					16 V	1000 pF	5600 pF	0.10 µF
					25 V	680 pF	4700 pF	0.027 µF
					50 V	560 pF	3300 pF	0.022 µF
					100 V	100 pF	1200 pF	3300 pF
0805	**0.080** (2.03) ± 0.010 (0.25)	**0.050** (1.27) ± 0.010 (0.25)	0.055 (1.40)	0.020 (0.51) ± 0.010 (0.25)	10 V	4700 pF		1.0 µF
					16 V	3300 pF	0.027 µF	0.22 µF
					25 V	2700 pF	0.022 µF	0.10 µF
					50 V	2200 pF	0.015 µF	0.10 µF
					100 V	560 pF	6800 PF	0.10 µF
1206	**0.126** (3.20) ± 0.008 (0.20)	**0.063** (1.60) ± 0.008 (0.20)	0.065 (1.65)	0.020 (0.51) ± 0.010 (0.25)	10 V	0.012 µF		1.8 µF
					16 V	8200 pF	0.10 µF	0.39 µF
					25 V	6800 pF	0.082 µF	0.27 µF
					50 V	5600 pF	0.047 µF	0.22 µF
					100 V	1500 pF	0.022 µF	0.068 µF
					200 V	820 pF		0.027 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)	10 V	0.018 µF		2.7 µF
					16 V	0.012 µF	0.22 µF	0.68 µF
					25 V	0.010 µF	0.18 µF	0.47 µF
					50 V	8200 pF	0.15 µF	0.39 µF
					100 V	3900 pF	0.056 µF	0.15 µF
					200 V	1800 pF		0.068 µF
1712	**0.175** (4.45) ± 0.015 (0.38)	**0.125** (3.18) ± 0.010 (0.25)	0.065 (1.65)	0.020 (0.51) ± 0.010 (0.25)	16 V	0.027 µF	0.47 µF	1.2 µF
					25 V	0.022 µF	0.33 µF	1.0 µF
					50 V	0.015 µF	0.22 µF	0.68 µF
					100 V	6800 pF	0.10 µF	0.27 µF
					200 V	3300 pF		0.12 µF
1812	**0.180** (4.572) ± 0.015 (0.38)	**0.125** (3.18) ± 0.015 (0.38)	0.120 (3.05)	0.020 (0.51) ± 0.010 (0.25)	10 V	N/A	N/A	4.7 µF
1725	**0.175** (4.45) ± 0.015 (0.38)	**0.250** (6.35) ± 0.018 (0.46)	0.065 (1.65)	0.020 (0.51) ± 0.010 (0.25)	16 V	0.068 µF	1.2 µF	3.3 µF
					25 V	0.056 µF	0.82 µF	2.2 µF
					50 V	0.039 µF	0.56 µF	1.8 µF
					100 V	0.018 µF	0.27 µF	0.68 µF
					200 V	8200 pF		0.27 µF
2225	**0.220** (5.59) ± 0.015 (0.38)	**0.250** (6.35) ± 0.018 (0.46)	0.08 (2.03)	0.020 (0.51) ± 0.010 (0.25)	16 V	0.082 µF	1.5 µF	3.9 µF
					25 V	0.068 µF	1.2 µF	3.3 µF
					50 V	0.056 µF	0.82 µF	2.2 µF
					100 V	0.027 µF	0.39 µF	1.0 µF
					200 V	0.012 µF		0.47 µF

HOW TO ORDER HIGH RELIABILITY "CR" CAPACITORS (See p. 3, Example: CR0402X7R104KENT91)

CR	0402	X7R	104	K	E	NT9	1	—
Prefix	Case Size	Dielectric Code	Capacitance Code 0.1µF	Tolerance Code ± 10%	Voltage Code 10V	Termination Code Plated SnPb over Ni	Marking & Packaging Tape & Reel, unmarked	Blank = Non-RoHS R = RoHS Compliant