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Innovative Service Around the Globe YAGEO

# DATA SHEET

## SURFACE-MOUNT CERAMIC MULTILAYER CAPACITORS

High-voltage SC type: NP0/X7R

X1/Y2 & X2

**10pF to 56nF**



Product Specification – April 14, 2025 V.1

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## SCOPE

This specification describes safety certification NP0/X7R series chip capacitors with lead-free terminations.

## APPLICATIONS

- PCs, Notebook
- Networking
- Power supplies

## FEATURES

- Supplied in tape on reel
- Nickel-barrier end termination
- RoHS compliant
- Halogen Free compliant

## MARKING

- SC: Safety Cap
- ST: Safety Cap with Soft-Termination




## ORDERING INFORMATION - GLOBAL PART NUMBER, PHYCOMP CTC & I2NC

All part numbers are identified by the series, size, tolerance, TC material, packing style, voltage, process code, termination and capacitance value.

**YAGEO BRAND ordering codes**

**GLOBAL PART NUMBER (PREFERRED)**

| XX | XXXX | X | X | XXX | X | B | X | XXX |
|---|---|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | | (7) | (8) |

### (1) SERIES

SC : Safety Capacitor

ST : Safety Capacitor with Soft-Termination

### (2) SIZE – INCH BASED (METRIC)

1808 (4520)

1812(4532)

2211 (5728)

2220 (5750)

### (3) TOLERANCE

J = ± 5%

K = ± 10%

M = ± 20%

### (4) PACKING STYLE

K = Blister taping reel; Reel 7 inch

### (5) TC MATERIAL

NPO

X7R

### (6) IMPULSE VOLTAGE

W = X1/Y2 Series for TUV/UL

T = X2 Series for TUV/UL

### (7) PROCESS

N = NP0

B = Class 2 product

### (8) CAPACITANCE VALUE

2 significant digits+number of zeros

The 3rd digit signifies the multiplying factor, and letter R is decimal point

Example: 121 = $12 \times 10^1$ = 120 pF

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## CONSTRUCTION

The capacitor consists of a rectangular block of ceramic dielectric in which a number of interleaved metal electrodes are contained. This structure gives rise to a high capacitance per unit volume.

The inner electrodes are connected to the two end terminations and finally covered with a layer of plated tin (NiSn). The terminations are lead-free. A cross section of the structure is shown in Fig.1.

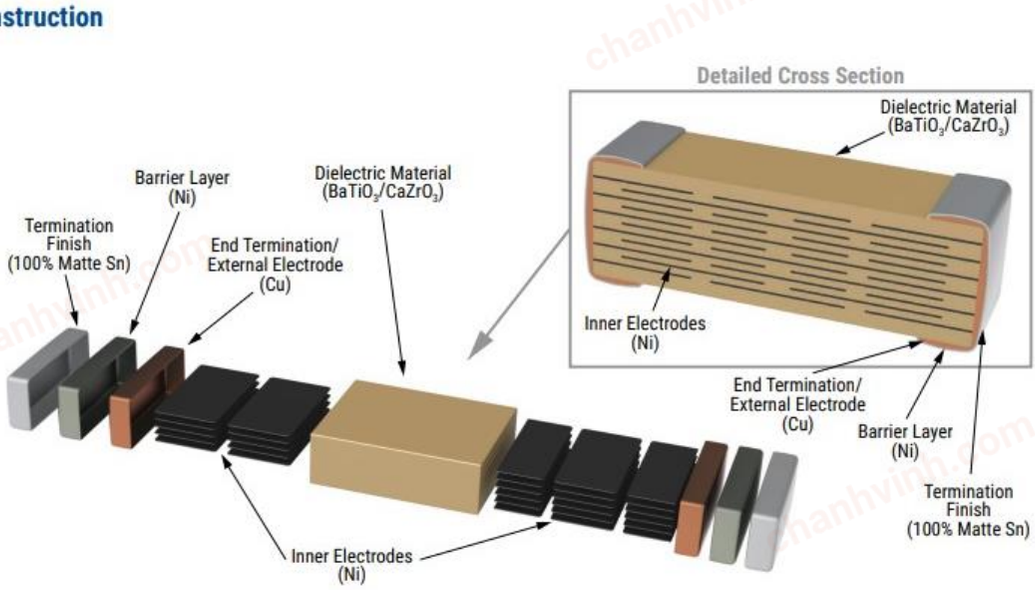



Fig. 1 Surface mounted multilayer ceramic capacitor construction

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## DIMENSION

Table 1 For outlines see fig. 2

| TYPE | L1 (MM) | W (MM) | T (MM) | L2 / L3(MM) | | L4(MM) | DIMENSION |
|---|---|---|---|---|---|---|---|
| | | | | MIN. | MAX. | MIN. | CODE |
| 1808 | 4.5+0.6/-0.3 | 2.0 ±0.30 | 1.25 ±0.20 | 0.25 | 0.40 | 4.0 | HA |
| | 4.5+0.6/-0.3 | 2.0 ±0.30 | 1.6 ±0.20 | 0.25 | 0.40 | 4.0 | HC |
| | 4.5+0.6/-0.3 | 2.0 ±0.30 | 2.0 ±0.20 | 0.25 | 0.40 | 4.0 | HD |
| | 4.5+0.9/-0.3 | 2.0 ±0.40 | 1.25 ±0.20 | 0.25 | 0.40 | 4.0 | HE |
| | 4.5+0.9/-0.3 | 2.0 ±0.40 | 1.6 ±0.20 | 0.25 | 0.40 | 4.0 | HG |
| | 4.5+0.9/-0.3 | 2.0 ±0.40 | 2.0 ±0.20 | 0.25 | 0.40 | 4.0 | HI |
| 1812 | 4.5+0.6/-0.3 | 3.2 ±0.30 | 1.25 ±0.20 | 0.25 | 0.75 | 4.0 | IA |
| | 4.5+0.6/-0.3 | 3.2 ±0.30 | 1.6 ±0.20 | 0.25 | 0.75 | 4.0 | IB |
| | 4.5+0.6/-0.3 | 3.2 ±0.30 | 2.0 ±0.20 | 0.25 | 0.75 | 4.0 | IC |
| | 4.5+0.9/-0.3 | 3.2 ±0.40 | 1.25 ±0.20 | 0.25 | 0.75 | 4.0 | ID |
| | 4.5+0.9/-0.3 | 3.2 ±0.40 | 1.6 ±0.20 | 0.25 | 0.75 | 4.0 | IE |
| | 4.5+0.9/-0.3 | 3.2 ±0.40 | 2.0 ±0.20 | 0.25 | 0.75 | 4.0 | IF |
| 2211 | 5.7 ±0.40 | 2.8 ±0.30 | 1.6 ±0.20 | 0.3 | 0.75 | 4.0 | GA |
| | 5.7 ±0.40 | 2.8 ±0.30 | 2.0 ±0.20 | 0.3 | 0.75 | 4.0 | GB |
| | 5.7 ±0.40 | 2.8 ±0.30 | 2.5 ±0.30 | 0.3 | 0.75 | 4.0 | GC |
| | 5.7 ±0.40 | 2.8 ±0.30 | 2.8 ±0.30 | 0.3 | 0.75 | 4.0 | GD |
| | 5.7 ±0.50 | 2.8 ±0.40 | 1.6 ±0.20 | 0.3 | 0.75 | 4.0 | GE |
| | 5.7 ±0.50 | 2.8 ±0.40 | 2.0 ±0.20 | 0.3 | 0.75 | 4.0 | GF |
| | 5.7 ±0.50 | 2.8 ±0.40 | 2.5 ±0.30 | 0.3 | 0.75 | 4.0 | GG |
| | 5.7 ±0.50 | 2.8 ±0.40 | 2.8 ±0.30 | 0.3 | 0.75 | 4.0 | GH |
| 2220 | 5.7 ±0.40 | 5.0 ±0.40 | 2.0 ±0.20 | 0.3 | 0.75 | 4.0 | KB |
| | 5.7 ±0.40 | 5.0 ±0.40 | 2.5 ±0.30 | 0.3 | 0.75 | 4.0 | KC |
| | 5.7 ±0.40 | 5.0 ±0.40 | 2.8 ±0.30 | 0.3 | 0.75 | 4.0 | KD |
| | 5.7 ±0.50 | 5.0 ±0.40 | 2.0 ±0.20 | 0.3 | 0.75 | 4.0 | KF |
| | 5.7 ±0.50 | 5.0 ±0.40 | 2.5 ±0.30 | 0.3 | 0.75 | 4.0 | KG |
| | 5.7 ±0.50 | 5.0 ±0.40 | 2.8 ±0.30 | 0.3 | 0.75 | 4.0 | KH |

## OUTLINES

For dimension see Table 1

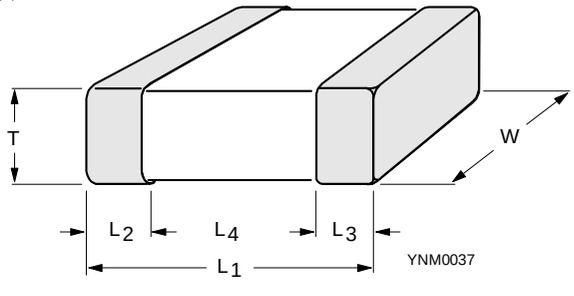



Fig. 2 Surface mounted multilayer ceramic capacitor dimension

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## CAPACITANCE RANGE & THICKNESS FOR NP0 X1/Y2

Table 2 Sizes from 1808

| CAP. | SC 1808, NPO | | ST 1808, NPO | |
|---|---|---|---|---|
| | X1/Y2 | X2 | X1/Y2 | X2 |
| 10 pF | HA | HA | HE | HE |
| 12 pF | HA | HA | HE | HE |
| 15 pF | HA | HA | HE | HE |
| 18 pF | HA | HA | HE | HE |
| 22 pF | HA | HA | HE | HE |
| 27 pF | HC | HC | HG | HG |
| 33 pF | HC | HC | HG | HG |
| 39 pF | HC | HC | HG | HG |
| 47 pF | HC | HC | HG | HG |
| 56 pF | HC | HC | HG | HG |
| 68 pF | HC | HC | HG | HG |
| 82 pF | HC | HC | HG | HG |
| 100 pF | HD | HD | HI | HI |
| 120 pF | HD | HD | HI | HI |
| 150 pF | HD | HD | HI | HI |
| 180 pF | HD | HD | HI | HI |
| 220 pF | HD | HD | HI | HI |
| 270 pF | HD | HD | HI | HI |
| 330 pF | HD | HD | HI | HI |
| 390 pF | | HD | | HI |
| 470 pF | | HD | | HI |
| 560 pF | | HD | | HI |
| 680 pF | | HD | | HI |
| 820 pF | | HD | | HI |
| 1 nF | | HD | | HI |

Table 3

| CASE SIZE | L (MM) | W (MM) | T (MM) | DIMENSION CODE |
|---|---|---|---|---|
| 1808 | 4.5+0.6/-0.3 | 2.0 ±0.30 | 1.25 ±0.20 | HA |
| | 4.5+0.6/-0.3 | 2.0 ±0.30 | 1.6 ±0.20 | HC |
| | 4.5+0.6/-0.3 | 2.0 ±0.30 | 2.0 ±0.20 | HD |
| | 4.5+0.9/-0.3 | 2.0 ±0.40 | 1.25 ±0.20 | HE |
| | 4.5+0.9/-0.3 | 2.0 ±0.40 | 1.6 ±0.20 | HG |
| | 4.5+0.9/-0.3 | 2.0 ±0.40 | 2.0 ±0.20 | HI |

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## CAPACITANCE RANGE & THICKNESS FOR X7R X1/Y2 AND X2

Table 4 Sizes from 1808 to 2220

| CAP. | SC 1808, X7R X1/Y2 | X2 | ST 1808, X7R X1/Y2 | X2 | SC 1812, X7R X2 | ST 1812, X7R X2 | SC 2211, X7R X1/Y2 | ST 2211, X7R X1/Y2 | SC 2220, X7R X1/Y2 | X2 | ST 2220, X7R X1/Y2 | X2 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 100 pF | HC | | HG | | | | GA | GE | KB | | KF | |
| 120 pF | HC | | HG | | | | GA | GE | KB | | KF | |
| 150 pF | HC | HA | HG | HE | | | GA | GE | KB | | KF | |
| 180 pF | HC | HA | HG | HE | | | GA | GE | KB | | KF | |
| 220 pF | HC | HA | HG | HE | | | GA | GE | KB | | KF | |
| 270 pF | HD | HA | HI | HE | | | GA | GE | KB | | KF | |
| 330 pF | HD | HA | HI | HE | IA | ID | GA | GE | KB | | KF | |
| 390 pF | HD | HA | HI | HE | IA | ID | GA | GE | KB | | KF | |
| 470 pF | HD | HA | HI | HE | IA | ID | GB | GF | KB | | KF | |
| 560 pF | HD | HA | HI | HE | IA | ID | GB | GF | KB | | KF | |
| 680 pF | HD | HA | HI | HE | IA | ID | GB | GF | KB | | KF | |
| 820 pF | HD | HA | HI | HE | IA | ID | GB | GF | KB | | KF | |
| 1.0 nF | HD | HA | HI | HE | IA | ID | GC | GG | KB | | KF | |
| 1.2 nF | | HA | | HE | IA | ID | GC | GG | KC | | KG | |
| 1.5 nF | | HA | | HE | IA | ID | GC | GG | KC | | KG | |
| 1.8 nF | | HA | | HE | IA | ID | GC | GG | KC | | KG | |
| 2.2 nF | | HA | | HE | IA | ID | GC | GG | KC | | KG | |
| 2.7 nF | | | | | IA | ID | GD | GH | KC | | KG | |
| 3.3 nF | | | | | IA | ID | | | KC | | KG | |
| 3.9 nF | | | | | IA | ID | | | KC | | KG | |
| 4.7 nF | | | | | IB | IE | | | KC | | KG | |
| 5.6 nF | | | | | | | | | | | | |
| 6.8 nF | | | | | | | | | | | | |
| 8.2 nF | | | | | | | | | | | | |
| 10 nF | | | | | | | | | | KC | | KG |
| 12 nF | | | | | | | | | | KC | | KG |
| 15 nF | | | | | | | | | | KC | | KG |
| 18 nF | | | | | | | | | | KC | | KG |
| 22 nF | | | | | | | | | | KD | | KH |
| 27 nF | | | | | | | | | | KD | | KH |
| 33 nF | | | | | | | | | | KD | | KH |
| 39 nF | | | | | | | | | | KD | | KH |
| 47 nF | | | | | | | | | | KD | | KH |
| 56 nF | | | | | | | | | | KD | | KH |

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Table 5

| CASE SIZE | L (MM) | W (MM) | T (MM) | DIMENSION CODE |
|---|---|---|---|---|
| 1808 | 4.5+0.6/-0.3 | 2.0 ±0.30 | 1.25 ±0.20 | HA |
| | 4.5+0.6/-0.3 | 2.0 ±0.30 | 1.6 ±0.20 | HC |
| | 4.5+0.6/-0.3 | 2.0 ±0.30 | 2.0 ±0.20 | HD |
| | 4.5+0.9/-0.3 | 2.0 ±0.40 | 1.25 ±0.20 | HE |
| | 4.5+0.9/-0.3 | 2.0 ±0.40 | 1.6 ±0.20 | HG |
| | 4.5+0.9/-0.3 | 2.0 ±0.40 | 2.0 ±0.20 | HI |
| 1812 | 4.5+0.6/-0.3 | 3.2 ±0.30 | 1.25 ±0.20 | IA |
| | 4.5+0.6/-0.3 | 3.2 ±0.30 | 1.6 ±0.20 | IB |
| | 4.5+0.6/-0.3 | 3.2 ±0.30 | 2.0 ±0.20 | IC |
| | 4.5+0.9/-0.3 | 3.2 ±0.40 | 1.25 ±0.20 | ID |
| | 4.5+0.9/-0.3 | 3.2 ±0.40 | 1.6 ±0.20 | IE |
| | 4.5+0.9/-0.3 | 3.2 ±0.40 | 2.0 ±0.20 | IF |
| 2211 | 5.7 ±0.40 | 2.8 ±0.30 | 1.6 ±0.20 | GA |
| | 5.7 ±0.40 | 2.8 ±0.30 | 2.0 ±0.20 | GB |
| | 5.7 ±0.40 | 2.8 ±0.30 | 2.5 ±0.30 | GC |
| | 5.7 ±0.40 | 2.8 ±0.30 | 2.8 ±0.30 | GD |
| | 5.7 ±0.50 | 2.8 ±0.40 | 1.6 ±0.20 | GE |
| | 5.7 ±0.50 | 2.8 ±0.40 | 2.0 ±0.20 | GF |
| | 5.7 ±0.50 | 2.8 ±0.40 | 2.5 ±0.30 | GG |
| | 5.7 ±0.50 | 2.8 ±0.40 | 2.8 ±0.30 | GH |
| 2220 | 5.7 ±0.40 | 5.0 ±0.40 | 2.0 ±0.20 | KB |
| | 5.7 ±0.40 | 5.0 ±0.40 | 2.5 ±0.30 | KC |
| | 5.7 ±0.40 | 5.0 ±0.40 | 2.8 ±0.30 | KD |
| | 5.7 ±0.50 | 5.0 ±0.40 | 2.0 ±0.20 | KF |
| | 5.7 ±0.50 | 5.0 ±0.40 | 2.5 ±0.30 | KG |
| | 5.7 ±0.50 | 5.0 ±0.40 | 2.8 ±0.30 | KH |

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## THICKNESS CLASSES AND PACKING QUANTITY

Table 6

| DESCRIPTION | SIZE CODE | THICKNESS CLASSIFICATION (mm) | 12 mm TAPE WIDTH /AMOUNT PER REEL Ø180 mm, 7" Blister |
|---|---|---|---|
| Safety Certification Capacitor | 1808 | 1.25 ±0.20 | 3,000 |
| | | 1.6 ±0.20 | 2,000 |
| | | 2.0 ±0.20 | 2,000 |
| | 1812 | 1.25 ±0.20 | 1,000 |
| | | 1.6 ±0.20 | 1,000 |
| | | 2.0 ±0.20 | 1,000 |
| | 2211 | 1.6 ±0.20 | 1,000 |
| | | 2.0 ±0.20 | 1,000 |
| | | 2.5 ±0.30 | 500 |
| | | 2.8 ±0.30 | 500 |
| | 2220 | 2.0 ±0.20 | 1,000 |
| | | 2.5 ±0.30 | 500 |
| | | 2.8 ±0.30 | 500 |

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## ELECTRICAL CHARACTERISTICS

### NP0/X7R DIELECTRIC CAPACITORS; NISN TERMINATIONS

Unless otherwise stated all electrical values apply at an ambient temperature of 20±1 °C, an atmospheric pressure of 86 to 106 kPa, and a relative humidity of 63 to 67%.

Table 7

| DESCRIPTION | | VALUE |
|---|---|---|
| Capacitance range | | 10pF to 56nF |
| Capacitance tolerance | | |
| NP0 | C < 10 pF | ±0.25 pF, ±0.5 pF |
| | C ≥ 10 pF | ±5% |
| X7R | | ±10% |
| Dissipation factor (D.F.) | | |
| NP0 | C < 30 pF | ≤ 1 / ( 400 + 20C ) |
| | C ≥ 30 pF | ≤ 0.1 % |
| X7R | | ≤ 2.5 % |
| Insulation resistance after 1 minute at $U_r$ (DC) | | $R_{ins}$ ≥ 10 GΩ or $R_{ins}$ × C ≥ 500 seconds whichever is less |
| Maximum capacitance change as a function of temperature (temperature characteristic/coefficient): | | |
| NP0 | | ±30 ppm/°C |
| X7R | | ±15% |
| Operating temperature range: NP0/X7R | | –55 °C to +125 °C |

### CAPACITOR REQUIREMENT

Table 8

| SAFETY RATING | VOLTAGE RATING | WITHSTANDING VOLTAGE | IMPULSE VOLTAGE |
|---|---|---|---|
| X1 | 250 VAC | 1,500 VAC | 4,000 V |
| X2 | 250 VAC | 1,500 VAC | 2,500 V |
| Y2 | 250 VAC | 1,500 VAC | 5,000 V |

## SOLDERING RECOMMENDATION

Table 9

| SOLDERING METHOD | SIZE 0402 | 0603 | 0805 | 1206 | ≥ 1210 |
|---|---|---|---|---|---|
| Reflow | ≥ 0.1μF | ≥ 1.0 μF | ≥ 2.2 μF | ≥ 4.7 μF | Reflow only |
| Reflow/Wave | < 0.1μF | < 1.0 μF | < 2.2 μF | < 4.7 μF | --- |

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## TESTS AND REQUIREMENTS

Table 10 Test procedures and requirements

| TEST | TEST METHOD | | PROCEDURE | REQUIREMENTS |
|---|---|---|---|---|
| Mounting | IEC 60384-21/22 | 4.3 | The capacitors may be mounted on printed-circuit boards or ceramic substrates | No visible damage |
| Visual Inspection and Dimension Check | | 4.4 | Any applicable method using × 10 magnification | In accordance with specification |
| Capacitance | | 4.5.1 | NP0:<br>f = 1 MHz for C ≤ 1 nF, measuring at voltage 1 $V_{rms}$ at 20 °C;<br>f = 1 KHz for C > 1 nF, measuring at voltage 1 $V_{rms}$ at 20 °C<br>X7R:<br>f = 1 KHz for C ≤ 10 μF, measuring at voltage 1 $V_{rms}$ at 20 °C | Within specified tolerance |
| Dissipation Factor (D.F.) | | 4.5.2 | NP0:<br>f = 1 MHz for C ≤ 1 nF, measuring at voltage 1 $V_{rms}$ at 20 °C;<br>f = 1 KHz for C > 1 nF, measuring at voltage 1 $V_{rms}$ at 20 °C<br>X7R:<br>f = 1 KHz for C ≤ 10 μF, measuring at voltage 1 $V_{rms}$ at 20 °C | In accordance with specification |
| Insulation Resistance | | 4.5.3 | To apply 500 V max for 60 seconds | In accordance with specification |

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| TEST | TEST METHOD | PROCEDURE | REQUIREMENTS |
|---|---|---|---|
| Temperature Characteristic | 4.6 | Capacitance shall be measured by the steps shown in the following table.<br>The capacitance change should be measured after 5 min at each specified temperature stage.<br>Step / Temperature(°C): a 25±2; b Lower temperature±3°C; c 25±2; d Upper Temperature±2°C; e 25±2<br>(1) Class I<br>Temperature Coefficient shall be calculated from the formula as below<br>Temp, Coefficient = $\frac{C2-C1}{C1\times\Delta T}\times10^6$ [ppm/°C]<br>C1: Capacitance at step c<br>C2: Capacitance at 125°C<br>ΔT: 100°C (=125°C -25°C)<br>(2) Class II<br>Capacitance Change shall be calculated from the formula as below<br>$\Delta C = \frac{C2-C1}{C1}\times 100\%$<br>C1: Capacitance at step c<br>C2: Capacitance at step b or d | Class1:<br>Δ C/C: ±30ppm<br>Class2:<br>X7R: Δ C/C: ±15% |
| Adhesion | 4.15 | a. A force applied for 10 seconds to the line joining the terminations and in a plane parallel to the substrate<br>for size ≥ 0603 : a force of 5N applied<br>b. A force applied until broken<br>For size ≥ 0603: ≥ 5N | No visible damage |
| Bending | IEC 60384-21/22 4.8 | Mounting in accordance with IEC 60384-22 paragraph 4.3<br>Conditions: bending 1 mm at a rate of 1 mm/s, radius jig 5 mm | No visible damage<br>ΔC/C<br>NP0: ≤ 1% or 0.5 pF whichever is greater<br>X7R: ≤ 10% |
| Resistance to Soldering Heat | 4.9 | Precondition: 150 +0/–10 °C for 1 hour, then keep for 24 ±1 hours at room temperature<br>Preheating: for size ≤ 1206: 120 °C to 150 °C for 1 minute<br>Preheating: for size >1206: 100 °C to 120 °C for 1 minute and 170 °C to 200 °C for 1 minute<br>Solder bath temperature: 260 ±5 °C<br>Dipping time: 10 ±0.5 seconds<br>Recovery time: 24 ±2 hours | The termination shall be well tinned<br>ΔC/C<br>NP0: ≤ 0.5% or 0.5 pF whichever is greater<br>X7R: ≤ 10%<br>D.F. within initial specified value<br>$R_{ins}$ within initial specified value |

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| TEST | TEST METHOD | PROCEDURE | REQUIREMENTS |
|---|---|---|---|
| Solderability | 4.10 | Unmounted chips completely immersed in a solder bath at 235 ±5 °C<br>Dipping time: 2 ±0.5 seconds<br>Depth of immersion: 10 mm | The termination shall be well tinned |
| Damp Heat with $U_r$ Load | 4.13 | Initial measurements; after 150 +0/-10 °C for 1 hour, then keep for 24 ±1 hours at room temperature<br>Duration and conditions: 500 ±12 hours at 40 ±2 °C;<br>90 to 95% RH; 1.0 Ur applied<br>Final measurement: perform a heat treatment at 150 +0/–10 °C for 1 hour, final measurements shall be carried out 24 ±1 hours after recovery at room temperature without load | ΔC/C<br>NP0: ≤ 2% or 1 pF whichever is greater<br>X7R: ≤ 15%<br>D.F.<br>NP0: ≤ 2 x specified value<br>X7R: ≥ 100V: ≤ 5%<br>Rins<br>NP0: ≥ 2,500 MΩ or Rins x Cr ≥ 25s whichever is less<br>X7R: ≥ 500 MΩ or Rins x Cr ≥ 25s whichever is less |
| Endurance | EN132400 4.14 SC | Impulse Voltage :<br>Each individual capacitor shall be subjected to a Vp = 5.0KV (X1Y2 Class Impulse 5KV) or Vp = 2.5KV (X2 Class Impulse 2.5KV) impulse for three times before applied to endurance test.<br>* Test temp. : 125±3°C.<br>* Test time : 1000 +48/-0 hrs.<br>* Applied voltage :<br>X capacitor : 1.25UR (312.5Vac).<br>Y capacitor : 1.70UR (425Vac).<br>Once every hour the voltage shall be increased to 1000Vrms for 0.1 sec.<br>* Measurement to be made after keeping at room temp. for 24±2 hrs (Class I) and 48±4 hrs (Class II). | Visual examination<br>DC/C < ± 20%<br>Voltage proof<br>IR > 3 x10E9 Ω |
| Robustness of Termination (Pull Strength) | 4.3 SC | a. A force applied for 10 sec to the line joining the terminations and in a plane parallel to the substrate.<br>b. A force applied until broken | a. No visible damage<br>b. Force<br>size ≥ 0603: ≥ 5N |
| Voltage Proof | 4.2.1 SC | X capacitor: Applied voltage 1.075K VDC (4.3 Ur)<br>Y capacitor: Applied voltage 1.5K VAC | No breakdown or flashover |

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## REVISION HISTORY

| REVISION | DATE | CHANGE NOTIFICATION | DESCRIPTION |
|---|---|---|---|
| Version 1 | Apr. 14, 2025 | - | - Add NPO, 1808, X2 Series |
| Version 0 | May 21, 2024 | - | - New datasheet for high voltage NP0/X7R series with lead-free terminations |

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