COMMERCIAL AND INDUSTRIAL CERAMIC CAPACITORS

Presidio provides high quality ceramic capacitors for a wide variety of industrial applications. Every component must pass the test criteria listed below.

QUALITY ASSURANCE PROVISIONS

Every lot undergoes the following inspection and tests:

a) Capacitance — All parts are tested at 25°C and 1VACRMS in accordance with Method 305 of MIL-STD-202. Y5V and low voltage parts follow EIA guidelines.

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

Voltage Rating	NPO	BX/BR	X7R	Y5V
10	N/A	5.0%	7.5%	13%
16	.15%	5.0%	7.5%	13%
25	.15%	3.5%	5.0%	13%
50	.15%	2.5%	3.5%	10%
> 50	.15%	2.5%	2.5%	10%

c) Dielectric Withstanding Voltage (DWV) — All parts are tested to EIA/MIL standards.

d) 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.

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

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

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

EXAMPLE PART NUMBER

0402X7R104KENT91

See Page 3 "HOW TO ORDER A PRESIDIO PART"

HIGH RELIABILITY "HR" CAPACITORS

For applications where reliability, but not full military screening is required, Presidio recommends its high reliability **"HR"** capacitors. The "HR" code signifies use of the test program below, or the use of a customer Source Control Document (SCD) that includes voltage conditioning.

QUALITY ASSURANCE PROVISIONS

Every lot undergoes the following inspection and tests:

a) Voltage Conditioning — All parts receive a voltage conditioning at 2X rated voltage and 125°C for a minimum of 8 hours. An accelerated voltage conditioning, following MIL-PRF-55681 guidelines, may be used at Presidio's discretion.

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

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

Voltage Rating	NPO	BX/BR	X7R	Y5V
10	N/A	5.0%	7.5%	13%
16	.15%	5.0%	7.5%	13%
25	.15%	3.5%	5.0%	13%
50	.15%	2.5%	3.5%	10%
> 50	.15%	2.5%	2.5%	10%

EXAMPLE PART NUMBER

HR0402X7R104KENT91

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

THE HR SERIES IS OFTEN USED FOR ENGINEERING UNITS.

d) 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.

e) 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.

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

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

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

i) (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.

CERTIFICATE OF COMPLIANCE

A Certificate of Compliance will be sent with each shipment.

STANDARD PACKAGING

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

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

PRESIDIO COMPONENTS, INC.

7169 Construction Court, San Diego, CA 92121 • Tel: 1+858-578-9390 • Fax: 1+858-578-6225

www.presidiocomponents.com • email: info@presidiocomponents.com

COMMERCIAL, INDUSTRIAL AND "HR" CERAMIC CAPACITORS

SIZE	L inches (mm)	W inches (mm)	THICKNESS MAX. (T) inches (mm)	METALIZATION BAND (M.B.) inches (mm)	WVDC	DIELECTRIC			
						NPO	BX/BR	X7R	Y5V
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	10 V	Contact Factory	Contact Factory	0.01 µF	Contact Factory
0402	0.040 (1.02) ± 0.004 (0.10)	0.020 (0.51) ± 0.004 (0.10)	0.025 (0.63)	0.004 (0.10) min. band 0.015 (0.38) min. space	10 V	390 pF	6800 pF	**0.10 µF**	0.047 µF
					16 V	200 pF	3300 pF	0.010 µF	0.027 µF
					25 V	120 pF	2200 pF	4700 pF	0.018 µF
					50 V	100 pF	1800 pF	3900 pF	0.012 µF
					100 V	39 pF	680 pF	1200 pF	5600 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	0.020 µF	0.047 µF	0.12 µF
					16 V	560 pF	0.012 µF	0.022 µF	0.068 µF
					25 V	390 pF	6800 pF	0.015 µF	0.047 µF
					50 V	330 pF	5600 pF	0.012 µF	0.033 µF
					100 V	68 pF	1000 pF	2200 pF	6800 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	0.068 µF	0.12 µF	0.39 µF
					16 V	1800 pF	0.039 µF	0.082 µF	0.22 µF
					25 V	1500 pF	0.027 µF	0.047 µF	0.12 µF
					50 V	1200 pF	0.020 µF	0.039 µF	0.082 µF
					100 V	180 pF	2700 pF	6800 pF	0.018 µF
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	0.039 µF	0.22 µF	
					16 V	1000 pF	0.020 µF	0.10 µF	0.12 µF
					25 V	680 pF	0.015 µF	0.027 µF	0.082 µF
					50 V	560 pF	0.010 µF	0.022 µF	0.056 µF
					100 V	100 pF	1800 pF	3300 pF	0.010 µF
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	0.1 µF	1.0 µF	
					16 V	3300 pF	0.075 µF	0.22 µF	0.47 µF
					25 V	2700 pF	0.047 µF	0.10 µF	0.27 µF
					50 V	2200 pF	0.039 µF	0.10 µF	0.18 µF
					100 V	560 pF	8200 pF	0.022 µF	0.056 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	0.25 µF	1.8 µF	
					16 V	8200 pF	0.2 µF	0.39 µF	1.2 µF
					25 V	6800 pF	0.15 µF	0.27 µF	0.82 µF
					50 V	5600 pF	0.1 µF	0.22 µF	0.56 µF
					100 V	1500 pF	0.027 µF	0.068 µF	0.18 µF
					200 V	820 pF	0.012 µF	0.027 µF	N/A
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	0.39 µF	2.7 µF	
					16 V	0.012 µF	0.27 µF	0.68 µF	1.8 µF
					25 V	0.010 µF	0.22 µF	0.47 µF	1.5 µF
					50 V	8200 pF	0.18 µF	0.39 µF	1.2 µF
					100 V	3900 pF	0.068 µF	0.15 µF	0.47 µF
					200 V	1800 pF	0.033 µF	0.068 µF	N/A
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)	10 V	0.039 µF	0.82 µF	1.8 µF	5.6 µF
					16 V	0.027 µF	0.56 µF	1.2 µF	3.9 µF
					25 V	0.022 µF	0.47 µF	1.0 µF	2.7 µF
					50 V	0.015 µF	0.27 µF	0.68 µF	1.8 µF
					100 V	6800 pF	0.12 µF	0.27 µF	0.82 µF
					200 V	3300 pF	0.056 µF	0.12 µF	N/A
1812	0.180 (4.572) ± 0.015 (0.38)	0.125 (3.18) ± 0.015 (0.38)	0.080 (2.03)	0.020 (0.51) ± 0.010 (0.25)	10 V	N/A	N/A	4.7 µF	N/A
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)	10 V	0.082 µF	2.0 µF	3.9 µF	12.0 µF
					16 V	0.068 µF	1.5 µF	3.3 µF	8.2 µF
					25 V	0.056 µF	1.2 µF	2.2 µF	6.8 µF
					50 V	0.039 µF	0.82 µF	1.8 µF	4.7 µF
					100 V	0.018 µF	0.33 µF	0.68 µF	2.0 µF
					200 V	8200 pF	0.12 µF	0.27 µF	N/A
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)	10 V	0.10 µF	2.2 µF	4.7 µF	15.0 µF
					16 V	0.082 µF	1.8 µF	3.9 µF	12.0 µF
					25 V	0.068 µF	1.5 µF	3.3 µF	10.0 µF
					50 V	0.056 µF	1.0 µF	2.2 µF	6.8 µF
					100 V	0.027 µF	0.47 µF	1.0 µF	2.7 µF
					200V	0.012 µF	0.22 µF	0.47 µF	N/A

HOW TO ORDER COMMERCIAL, INDUSTRIAL & "HR" CAPACITORS (See p. 3, Example: HR805X7R104K2NT91)

HR	0805	X7R	104	K	2	NT9	1	–
Prefix Leave blank for industrial parts.	Case Size	Dielectric Code	Capacitance Code 0.1 µF	Tolerance Code ± 10%	Voltage Code 50 V	Termination Code Ni/SnPb	Marking & Packaging Reel, unmarked	Blank = Non-RoHS R = RoHS Compliant