

**QUALITY ASSURANCE PROVISIONS**

Every lot undergoes the following inspection and tests.

**GROUP 1**

1. Thermal shock before Voltage conditioning, (SR#N1, HR#N2.): MIL-STD-202 Method 107 Condition B (-55/+125°C).
2. Voltage Conditioning at 125°C, SR#N1: 160Hrs, HR#N2: 96Hrs, HR#N3: 48Hrs. Vtest = 2X rated for ≤ 500V, 1.2X rated for 501 to 999V, 1X rated ≥ 1000V.
3. Capacitance (SR#N1, HR#N2, HR#N3): all parts are tested at 25°C and 1 VACRMS in accordance with Method 305 of MIL-STD-202.
4. Dissipation Factor, DF, (SR#N1, HR#N2, HR#N3): Capacitance: all parts are tested at 25°C and 1 VACRMS in accordance with Method 305 of MIL-STD-202
5. Dielectric Withstanding Voltage, DWM, (SR#N1, HR#N2, HR#N3): MIL-STD-202 Method 301. Test is performed at 2.5X rated voltage for rating below 500V.
6. Insulation Resistance 1, (SR#N1, HR#N2, HR#N3): MIL-STD-202 Method 301, room temperature.
7. Insulation Resistance 2, (SR#N1): MIL-STD-202 Method 301, repeat at max. rated temp. (125°C).
8. Percentage Defective Allowed (PDA): SR#N1: 5%, HR#N2: 10%, HR#N3: 20%.
9. Radiographic inspection: For SR#N1 leaded parts only, not applicable for SMD Chips.
10. Visual and Mechanical Examination (SR#N1, HR#N2).

**GROUP 2**

- Voltage/Temperature Limit (SR#N1–12(1) pcs, HR#N2 – 6(1) pcs), Not applicable to X7R.
- Temperature Coefficient and Drift (SR#N1- HR#N2), N/A for BX/BR/BQ/BZ/X7R parts.

**GROUP 3**

- Terminal Strength: N/A for surface mount chips.
- Resistance to Solder Heat (SR#N1, HR#N2): MIL-STD-202, Method 210 Condition C (chips). Condition G (Leaded).
- Moisture Resistance (SR#N1–12(0), HR#N2 – 6(0)): MIL-STD-202, Method 106. Exception: For size ≤ 0603 test is performed on larger size parts cut from the same wafer. Test voltage is rated voltage or 50V whichever is less.

**GROUP 4**

- Humidity Steady State Low Voltage (SR#N1–12(0) pcs, HR#N2–5(0) pcs), MIL-STD-202 Method 103 Condition A and MIL-PRF-123 Group B

**GROUP 5**

- Solderability (SR#N1–5(0) pcs, HR#N2–3(0) pcs): MIL-STD-202, Method 208
- Destructive Physical Analysis: (SR#N1): EIA-469 Exception: Use separate pieces for Solderability Test 5(0) and DPA.

**GROUP 6**

- Life (at elevated temperature: 125°C), (SR#N1–2000H, 22(0) pcs, HR#N2–1000H, 22(1)) pcs): Vtest = 2X rated for ≤ 500V, 1.2X rated for 501 to 999V, 1X rated ≥ 1000V
- Partial Discharge aka Corona Test for SR#N1 and HR#N2 for voltage rating ≥ 1000V

**MARKING (Optional for sizes 0805 and larger only)** — Parts will not be marked unless marking is specified on the PO. If marking is specified, a color letter will be used per Presidio's chip marking system.

**STANDARD PACKAGING**

Product will be packaged in individual waffle trays. Tape and reel option is available.

**DATA PACKAGE**

| Level/Series                      | Level 1 Series SR#N1 | Level 2 Series HR#N2 | Level 3 Series HR#N3 |
|-----------------------------------|----------------------|----------------------|----------------------|
| Certificate of Conformity         | YES                  | YES                  | YES                  |
| DPA Report                        | YES                  | NO                   | NO                   |
| Group 1 to 6 Data when Applicable | YES                  | YES                  | NO                   |

**PART NUMBER EXAMPLE**

**HR0402X7R104KENT91(D)#N2**

**PART DESCRIPTION:** HR, 0402, X7R, 0.12µF, ±10%, 10V, Plated SnPb Over Ni Termination, Tape & Reel, Design-In Code (D) for Arizona, Screened following EEE-INST-002 Level 2.

**C OF C AND DATA PACK INCLUDED WITH THE PARTS.**

**HOW TO ORDER**

EXAMPLE: HR0402X7R104KENT91(D)#N2

See Website for Design-In Codes

| HR        | 0402                               | X7R   | 104  | K   | E   | NT9  | 1  | (D)                      | #N2             |
|-----------|------------------------------------|---|--|---|---|--|--|--------------------------|-----------------|
| Prefix    | Size                               | Dielectric                                  | Capacitance Code   | Tolerance Code  | Voltage Code  | Termination Code   | Packaging Code   | Design-In Code           | Suffix          |
| SR*<br>HR | See Page 3 (Other Sizes Available) | X7R<br>NPO<br>(Other Dielectrics Available) | Two significant figures followed by the number of zeros.<br>Example:<br>R05 = 0.05pF<br>0R1 = 0.1 pF<br>1R0 = 1.0 pF<br>100 = 10 pF<br>101 = 100 pF<br>102 = 1000 pF<br>103 = .01 µF<br>104 = .10 µF<br>105 = 1.0 µF | A = ± .05pF < 10pF<br>B = ± .10pF < 10pF<br>C = ± .25pF < 10pF<br>D = ± .50pF < 10pF<br>E = ± 0.5% ≥ 10pF<br>F = ± 1% ≥ 10pF<br>G = ± 2% ≥ 10pF<br>J = ± 5% ≥ 10pF<br>K = ± 10%<br>L = -10% / +20%<br>M = ± 20% | I = 4 VDC<br>B = 5 VDC<br>E = 10 VDC<br>F = 12 VDC<br>G = 16 VDC<br>1 = 25 VDC<br>2 = 50 VDC<br>3 = 100 VDC<br>4 = 200 VDC<br><b>Other Voltages Available</b><br>Examples: 63, 75, 150, 250 VDC, etc. | NT9 = <b>Plated SnPb over Ni</b> (4% Pb Min.)<br>C = <b>Plated SnPb over Ni</b> (4% Pb Min.)<br>P = <b>PdAg</b> (Thick Film)<br>H = <b>100% Au</b> (Thick Film)<br>NG* = <b>Plated Au over Ni</b><br>P & H are non-magnetic<br>*Primarily for legacy parts | 1 = Reel, 7", plastic tape, unmarked<br>2 = Reel, 7", plastic tape, marked<br>5 = Waffle, unmarked<br>6 = Waffle, marked<br><br><b>Marking Available for Size 0805 &amp; Larger (extra cost)</b> | See Back Page (Optional) | N1*<br>N2<br>N3 |

\*SR prefix is used with #N1 suffix only.



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