



MULTILAYER CERAMIC CHIP CAPACITORS



C Series General Application

Type: C0402 [EIA CC01005]
C0603 [EIA CC0201]
C1005 [EIA CC0402]
C1608 [EIA CC0603]
C2012 [EIA CC0805]
C3216 [EIA CC1206]
C3225 [EIA CC1210]
C4532 [EIA CC1812]
C5750 [EIA CC2220]

Issue date: April 2011



**TDK MLCC
US Catalog**

Version B11

REMINDERS

Please read before using this product

SAFETY REMINDERS



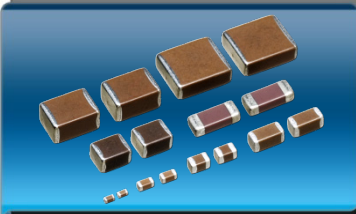
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C Series General Application

Type: C0402, C0603, C1005, C1608,
C2012, C3216, C3225, C4532, C5750



Features



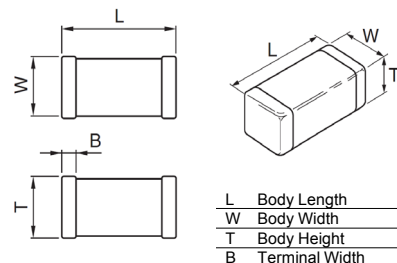
- High capacitance has been achieved through precision technologies that enable the use of multiple thinner ceramic dielectric layers.
- A monolithic structure ensures superior mechanical strength and reliability.
- High-accuracy automatic mounting is facilitated through the maintenance of very precise dimensional tolerances.
- Composed of only ceramics and metals, these capacitors provide extremely dependable performance, exhibiting virtually no degradation even when subjected to temperature extremes.
- Low stray capacitance ensures high conformity with nominal values, thereby simplifying the circuit design process.
- Low residual inductance assures superior frequency characteristics.
- Because electrostatic capacity has been obtained up to the electrolytic capacitor range, these capacitors offer long service life and are optimally suited for power supply designs that require high levels of reliability.
- Owing to their low ESR and excellent frequency characteristics, these products are optimally suited for high frequency and high-density type power supplies.

Applications



- Electronics equipment
- Mobile communications equipment
- Office automation equipment
- Automotive electronics
- Test and measurement equipment
- Hybrid ICs, etc.
- Decoupling
- Smoothing
- Charge pump

Shape & Dimensions



Dimensions in mm

| | |
|---|----------------|
| L | Body Length |
| W | Body Width |
| T | Body Height |
| B | Terminal Width |

Part Number Construction

Series Name **C 2012 X7R 1E 105 K T XXXX**

Dimensions L x W (mm)

| Case Code | Length | Width |
|-----------|-------------|-------------|
| C0402 | 0.40 ± 0.02 | 0.20 ± 0.02 |
| C0603 | 0.60 ± 0.03 | 0.30 ± 0.03 |
| C1005 | 1.00 ± 0.05 | 0.50 ± 0.05 |
| C1608 | 1.60 ± 0.10 | 0.80 ± 0.10 |
| C2012 | 2.00 ± 0.20 | 1.25 ± 0.20 |
| C3216 | 3.20 ± 0.20 | 1.60 ± 0.20 |
| C3225 | 3.20 ± 0.40 | 2.50 ± 0.30 |
| C4532 | 4.50 ± 0.40 | 3.20 ± 0.40 |
| C5750 | 5.70 ± 0.40 | 5.00 ± 0.40 |

Temperature Characteristic

| Temperature Characteristics | Capacitance Change | Temperature Range |
|-----------------------------|--------------------|-------------------|
| C0G | 0±30 ppm/°C | -55 to +125°C |
| SL | +350/-1000 ppm/°C | -25 to +85°C |
| X5R | ±15% | -55 to +85°C |
| X6S | +22% | -55 to +105°C |
| X7R | ±15% | -55 to +125°C |
| X7S | +22% | -55 to +125°C |
| Y5V | +22/-82% | -33 to +85°C |

Rated Voltage (DC)

| Voltage Code | Voltage (DC) | Voltage Code | Voltage (DC) | Voltage Code | Voltage (DC) |
|--------------|--------------|--------------|--------------|--------------|--------------|
| 0G | 4V | 1C | 16V | 1H | 50V |
| 0J | 6.3V | 1E | 25V | | |
| 1A | 10V | 1V | 35V | | |

Internal Codes

Packaging Style

| Packaging Code | Style |
|----------------|-------------|
| T | Tape & Reel |

Capacitance Tolerance

| Tolerance Code | Tolerance |
|----------------|-----------|
| W | ± 0.05 pF |
| B | ± 0.10 pF |
| C | ± 0.25 pF |
| D | ± 0.50 pF |
| E | ± 0.20 pF |
| G | ± 2% |
| J | ± 5% |
| K | ± 10% |
| M | ± 20% |
| Z | +80-20% |

Nominal Capacitance (pF)

The capacitance is expressed in three digit codes and in units of pico Farads (pF). The first and second digits identify the first and second significant figures of the capacitance. The third digit identifies the multiplier. R designates a decimal point.

| Capacitance Code | Capacitance |
|------------------|-------------------|
| 0R5 | 0.5pF |
| 010 | 1pF |
| 102 | 1,000pF (1nF) |
| 105 | 1,000,000pF (1µF) |



Capacitance Range Chart

C0402 [EIA CC01005]

Capacitance Range Chart

Temperature Characteristics: C0G ($0 \pm 30\text{ppm}/^\circ\text{C}$)
 Rated Voltage: 16V (1C)

| Capacitance (pF) | Cap Code | Tolerance | C0G |
|------------------|----------|------------------------|----------|
| | | | 1C (16V) |
| 0.1 | 0R1 | W: $\pm 0.05\text{pF}$ | |
| 0.2 | 0R2 | B: $\pm 0.10\text{pF}$ | |
| 0.3 | 0R3 | C: $\pm 0.25\text{pF}$ | |
| 0.4 | 0R4 | D: $\pm 0.50\text{pF}$ | |
| 0.5 | 0R5 | | |
| 0.6 | 0R6 | | |
| 0.7 | 0R7 | | |
| 0.8 | 0R8 | | |
| 0.9 | 0R9 | | |
| 1 | 010 | | |
| 1.1 | 1R1 | | |
| 1.2 | 1R2 | | |
| 1.3 | 1R3 | | |
| 1.5 | 1R5 | | |
| 1.6 | 1R6 | | |
| 1.8 | 1R8 | | |
| 2 | 020 | | |
| 2.2 | 2R2 | | |
| 2.4 | 2R4 | | |
| 2.7 | 2R7 | | |
| 3 | 030 | | |
| 3.3 | 3R3 | | |
| 3.6 | 3R6 | | |
| 3.9 | 3R9 | | |
| 4.3 | 4R3 | | |
| 4.7 | 4R7 | | |
| 5.1 | 5R1 | | |
| 5.6 | 5R6 | | |
| 6.2 | 6R2 | | |

| Capacitance (pF) | Cap Code | Tolerance | C0G |
|------------------|----------|------------------------|----------|
| | | | 1C (16V) |
| 6.8 | 6R8 | B: $\pm 0.10\text{pF}$ | |
| 7.5 | 7R5 | E: $\pm 0.20\text{pF}$ | |
| 8.2 | 8R2 | C: $\pm 0.25\text{pF}$ | |
| 9.1 | 9R1 | D: $\pm 0.50\text{pF}$ | |
| 10 | 100 | G: $\pm 2\%$ | |
| 11 | 110 | J: $\pm 5\%$ | |
| 12 | 120 | | |
| 13 | 130 | | |
| 15 | 150 | | |
| 16 | 160 | | |
| 18 | 180 | | |
| 20 | 200 | | |
| 22 | 220 | | |
| 24 | 240 | | |
| 27 | 270 | | |
| 30 | 300 | | |
| 33 | 330 | | |
| 36 | 360 | | |
| 39 | 390 | | |
| 43 | 430 | | |
| 47 | 470 | | |
| 51 | 510 | | |
| 56 | 560 | | |
| 62 | 620 | | |
| 68 | 680 | | |
| 75 | 750 | | |
| 82 | 820 | | |
| 91 | 910 | | |
| 100 | 101 | | |

• Standard capacitance is shown. Please refer to Capacitance Range Table for additional capacitance values.

Capacitance Range Chart

Temperature Characteristics: X7R ($\pm 15\%$), X5R ($\pm 15\%$)
 Rated Voltage: 16V (1C), 10V (1A), 6.3V (0J)

| Capacitance (pF) | Cap Code | Tolerance | X7R | | X5R | |
|------------------|----------|---------------|----------|----------|----------|-----------|
| | | | 1A (10V) | 1C (16V) | 1A (10V) | 0J (6.3V) |
| 100 | 101 | K: $\pm 10\%$ | | | | |
| 150 | 151 | | | | | |
| 220 | 221 | | | | | |
| 330 | 331 | | | | | |
| 470 | 471 | | | | | |
| 680 | 681 | | | | | |
| 1,000 | 102 | | | | | |
| 1,500 | 152 | | | | | |
| 2,200 | 222 | | | | | |
| 3,300 | 332 | | | | | |
| 4,700 | 472 | | | | | |
| 6,800 | 682 | | | | | |
| 10,000 | 103 | | | | | |

Standard Thickness

0.20 mm



Capacitance Range Table

C0402 [EIA CC01005]

Class 1 (Temperature Compensating)

Temperature Characteristics: C0G (-55 to 125°C, 0±30 ppm/°C)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C0402C0G1C0R2W | C0G | 16V | 0.2 | ± 0.05pF | 0.20 ± 0.02 |
| C0402C0G1C0R2B | C0G | 16V | 0.2 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C0R3W | C0G | 16V | 0.3 | ± 0.05pF | 0.20 ± 0.02 |
| C0402C0G1C0R3B | C0G | 16V | 0.3 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C0R4W | C0G | 16V | 0.4 | ± 0.05pF | 0.20 ± 0.02 |
| C0402C0G1C0R4B | C0G | 16V | 0.4 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C0R5W | C0G | 16V | 0.5 | ± 0.05pF | 0.20 ± 0.02 |
| C0402C0G1C0R5C | C0G | 16V | 0.5 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C0R5B | C0G | 16V | 0.5 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C0R6W | C0G | 16V | 0.6 | ± 0.05pF | 0.20 ± 0.02 |
| C0402C0G1C0R6B | C0G | 16V | 0.6 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C0R7W | C0G | 16V | 0.7 | ± 0.05pF | 0.20 ± 0.02 |
| C0402C0G1C0R7B | C0G | 16V | 0.7 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C0R8W | C0G | 16V | 0.8 | ± 0.05pF | 0.20 ± 0.02 |
| C0402C0G1C0R8B | C0G | 16V | 0.8 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C0R9W | C0G | 16V | 0.9 | ± 0.05pF | 0.20 ± 0.02 |
| C0402C0G1C0R9B | C0G | 16V | 0.9 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C010B | C0G | 16V | 1.0 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C010C | C0G | 16V | 1.0 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C1R1B | C0G | 16V | 1.1 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C1R1C | C0G | 16V | 1.1 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C1R2B | C0G | 16V | 1.2 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C1R2C | C0G | 16V | 1.2 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C1R3B | C0G | 16V | 1.3 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C1R3C | C0G | 16V | 1.3 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C1R5B | C0G | 16V | 1.5 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C1R5C | C0G | 16V | 1.5 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C1R6B | C0G | 16V | 1.6 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C1R6C | C0G | 16V | 1.6 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C1R8B | C0G | 16V | 1.8 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C1R8C | C0G | 16V | 1.8 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C020B | C0G | 16V | 2.0 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C020C | C0G | 16V | 2.0 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C2R2B | C0G | 16V | 2.2 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C2R2C | C0G | 16V | 2.2 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C2R4B | C0G | 16V | 2.4 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C2R4C | C0G | 16V | 2.4 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C2R7B | C0G | 16V | 2.7 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C2R7C | C0G | 16V | 2.7 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C030B | C0G | 16V | 3.0 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C030C | C0G | 16V | 3.0 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C3R3B | C0G | 16V | 3.3 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C3R3C | C0G | 16V | 3.3 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C3R6B | C0G | 16V | 3.6 | ± 0.10pF | 0.20 ± 0.02 |



Capacitance Range Table

C0402 [EIA CC01005]

Class 1 (Temperature Compensating)

Temperature Characteristics: C0G (-55 to 125°C, 0±30 ppm/°C)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C0402C0G1C3R6C | C0G | 16V | 3.6 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C3R9B | C0G | 16V | 3.9 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C3R9C | C0G | 16V | 3.9 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C040B | C0G | 16V | 4.0 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C040C | C0G | 16V | 4.0 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C4R3B | C0G | 16V | 4.3 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C4R3C | C0G | 16V | 4.3 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C4R7B | C0G | 16V | 4.7 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C4R7C | C0G | 16V | 4.7 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C050B | C0G | 16V | 5.0 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C050C | C0G | 16V | 5.0 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C5R1B | C0G | 16V | 5.1 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C5R1C | C0G | 16V | 5.1 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C5R1D | C0G | 16V | 5.1 | ± 0.50pF | 0.20 ± 0.02 |
| C0402C0G1C5R6B | C0G | 16V | 5.6 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C5R6C | C0G | 16V | 5.6 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C5R6D | C0G | 16V | 5.6 | ± 0.50pF | 0.20 ± 0.02 |
| C0402C0G1C060B | C0G | 16V | 6.0 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C060C | C0G | 16V | 6.0 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C060D | C0G | 16V | 6.0 | ± 0.50pF | 0.20 ± 0.02 |
| C0402C0G1C6R2B | C0G | 16V | 6.2 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C6R2C | C0G | 16V | 6.2 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C6R2D | C0G | 16V | 6.2 | ± 0.50pF | 0.20 ± 0.02 |
| C0402C0G1C6R8B | C0G | 16V | 6.8 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C6R8C | C0G | 16V | 6.8 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C6R8D | C0G | 16V | 6.8 | ± 0.50pF | 0.20 ± 0.02 |
| C0402C0G1C070B | C0G | 16V | 7.0 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C070C | C0G | 16V | 7.0 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C070D | C0G | 16V | 7.0 | ± 0.50pF | 0.20 ± 0.02 |
| C0402C0G1C7R5B | C0G | 16V | 7.5 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C7R5C | C0G | 16V | 7.5 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C7R5D | C0G | 16V | 7.5 | ± 0.50pF | 0.20 ± 0.02 |
| C0402C0G1C080B | C0G | 16V | 8.0 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C080C | C0G | 16V | 8.0 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C080D | C0G | 16V | 8.0 | ± 0.50pF | 0.20 ± 0.02 |
| C0402C0G1C8R2B | C0G | 16V | 8.2 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C8R2C | C0G | 16V | 8.2 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C8R2D | C0G | 16V | 8.2 | ± 0.50pF | 0.20 ± 0.02 |
| C0402C0G1C090B | C0G | 16V | 9.0 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C090C | C0G | 16V | 9.0 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C090D | C0G | 16V | 9.0 | ± 0.50pF | 0.20 ± 0.02 |
| C0402C0G1C9R1B | C0G | 16V | 9.1 | ± 0.10pF | 0.20 ± 0.02 |
| C0402C0G1C9R1C | C0G | 16V | 9.1 | ± 0.25pF | 0.20 ± 0.02 |
| C0402C0G1C9R1D | C0G | 16V | 9.1 | ± 0.50pF | 0.20 ± 0.02 |



Capacitance Range Table

C0402 [EIA CC01005]

Class 1 (Temperature Compensating)

Temperature Characteristics: C0G (-55 to 125°C, 0±30 ppm/°C)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C0402C0G1C100E | C0G | 16V | 10 | ± 0.20pF | 0.20 ± 0.02 |
| C0402C0G1C100D | C0G | 16V | 10 | ± 0.50pF | 0.20 ± 0.02 |
| C0402C0G1C110G | C0G | 16V | 11 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C110J | C0G | 16V | 11 | ± 5% | 0.20 ± 0.02 |
| C0402C0G1C120G | C0G | 16V | 12 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C120J | C0G | 16V | 12 | ± 5% | 0.20 ± 0.02 |
| C0402C0G1C130G | C0G | 16V | 13 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C130J | C0G | 16V | 13 | ± 5% | 0.20 ± 0.02 |
| C0402C0G1C150G | C0G | 16V | 15 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C150J | C0G | 16V | 15 | ± 5% | 0.20 ± 0.02 |
| C0402C0G1C160G | C0G | 16V | 16 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C160J | C0G | 16V | 16 | ± 5% | 0.20 ± 0.02 |
| C0402C0G1C180G | C0G | 16V | 18 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C180J | C0G | 16V | 18 | ± 5% | 0.20 ± 0.02 |
| C0402C0G1C200G | C0G | 16V | 20 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C200J | C0G | 16V | 20 | ± 5% | 0.20 ± 0.02 |
| C0402C0G1C220G | C0G | 16V | 22 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C220J | C0G | 16V | 22 | ± 5% | 0.20 ± 0.02 |
| C0402C0G1C240G | C0G | 16V | 24 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C240J | C0G | 16V | 24 | ± 5% | 0.20 ± 0.02 |
| C0402C0G1C270G | C0G | 16V | 27 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C270J | C0G | 16V | 27 | ± 5% | 0.20 ± 0.02 |
| C0402C0G1C300G | C0G | 16V | 30 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C300J | C0G | 16V | 30 | ± 5% | 0.20 ± 0.02 |
| C0402C0G1C330G | C0G | 16V | 33 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C330J | C0G | 16V | 33 | ± 5% | 0.20 ± 0.02 |
| C0402C0G1C360G | C0G | 16V | 36 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C360J | C0G | 16V | 36 | ± 5% | 0.20 ± 0.02 |
| C0402C0G1C390G | C0G | 16V | 39 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C390J | C0G | 16V | 39 | ± 5% | 0.20 ± 0.02 |
| C0402C0G1C430G | C0G | 16V | 43 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C430J | C0G | 16V | 43 | ± 5% | 0.20 ± 0.02 |
| C0402C0G1C470G | C0G | 16V | 47 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C470J | C0G | 16V | 47 | ± 5% | 0.20 ± 0.02 |
| C0402C0G1C510G | C0G | 16V | 51 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C510J | C0G | 16V | 51 | ± 5% | 0.20 ± 0.02 |
| C0402C0G1C560G | C0G | 16V | 56 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C560J | C0G | 16V | 56 | ± 5% | 0.20 ± 0.02 |
| C0402C0G1C620G | C0G | 16V | 62 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C620J | C0G | 16V | 62 | ± 5% | 0.20 ± 0.02 |
| C0402C0G1C680G | C0G | 16V | 68 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C680J | C0G | 16V | 68 | ± 5% | 0.20 ± 0.02 |
| C0402C0G1C750G | C0G | 16V | 75 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C750J | C0G | 16V | 75 | ± 5% | 0.20 ± 0.02 |



Capacitance Range Table

C0402 [EIA CC01005]

Class 1 (Temperature Compensating)

Temperature Characteristics: C0G (-55 to 125°C, 0±30 ppm/°C)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|---------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C0402C0G1C820G | C0G | 16V | 82 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C820J | C0G | 16V | 82 | ± 5% | 0.20 ± 0.02 |
| C0402C0G1C910G | C0G | 16V | 91 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C910J | C0G | 16V | 91 | ± 5% | 0.20 ± 0.02 |
| C0402C0G1C101G | C0G | 16V | 100 | ± 2% | 0.20 ± 0.02 |
| C0402C0G1C101J | C0G | 16V | 100 | ± 5% | 0.20 ± 0.02 |

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%), X5R (-55 to +85°C, ±15%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|---------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C0402X7R1A101K | X7R | 10V | 100 | ± 10% | 0.20 ± 0.02 |
| C0402X7R1A151K | X7R | 10V | 150 | ± 10% | 0.20 ± 0.02 |
| C0402X7R1A221K | X7R | 10V | 220 | ± 10% | 0.20 ± 0.02 |
| C0402X7R1A331K | X7R | 10V | 330 | ± 10% | 0.20 ± 0.02 |
| C0402X7R1A471K | X7R | 10V | 470 | ± 10% | 0.20 ± 0.02 |
| C0402X7R1A681K | X7R | 10V | 680 | ± 10% | 0.20 ± 0.02 |
| C0402X5R1C101K | X5R | 16V | 100 | ± 10% | 0.20 ± 0.02 |
| C0402X5R1C151K | X5R | 16V | 150 | ± 10% | 0.20 ± 0.02 |
| C0402X5R1C221K | X5R | 16V | 220 | ± 10% | 0.20 ± 0.02 |
| C0402X5R1C331K | X5R | 16V | 330 | ± 10% | 0.20 ± 0.02 |
| C0402X5R1C471K | X5R | 16V | 470 | ± 10% | 0.20 ± 0.02 |
| C0402X5R1C681K | X5R | 16V | 680 | ± 10% | 0.20 ± 0.02 |
| C0402X5R1A101K | X5R | 10V | 100 | ± 10% | 0.20 ± 0.02 |
| C0402X5R1A221K | X5R | 10V | 220 | ± 10% | 0.20 ± 0.02 |
| C0402X5R1A471K | X5R | 10V | 470 | ± 10% | 0.20 ± 0.02 |
| C0402X5R1A102K | X5R | 10V | 1,000 | ± 10% | 0.20 ± 0.02 |
| C0402X5R1A152K | X5R | 10V | 1,500 | ± 10% | 0.20 ± 0.02 |
| C0402X5R1A222K | X5R | 10V | 2,200 | ± 10% | 0.20 ± 0.02 |
| C0402X5R0J681K | X5R | 6.3V | 680 | ± 10% | 0.20 ± 0.02 |
| C0402X5R0J102K | X5R | 6.3V | 1,000 | ± 10% | 0.20 ± 0.02 |
| C0402X5R0J152K | X5R | 6.3V | 1,500 | ± 10% | 0.20 ± 0.02 |
| C0402X5R0J222K | X5R | 6.3V | 2,200 | ± 10% | 0.20 ± 0.02 |
| C0402X5R0J332K | X5R | 6.3V | 3,300 | ± 10% | 0.20 ± 0.02 |
| C0402X5R0J472K | X5R | 6.3V | 4,700 | ± 10% | 0.20 ± 0.02 |
| C0402X5R0J682K | X5R | 6.3V | 6,800 | ± 10% | 0.20 ± 0.02 |
| C0402X5R0J103K | X5R | 6.3V | 10,000 | ± 10% | 0.20 ± 0.02 |



Capacitance Range Chart

C0603 [EIA CC0201]

Capacitance Range Chart

Temperature Characteristics: C0G ($0 \pm 30\text{ppm}/^\circ\text{C}$)
 Rated Voltage: 50V (1H), 25V (1E)

| Capacitance (pF) | Cap Code | Tolerance | C0G | | Capacitance (pF) | Cap Code | Tolerance | C0G | |
|------------------|----------|------------------------|----------|----------|------------------|----------|------------------------|----------|----------|
| | | | 1H (50V) | 1E (25V) | | | | 1H (50V) | 1E (25V) |
| 0.2 | 0R2 | W: $\pm 0.05\text{pF}$ | | | 6.8 | 6R8 | B: $\pm 0.10\text{pF}$ | | |
| 0.3 | 0R3 | B: $\pm 0.10\text{pF}$ | | | 7.5 | 7R5 | E: $\pm 0.20\text{pF}$ | | |
| 0.4 | 0R4 | C: $\pm 0.25\text{pF}$ | | | 8.2 | 8R2 | C: $\pm 0.25\text{pF}$ | | |
| 0.5 | 0R5 | D: $\pm 0.50\text{pF}$ | | | 9.1 | 9R1 | D: $\pm 0.50\text{pF}$ | | |
| 0.6 | 0R6 | | | | 10 | 100 | G: $\pm 2\%$ | | |
| 0.7 | 0R7 | | | | 11 | 110 | J: $\pm 5\%$ | | |
| 0.75 | R75 | | | | 12 | 120 | | | |
| 0.8 | 0R8 | | | | 13 | 130 | | | |
| 0.9 | 0R9 | | | | 15 | 150 | | | |
| 1 | 010 | | | | 16 | 160 | | | |
| 1.1 | 1R1 | | | | 18 | 180 | | | |
| 1.2 | 1R2 | | | | 20 | 200 | | | |
| 1.3 | 1R3 | | | | 22 | 220 | | | |
| 1.5 | 1R5 | | | | 24 | 240 | | | |
| 1.6 | 1R6 | | | | 27 | 270 | | | |
| 1.8 | 1R8 | | | | 30 | 300 | | | |
| 2 | 020 | | | | 33 | 330 | | | |
| 2.2 | 2R2 | | | | 36 | 360 | | | |
| 2.4 | 2R4 | | | | 39 | 390 | | | |
| 2.7 | 2R7 | | | | 43 | 430 | | | |
| 3 | 030 | | | | 47 | 470 | | | |
| 3.3 | 3R3 | | | | 51 | 510 | | | |
| 3.6 | 3R6 | | | | 56 | 560 | | | |
| 3.9 | 3R9 | | | | 62 | 620 | | | |
| 4.3 | 4R3 | | | | 68 | 680 | | | |
| 4.7 | 4R7 | | | | 75 | 750 | | | |
| 5.1 | 5R1 | | | | 82 | 820 | | | |
| 5.6 | 5R6 | | | | 91 | 910 | | | |
| 6.2 | 6R2 | | | | 100 | 101 | | | |

Standard Thickness
 0.30 mm

• Standard capacitance is shown. Please refer to Capacitance Range Table for additional capacitance values.



Capacitance Range Chart

C0603 [EIA CC0201]

Capacitance Range Chart

Temperature Characteristics: X7R ($\pm 15\%$), X5R ($\pm 15\%$)
 Rated Voltage: 50V (1H), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J)

| Capacitance (pF) | Cap Code | Tolerance | X7R | | | | | X5R | | | | |
|------------------|----------|--------------------------------|----------|----------|----------|----------|-----------|----------|----------|----------|----------|-----------|
| | | | 1H (50V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 1H (50V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) |
| 100 | 101 | K: $\pm 10\%$ M: $\pm 20\%$ | █ | █ | █ | | | █ | █ | | | |
| 150 | 151 | | | | | | | | | | | |
| 220 | 221 | | | | | | | | | | | |
| 330 | 331 | | | | | | | | | | | |
| 470 | 471 | | █ | | | | | █ | | | | |
| 680 | 681 | | | █ | █ | | | | █ | | | |
| 1,000 | 102 | | | | | | | | | | | |
| 1,500 | 152 | | | | | | | | | | | |
| 2,200 | 222 | | | █ | █ | | | | | █ | | |
| 3,300 | 332 | | | | | | | | | | | |
| 4,700 | 472 | | | | | | | | | | | |
| 6,800 | 682 | | | | | | | | | | | |
| 10,000 | 103 | | | | | | | | | | | |
| 15,000 | 153 | | | | | | | | | | | |
| 22,000 | 223 | | | | | | | | | | | |
| 33,000 | 333 | | | | | | | | | | | |
| 47,000 | 473 | | | | | | | | | | | |
| 68,000 | 683 | | | | | | | | | | | |
| 100,000 | 104 | | | | | | | | | | | |
| 150,000 | 154 | | | | | | | | | █ | █ | |
| 220,000 | 224 | | | | | | | | | | | █ |

• Standard capacitance is shown. Please refer to Capacitance Range Table for additional capacitance values.

Standard Thickness
 0.30 mm



Capacitance Range Table

C0603 [EIA CC0201]

Class 1 (Temperature Compensating)

Temperature Characteristics: C0G (-55 to 125°C, 0±30 ppm/°C)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C0603C0G1H0R5B | C0G | 50V | 0.5 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1H0R5C | C0G | 50V | 0.5 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1H010B | C0G | 50V | 1.0 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1H010C | C0G | 50V | 1.0 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1H1R2C | C0G | 50V | 1.2 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1H1R5B | C0G | 50V | 1.5 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1H1R5C | C0G | 50V | 1.5 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1H1R8C | C0G | 50V | 1.8 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1H020B | C0G | 50V | 2.0 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1H020C | C0G | 50V | 2.0 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1H2R2B | C0G | 50V | 2.2 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1H2R2C | C0G | 50V | 2.2 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1H2R7C | C0G | 50V | 2.7 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1H030B | C0G | 50V | 3.0 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1H030C | C0G | 50V | 3.0 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1H3R3B | C0G | 50V | 3.3 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1H3R3C | C0G | 50V | 3.3 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1H3R9C | C0G | 50V | 3.9 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1H040B | C0G | 50V | 4.0 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1H040C | C0G | 50V | 4.0 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1H4R7B | C0G | 50V | 4.7 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1H4R7C | C0G | 50V | 4.7 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1H050B | C0G | 50V | 5.0 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1H050C | C0G | 50V | 5.0 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1H5R6C | C0G | 50V | 5.6 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1H060C | C0G | 50V | 6.0 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1H060D | C0G | 50V | 6.0 | ± 0.50pF | 0.30 ± 0.03 |
| C0603C0G1H6R8C | C0G | 50V | 6.8 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1H6R8D | C0G | 50V | 6.8 | ± 0.50pF | 0.30 ± 0.03 |
| C0603C0G1H070C | C0G | 50V | 7.0 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1H070D | C0G | 50V | 7.0 | ± 0.50pF | 0.30 ± 0.03 |
| C0603C0G1H080C | C0G | 50V | 8.0 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1H080D | C0G | 50V | 8.0 | ± 0.50pF | 0.30 ± 0.03 |
| C0603C0G1H8R2C | C0G | 50V | 8.2 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1H090C | C0G | 50V | 9.0 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1H090D | C0G | 50V | 9.0 | ± 0.50pF | 0.30 ± 0.03 |
| C0603C0G1H100C | C0G | 50V | 10 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1H100D | C0G | 50V | 10 | ± 0.50pF | 0.30 ± 0.03 |
| C0603C0G1H110J | C0G | 50V | 11 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1H120J | C0G | 50V | 12 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1H130J | C0G | 50V | 13 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1H150J | C0G | 50V | 15 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1H160J | C0G | 50V | 16 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1H180J | C0G | 50V | 18 | ± 5% | 0.30 ± 0.03 |



Capacitance Range Table

C0603 [EIA CC0201]

Class 1 (Temperature Compensating)

Temperature Characteristics: C0G (-55 to 125°C, 0±30 ppm/°C)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|--------------------------------|------------------|---------------------|--------------------------|-------------------|
| C0603C0G1H200J | C0G | 50V | 20 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1H220J | C0G | 50V | 22 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1H240J | C0G | 50V | 24 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1H270J | C0G | 50V | 27 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1H300J | C0G | 50V | 30 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1H330J | C0G | 50V | 33 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1H360J | C0G | 50V | 36 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1H390J | C0G | 50V | 39 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1H430J | C0G | 50V | 43 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1H470J | C0G | 50V | 47 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1H510J | C0G | 50V | 51 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1H560J | C0G | 50V | 56 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1H620J | C0G | 50V | 62 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1H680J | C0G | 50V | 68 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1H750J | C0G | 50V | 75 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1H820J | C0G | 50V | 82 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1H910J | C0G | 50V | 91 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1H101J | C0G | 50V | 100 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E0R2W | C0G | 25V | 0.2 | ± 0.05pF | 0.30 ± 0.03 |
| C0603C0G1E0R2B | C0G | 25V | 0.2 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E0R3W | C0G | 25V | 0.3 | ± 0.05pF | 0.30 ± 0.03 |
| C0603C0G1E0R3B | C0G | 25V | 0.3 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E0R4W | C0G | 25V | 0.4 | ± 0.05pF | 0.30 ± 0.03 |
| C0603C0G1E0R4B | C0G | 25V | 0.4 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E0R5W | C0G | 25V | 0.5 | ± 0.05pF | 0.30 ± 0.03 |
| C0603C0G1E0R5C | C0G | 25V | 0.5 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E0R5B | C0G | 25V | 0.5 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E0R6W | C0G | 25V | 0.6 | ± 0.05pF | 0.30 ± 0.03 |
| C0603C0G1E0R6B | C0G | 25V | 0.6 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E0R7W | C0G | 25V | 0.7 | ± 0.05pF | 0.30 ± 0.03 |
| C0603C0G1E0R7B | C0G | 25V | 0.7 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1ER75B | C0G | 25V | 0.75 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1ER75C | C0G | 25V | 0.75 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E0R8W | C0G | 25V | 0.8 | ± 0.05pF | 0.30 ± 0.03 |
| C0603C0G1E0R8B | C0G | 25V | 0.8 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E0R9W | C0G | 25V | 0.9 | ± 0.05pF | 0.30 ± 0.03 |
| C0603C0G1E0R9B | C0G | 25V | 0.9 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E010B | C0G | 25V | 1.0 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E010C | C0G | 25V | 1.0 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E1R1B | C0G | 25V | 1.1 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E1R1C | C0G | 25V | 1.1 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E1R2B | C0G | 25V | 1.2 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E1R2C | C0G | 25V | 1.2 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E1R3B | C0G | 25V | 1.3 | ± 0.10pF | 0.30 ± 0.03 |



Capacitance Range Table

C0603 [EIA CC0201]

Class 1 (Temperature Compensating)

Temperature Characteristics: C0G (-55 to 125°C, 0±30 ppm/°C)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C0603C0G1E1R3C | C0G | 25V | 1.3 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E1R5B | C0G | 25V | 1.5 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E1R5C | C0G | 25V | 1.5 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E1R6B | C0G | 25V | 1.6 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E1R6C | C0G | 25V | 1.6 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E1R8B | C0G | 25V | 1.8 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E1R8C | C0G | 25V | 1.8 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E020B | C0G | 25V | 2.0 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E020C | C0G | 25V | 2.0 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E2R2B | C0G | 25V | 2.2 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E2R2C | C0G | 25V | 2.2 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E2R4B | C0G | 25V | 2.4 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E2R4C | C0G | 25V | 2.4 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E2R7B | C0G | 25V | 2.7 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E2R7C | C0G | 25V | 2.7 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E030B | C0G | 25V | 3.0 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E030C | C0G | 25V | 3.0 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E3R3B | C0G | 25V | 3.3 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E3R3C | C0G | 25V | 3.3 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E3R6B | C0G | 25V | 3.6 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E3R6C | C0G | 25V | 3.6 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E3R9B | C0G | 25V | 3.9 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E3R9C | C0G | 25V | 3.9 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E040B | C0G | 25V | 4.0 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E040C | C0G | 25V | 4.0 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E4R3B | C0G | 25V | 4.3 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E4R3C | C0G | 25V | 4.3 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E4R7B | C0G | 25V | 4.7 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E4R7C | C0G | 25V | 4.7 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E050B | C0G | 25V | 5.0 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E050C | C0G | 25V | 5.0 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E5R1B | C0G | 25V | 5.1 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E5R1C | C0G | 25V | 5.1 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E5R1D | C0G | 25V | 5.1 | ± 0.50pF | 0.30 ± 0.03 |
| C0603C0G1E5R6B | C0G | 25V | 5.6 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E5R6C | C0G | 25V | 5.6 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E5R6D | C0G | 25V | 5.6 | ± 0.50pF | 0.30 ± 0.03 |
| C0603C0G1E060B | C0G | 25V | 6.0 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E060C | C0G | 25V | 6.0 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E060D | C0G | 25V | 6.0 | ± 0.50pF | 0.30 ± 0.03 |
| C0603C0G1E6R2B | C0G | 25V | 6.2 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E6R2C | C0G | 25V | 6.2 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E6R2D | C0G | 25V | 6.2 | ± 0.50pF | 0.30 ± 0.03 |
| C0603C0G1E6R8B | C0G | 25V | 6.8 | ± 0.10pF | 0.30 ± 0.03 |



Capacitance Range Table

C0603 [EIA CC0201]

Class 1 (Temperature Compensating)

Temperature Characteristics: C0G (-55 to 125°C, 0±30 ppm/°C)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|---------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C0603C0G1E6R8C | C0G | 25V | 6.8 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E6R8D | C0G | 25V | 6.8 | ± 0.50pF | 0.30 ± 0.03 |
| C0603C0G1E070B | C0G | 25V | 7.0 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E070C | C0G | 25V | 7.0 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E070D | C0G | 25V | 7.0 | ± 0.50pF | 0.30 ± 0.03 |
| C0603C0G1E7R5B | C0G | 25V | 7.5 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E7R5C | C0G | 25V | 7.5 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E7R5D | C0G | 25V | 7.5 | ± 0.50pF | 0.30 ± 0.03 |
| C0603C0G1E080B | C0G | 25V | 8.0 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E080C | C0G | 25V | 8.0 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E080D | C0G | 25V | 8.0 | ± 0.50pF | 0.30 ± 0.03 |
| C0603C0G1E8R2B | C0G | 25V | 8.2 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E8R2C | C0G | 25V | 8.2 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E8R2D | C0G | 25V | 8.2 | ± 0.50pF | 0.30 ± 0.03 |
| C0603C0G1E090B | C0G | 25V | 9.0 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E090C | C0G | 25V | 9.0 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E090D | C0G | 25V | 9.0 | ± 0.50pF | 0.30 ± 0.03 |
| C0603C0G1E9R1B | C0G | 25V | 9.1 | ± 0.10pF | 0.30 ± 0.03 |
| C0603C0G1E9R1C | C0G | 25V | 9.1 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E9R1D | C0G | 25V | 9.1 | ± 0.50pF | 0.30 ± 0.03 |
| C0603C0G1E100E | C0G | 25V | 10 | ± 0.20pF | 0.30 ± 0.03 |
| C0603C0G1E100C | C0G | 25V | 10 | ± 0.25pF | 0.30 ± 0.03 |
| C0603C0G1E100D | C0G | 25V | 10 | ± 0.50pF | 0.30 ± 0.03 |
| C0603C0G1E110G | C0G | 25V | 11 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E110J | C0G | 25V | 11 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E120G | C0G | 25V | 12 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E120J | C0G | 25V | 12 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E130G | C0G | 25V | 13 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E130J | C0G | 25V | 13 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E150G | C0G | 25V | 15 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E150J | C0G | 25V | 15 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E160G | C0G | 25V | 16 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E160J | C0G | 25V | 16 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E180G | C0G | 25V | 18 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E180J | C0G | 25V | 18 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E200G | C0G | 25V | 20 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E200J | C0G | 25V | 20 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E220G | C0G | 25V | 22 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E220J | C0G | 25V | 22 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E240G | C0G | 25V | 24 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E240J | C0G | 25V | 24 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E270G | C0G | 25V | 27 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E270J | C0G | 25V | 27 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E300G | C0G | 25V | 30 | ± 2% | 0.30 ± 0.03 |



Capacitance Range Table

C0603 [EIA CC0201]

Class 1 (Temperature Compensating)

Temperature Characteristics: C0G (-55 to 125°C, 0±30 ppm/°C)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|---------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C0603C0G1E300J | C0G | 25V | 30 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E330G | C0G | 25V | 33 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E330J | C0G | 25V | 33 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E360G | C0G | 25V | 36 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E360J | C0G | 25V | 36 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E390G | C0G | 25V | 39 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E390J | C0G | 25V | 39 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E430G | C0G | 25V | 43 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E430J | C0G | 25V | 43 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E470G | C0G | 25V | 47 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E470J | C0G | 25V | 47 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E510G | C0G | 25V | 51 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E510J | C0G | 25V | 51 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E560G | C0G | 25V | 56 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E560J | C0G | 25V | 56 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E620G | C0G | 25V | 62 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E620J | C0G | 25V | 62 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E680G | C0G | 25V | 68 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E680J | C0G | 25V | 68 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E750G | C0G | 25V | 75 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E750J | C0G | 25V | 75 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E820G | C0G | 25V | 82 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E820J | C0G | 25V | 82 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E910G | C0G | 25V | 91 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E910J | C0G | 25V | 91 | ± 5% | 0.30 ± 0.03 |
| C0603C0G1E101G | C0G | 25V | 100 | ± 2% | 0.30 ± 0.03 |
| C0603C0G1E101J | C0G | 25V | 100 | ± 5% | 0.30 ± 0.03 |

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|---------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C0603X7R1H101K | X7R | 50V | 100 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1H101M | X7R | 50V | 100 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1H151K | X7R | 50V | 150 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1H151M | X7R | 50V | 150 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1H221K | X7R | 50V | 220 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1H221M | X7R | 50V | 220 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1H331K | X7R | 50V | 330 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1H331M | X7R | 50V | 330 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1H471K | X7R | 50V | 470 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1H471M | X7R | 50V | 470 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1E101K | X7R | 25V | 100 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1E101M | X7R | 25V | 100 | ± 20% | 0.30 ± 0.03 |



Capacitance Range Table

C0603 [EIA CC0201]

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C0603X7R1E151K | X7R | 25V | 150 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1E151M | X7R | 25V | 150 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1E221K | X7R | 25V | 220 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1E221M | X7R | 25V | 220 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1E331K | X7R | 25V | 330 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1E331M | X7R | 25V | 330 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1E471K | X7R | 25V | 470 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1E471M | X7R | 25V | 470 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1E681K | X7R | 25V | 680 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1E681M | X7R | 25V | 680 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1E102K | X7R | 25V | 1,000 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1E102M | X7R | 25V | 1,000 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1E152K | X7R | 25V | 1,500 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1E152M | X7R | 25V | 1,500 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1E222K | X7R | 25V | 2,200 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1E222M | X7R | 25V | 2,200 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1E332K | X7R | 25V | 3,300 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1E332M | X7R | 25V | 3,300 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1C101K | X7R | 16V | 100 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1C101M | X7R | 16V | 100 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1C151K | X7R | 16V | 150 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1C151M | X7R | 16V | 150 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1C221K | X7R | 16V | 220 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1C221M | X7R | 16V | 220 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1C331K | X7R | 16V | 330 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1C331M | X7R | 16V | 330 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1C471K | X7R | 16V | 470 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1C471M | X7R | 16V | 470 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1C681K | X7R | 16V | 680 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1C681M | X7R | 16V | 680 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1C102K | X7R | 16V | 1,000 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1C102M | X7R | 16V | 1,000 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1C152K | X7R | 16V | 1,500 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1C152M | X7R | 16V | 1,500 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1C222K | X7R | 16V | 2,200 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1C222M | X7R | 16V | 2,200 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1C332K | X7R | 16V | 3,300 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1C332M | X7R | 16V | 3,300 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1C472K | X7R | 16V | 4,700 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1C472M | X7R | 16V | 4,700 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1A682K | X7R | 10V | 6,800 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1A682M | X7R | 10V | 6,800 | ± 20% | 0.30 ± 0.03 |
| C0603X7R1A103K | X7R | 10V | 10,000 | ± 10% | 0.30 ± 0.03 |
| C0603X7R1A103M | X7R | 10V | 10,000 | ± 20% | 0.30 ± 0.03 |



Capacitance Range Table

C0603 [EIA CC0201]

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%), X6S(-55 to 105°C, ±22%), X5R (-55 to +85°C, ±15%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C0603X7R0J103K | X7R | 6.3V | 10,000 | ± 10% | 0.30 ± 0.03 |
| C0603X7R0J103M | X7R | 6.3V | 10,000 | ± 20% | 0.30 ± 0.03 |
| C0603X6S0G104K | X6S | 4V | 100,000 | ± 10% | 0.30 ± 0.03 |
| C0603X6S0G104M | X6S | 4V | 100,000 | ± 20% | 0.30 ± 0.03 |
| C0603X5R1H101K | X5R | 50V | 100 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1H101M | X5R | 50V | 100 | ± 20% | 0.30 ± 0.03 |
| C0603X5R1H151K | X5R | 50V | 150 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1H151M | X5R | 50V | 150 | ± 20% | 0.30 ± 0.03 |
| C0603X5R1H221K | X5R | 50V | 220 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1H221M | X5R | 50V | 220 | ± 20% | 0.30 ± 0.03 |
| C0603X5R1H331K | X5R | 50V | 330 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1H331M | X5R | 50V | 330 | ± 20% | 0.30 ± 0.03 |
| C0603X5R1H471K | X5R | 50V | 470 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1H471M | X5R | 50V | 470 | ± 20% | 0.30 ± 0.03 |
| C0603X5R1E101K | X5R | 25V | 100 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1E101M | X5R | 25V | 100 | ± 20% | 0.30 ± 0.03 |
| C0603X5R1E151K | X5R | 25V | 150 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1E151M | X5R | 25V | 150 | ± 20% | 0.30 ± 0.03 |
| C0603X5R1E221K | X5R | 25V | 220 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1E221M | X5R | 25V | 220 | ± 20% | 0.30 ± 0.03 |
| C0603X5R1E331K | X5R | 25V | 330 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1E331M | X5R | 25V | 330 | ± 20% | 0.30 ± 0.03 |
| C0603X5R1E471K | X5R | 25V | 470 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1E471M | X5R | 25V | 470 | ± 20% | 0.30 ± 0.03 |
| C0603X5R1E681K | X5R | 25V | 680 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1E681M | X5R | 25V | 680 | ± 20% | 0.30 ± 0.03 |
| C0603X5R1E102K | X5R | 25V | 1,000 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1E102M | X5R | 25V | 1,000 | ± 20% | 0.30 ± 0.03 |
| C0603X5R1E152K | X5R | 25V | 1,500 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1E152M | X5R | 25V | 1,500 | ± 20% | 0.30 ± 0.03 |
| C0603X5R1E222K | X5R | 25V | 2,200 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1E222M | X5R | 25V | 2,200 | ± 20% | 0.30 ± 0.03 |
| C0603X5R1E332K | X5R | 25V | 3,300 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1E332M | X5R | 25V | 3,300 | ± 20% | 0.30 ± 0.03 |
| C0603X5R1C222K | X5R | 16V | 2,200 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1C222M | X5R | 16V | 2,200 | ± 20% | 0.30 ± 0.03 |
| C0603X5R1C332K | X5R | 16V | 3,300 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1C332M | X5R | 16V | 3,300 | ± 20% | 0.30 ± 0.03 |
| C0603X5R1C472K | X5R | 16V | 4,700 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1C472M | X5R | 16V | 4,700 | ± 20% | 0.30 ± 0.03 |
| C0603X5R1C104K | X5R | 16V | 100,000 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1C154K | X5R | 16V | 150,000 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1C224K | X5R | 16V | 220,000 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1C224M | X5R | 16V | 220,000 | ± 20% | 0.30 ± 0.03 |



Capacitance Range Table

C0603 [EIA CC0201]

Class 2 (Temperature Stable)

Temperature Characteristics: X5R (-55 to +85°C, ±15%), Y5V(-30 to +85°C, +22/-82%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C0603X5R1A682K | X5R | 10V | 6,800 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1A682M | X5R | 10V | 6,800 | ± 20% | 0.30 ± 0.03 |
| C0603X5R1A103K | X5R | 10V | 10,000 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1A103M | X5R | 10V | 10,000 | ± 20% | 0.30 ± 0.03 |
| C0603X5R1A104K | X5R | 10V | 100,000 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1A154K | X5R | 10V | 150,000 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1A224K | X5R | 10V | 220,000 | ± 10% | 0.30 ± 0.03 |
| C0603X5R1A224M | X5R | 10V | 220,000 | ± 20% | 0.30 ± 0.03 |
| C0603X5R0J103K | X5R | 6.3V | 10,000 | ± 10% | 0.30 ± 0.03 |
| C0603X5R0J103M | X5R | 6.3V | 10,000 | ± 20% | 0.30 ± 0.03 |
| C0603X5R0J153K | X5R | 6.3V | 15,000 | ± 10% | 0.30 ± 0.03 |
| C0603X5R0J153M | X5R | 6.3V | 15,000 | ± 20% | 0.30 ± 0.03 |
| C0603X5R0J223K | X5R | 6.3V | 22,000 | ± 10% | 0.30 ± 0.03 |
| C0603X5R0J223M | X5R | 6.3V | 22,000 | ± 20% | 0.30 ± 0.03 |
| C0603X5R0J333K | X5R | 6.3V | 33,000 | ± 10% | 0.30 ± 0.03 |
| C0603X5R0J333M | X5R | 6.3V | 33,000 | ± 20% | 0.30 ± 0.03 |
| C0603X5R0J473K | X5R | 6.3V | 47,000 | ± 10% | 0.30 ± 0.03 |
| C0603X5R0J473M | X5R | 6.3V | 47,000 | ± 20% | 0.30 ± 0.03 |
| C0603X5R0J683K | X5R | 6.3V | 68,000 | ± 10% | 0.30 ± 0.03 |
| C0603X5R0J683M | X5R | 6.3V | 68,000 | ± 20% | 0.30 ± 0.03 |
| C0603X5R0J104K | X5R | 6.3V | 100,000 | ± 10% | 0.30 ± 0.03 |
| C0603X5R0J104M | X5R | 6.3V | 100,000 | ± 20% | 0.30 ± 0.03 |
| C0603X5R0J154K | X5R | 6.3V | 150,000 | ± 10% | 0.30 ± 0.03 |
| C0603X5R0J154M | X5R | 6.3V | 150,000 | ± 20% | 0.30 ± 0.03 |
| C0603X5R0J224K | X5R | 6.3V | 220,000 | ± 10% | 0.30 ± 0.03 |
| C0603X5R0J224M | X5R | 6.3V | 220,000 | ± 20% | 0.30 ± 0.03 |
| C0603Y5V1C103Z | Y5V | 16V | 10,000 | +80/-20% | 0.30 ± 0.03 |



Capacitance Range Chart

C1005 [EIA CC0402]

Capacitance Range Chart

Temperature Characteristics: C0G ($0 \pm 30\text{ppm}/^\circ\text{C}$)
 Rated Voltage: 50V (1H), 25V (1E)

| Capacitance (pF) | Cap Code | Tolerance | C0G | | Capacitance (pF) | Cap Code | Tolerance | C0G | |
|------------------|----------|------------------------|----------|----------|------------------|----------|--------------|----------|----------|
| | | | 1H (50V) | 1E (25V) | | | | 1H (50V) | 1E (25V) |
| 0.1 | 0R1 | B: $\pm 0.10\text{pF}$ | | | 30 | 300 | J: $\pm 5\%$ | | |
| 0.5 | 0R5 | C: $\pm 0.25\text{pF}$ | | | | | | | |
| 0.75 | R75 | D: $\pm 0.50\text{pF}$ | | | | | | | |
| 1 | 010 | | | | | | | | |
| 1.2 | 1R2 | | | | | | | | |
| 1.5 | 1R5 | | | | | | | | |
| 1.8 | 1R8 | | | | | | | | |
| 2.2 | 2R2 | | | | | | | | |
| 2.7 | 2R7 | | | | | | | | |
| 3.3 | 3R3 | | | | | | | | |
| 3.9 | 3R9 | | | | | | | | |
| 4.7 | 4R7 | | | | | | | | |
| 5.6 | 5R6 | C: $\pm 0.25\text{pF}$ | | | | | | | |
| 6.8 | 6R8 | D: $\pm 0.50\text{pF}$ | | | | | | | |
| 8.2 | 8R2 | | | | | | | | |
| 10 | 100 | J: $\pm 5\%$ | | | 100 | 101 | | | |
| 11 | 110 | | | | | | | | |
| 12 | 120 | | | | | | | | |
| 13 | 130 | | | | | | | | |
| 15 | 150 | | | | | | | | |
| 16 | 160 | | | | | | | | |
| 18 | 180 | | | | | | | | |
| 20 | 200 | | | | | | | | |
| 22 | 220 | | | | | | | | |
| 24 | 240 | | | | | | | | |
| 27 | 270 | | | | | | | | |
| | | | | | | 150 | 151 | | |
| | | | | | | 180 | 181 | | |
| | | | | | | 220 | 221 | | |
| | | | | | | 270 | 271 | | |
| | | | | | 330 | 331 | | | |
| | | | | | 390 | 391 | | | |
| | | | | | 470 | 471 | | | |
| | | | | | 560 | 561 | | | |
| | | | | | 680 | 681 | | | |
| | | | | | 820 | 821 | | | |
| | | | | | 1,000 | 102 | | | |

• Standard capacitance is shown. Please refer to Capacitance Range Table for additional capacitance values.

Capacitance Range Chart

Temperature Characteristics: X7R ($\pm 15\%$)
 Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V(1C), 10V (1A)

| Capacitance (pF) | Cap Code | Tolerance | X7R | | | | | |
|------------------|----------|--------------------------------|----------|----------|----------|----------|----------|--|
| | | | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | |
| 220 | 221 | K: $\pm 10\%$ M: $\pm 20\%$ | | | | | | |
| 330 | 331 | | | | | | | |
| 470 | 471 | | | | | | | |
| 680 | 681 | | | | | | | |
| 1,000 | 102 | | | | | | | |
| 1,500 | 152 | | | | | | | |
| 2,200 | 222 | | | | | | | |
| 3,300 | 332 | | | | | | | |
| 4,700 | 472 | | | | | | | |
| 6,800 | 682 | | | | | | | |
| 10,000 | 103 | | | | | | | |
| 15,000 | 153 | | | | | | | |
| 22,000 | 223 | | | | | | | |
| 33,000 | 333 | | | | | | | |
| 47,000 | 473 | | | | | | | |
| 68,000 | 683 | | | | | | | |
| 100,000 | 104 | | | | | | | |
| 150,000 | 154 | | | | | | | |
| 220,000 | 224 | | | | | | | |

Standard Thickness

0.50 mm



Capacitance Range Chart

C1005 [EIA CC0402]

Capacitance Range Chart

Temperature Characteristics: X5R ($\pm 15\%$), X6S ($\pm 22\%$), Y5V (+22/-82%)

Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J), 4V (0G)

| Capacitance (pF) | Cap Code | Tolerance | X6S | | | | | | | |
|------------------|----------|--------------------------------|----------|----------|----------|----------|----------|-----------|---------|--|
| | | | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0G (4V) | |
| 10,000 | 103 | K: $\pm 10\%$ M: $\pm 20\%$ | | | | | | | | |
| 22,000 | 223 | | | | | | | | | |
| 47,000 | 473 | | | | | | | | | |
| 100,000 | 104 | | | | | | | | | |
| 220,000 | 224 | | | | | | | | | |
| 470,000 | 474 | | | | | | | | | |
| 1,000,000 | 105 | | | | | | | | | |
| 2,200,000 | 225 | | | | | | | | | |

| Capacitance (pF) | Cap Code | Tolerance | X5R | | | | | | | |
|------------------|----------|--------------------------------|----------|----------|----------|----------|----------|-----------|---------|--|
| | | | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0G (4V) | |
| 220 | 221 | K: $\pm 10\%$ M: $\pm 20\%$ | | | | | | | | |
| 330 | 331 | | | | | | | | | |
| 470 | 471 | | | | | | | | | |
| 680 | 681 | | | | | | | | | |
| 1,000 | 102 | | | | | | | | | |
| 1,500 | 152 | | | | | | | | | |
| 2,200 | 222 | | | | | | | | | |
| 3,300 | 332 | | | | | | | | | |
| 4,700 | 472 | | | | | | | | | |
| 6,800 | 682 | | | | | | | | | |
| 10,000 | 103 | | | | | | | | | |
| 15,000 | 153 | | | | | | | | | |
| 22,000 | 223 | | | | | | | | | |
| 33,000 | 333 | | | | | | | | | |
| 47,000 | 473 | | | | | | | | | |
| 68,000 | 683 | | | | | | | | | |
| 100,000 | 104 | | | | | | | | | |
| 220,000 | 224 | | | | | | | | | |
| 330,000 | 334 | | | | | | | | | |
| 470,000 | 474 | | | | | | | | | |
| 1,000,000 | 105 | | | | | | | | | |
| 1,500,000 | 155 | | | | | | | | | |
| 2,200,000 | 225 | | | | | | | | | |
| 3,300,000 | 335 | | | | | | | | | |
| 4,700,000 | 475 | | | | | | | | | |

| Capacitance (pF) | Cap Code | Tolerance | Y5V | | | | |
|------------------|----------|-------------|----------|----------|----------|----------|-----------|
| | | | 1H (50V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) |
| 10,000 | 103 | Z: +80/-20% | | | | | |
| 100,000 | 104 | | | | | | |
| 220,000 | 224 | | | | | | |
| 470,000 | 474 | | | | | | |
| 1,000,000 | 105 | | | | | | |

Standard Thickness

0.50 mm



Capacitance Range Table

C1005 [EIA CC0402]

Class 1 (Temperature Compensating)

Temperature Characteristics: C0G (-55 to 125°C, 0±30 ppm/°C)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C1005C0G1H0R5B | C0G | 50V | 0.5 | ± 0.10pF | 0.50 ± 0.05 |
| C1005C0G1H0R5C | C0G | 50V | 0.5 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1HR75C | C0G | 50V | 0.75 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H010B | C0G | 50V | 1.0 | ± 0.10pF | 0.50 ± 0.05 |
| C1005C0G1H010C | C0G | 50V | 1.0 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H1R2B | C0G | 50V | 1.2 | ± 0.10pF | 0.50 ± 0.05 |
| C1005C0G1H1R2C | C0G | 50V | 1.2 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H1R5B | C0G | 50V | 1.5 | ± 0.10pF | 0.50 ± 0.05 |
| C1005C0G1H1R5C | C0G | 50V | 1.5 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H1R8B | C0G | 50V | 1.8 | ± 0.10pF | 0.50 ± 0.05 |
| C1005C0G1H1R8C | C0G | 50V | 1.8 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H020B | C0G | 50V | 2.0 | ± 0.10pF | 0.50 ± 0.05 |
| C1005C0G1H020C | C0G | 50V | 2.0 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H2R2B | C0G | 50V | 2.2 | ± 0.10pF | 0.50 ± 0.05 |
| C1005C0G1H2R2C | C0G | 50V | 2.2 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H2R5C | C0G | 50V | 2.5 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H2R7B | C0G | 50V | 2.7 | ± 0.10pF | 0.50 ± 0.05 |
| C1005C0G1H2R7C | C0G | 50V | 2.7 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H030B | C0G | 50V | 3.0 | ± 0.10pF | 0.50 ± 0.05 |
| C1005C0G1H030C | C0G | 50V | 3.0 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H3R3B | C0G | 50V | 3.3 | ± 0.10pF | 0.50 ± 0.05 |
| C1005C0G1H3R3C | C0G | 50V | 3.3 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H3R5C | C0G | 50V | 3.5 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H3R9B | C0G | 50V | 3.9 | ± 0.10pF | 0.50 ± 0.05 |
| C1005C0G1H3R9C | C0G | 50V | 3.9 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H040B | C0G | 50V | 4.0 | ± 0.10pF | 0.50 ± 0.05 |
| C1005C0G1H040C | C0G | 50V | 4.0 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H4R7B | C0G | 50V | 4.7 | ± 0.10pF | 0.50 ± 0.05 |
| C1005C0G1H4R7C | C0G | 50V | 4.7 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H050B | C0G | 50V | 5.0 | ± 0.10pF | 0.50 ± 0.05 |
| C1005C0G1H050C | C0G | 50V | 5.0 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H5R6C | C0G | 50V | 5.6 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H5R6D | C0G | 50V | 5.6 | ± 0.50pF | 0.50 ± 0.05 |
| C1005C0G1H060C | C0G | 50V | 6.0 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H060D | C0G | 50V | 6.0 | ± 0.50pF | 0.50 ± 0.05 |
| C1005C0G1H6R8C | C0G | 50V | 6.8 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H6R8D | C0G | 50V | 6.8 | ± 0.50pF | 0.50 ± 0.05 |
| C1005C0G1H070C | C0G | 50V | 7.0 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H070D | C0G | 50V | 7.0 | ± 0.50pF | 0.50 ± 0.05 |
| C1005C0G1H080C | C0G | 50V | 8.0 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H080D | C0G | 50V | 8.0 | ± 0.50pF | 0.50 ± 0.05 |
| C1005C0G1H8R2C | C0G | 50V | 8.2 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H8R2D | C0G | 50V | 8.2 | ± 0.50pF | 0.50 ± 0.05 |
| C1005C0G1H090C | C0G | 50V | 9.0 | ± 0.25pF | 0.50 ± 0.05 |



Capacitance Range Table

C1005 [EIA CC0402]

Class 1 (Temperature Compensating)

Temperature Characteristics: C0G (-55 to 125°C, 0±30 ppm/°C)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C1005C0G1H090D | C0G | 50V | 9.0 | ± 0.50pF | 0.50 ± 0.05 |
| C1005C0G1H100C | C0G | 50V | 10 | ± 0.25pF | 0.50 ± 0.05 |
| C1005C0G1H100D | C0G | 50V | 10 | ± 0.50pF | 0.50 ± 0.05 |
| C1005C0G1H110J | C0G | 50V | 11 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H120J | C0G | 50V | 12 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H130J | C0G | 50V | 13 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H150J | C0G | 50V | 15 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H160J | C0G | 50V | 16 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H180J | C0G | 50V | 18 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H200J | C0G | 50V | 20 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H220J | C0G | 50V | 22 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H240J | C0G | 50V | 24 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H270J | C0G | 50V | 27 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H300J | C0G | 50V | 30 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H330J | C0G | 50V | 33 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H360J | C0G | 50V | 36 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H390J | C0G | 50V | 39 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H430J | C0G | 50V | 43 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H470J | C0G | 50V | 47 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H510J | C0G | 50V | 51 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H560J | C0G | 50V | 56 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H620J | C0G | 50V | 62 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H680J | C0G | 50V | 68 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H750J | C0G | 50V | 75 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H820J | C0G | 50V | 82 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H910J | C0G | 50V | 91 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H101J | C0G | 50V | 100 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H121J | C0G | 50V | 120 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H151J | C0G | 50V | 150 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H181J | C0G | 50V | 180 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H221J | C0G | 50V | 220 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H271J | C0G | 50V | 270 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H331J | C0G | 50V | 330 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H391J | C0G | 50V | 390 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H471J | C0G | 50V | 470 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H561J | C0G | 50V | 560 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H681J | C0G | 50V | 680 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H821J | C0G | 50V | 820 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1H102J | C0G | 50V | 1,000 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1E561J | C0G | 25V | 560 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1E681J | C0G | 25V | 680 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1E821J | C0G | 25V | 820 | ± 5% | 0.50 ± 0.05 |
| C1005C0G1E102J | C0G | 25V | 1,000 | ± 5% | 0.50 ± 0.05 |



Capacitance Range Table

C1005 [EIA CC0402]

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|--------------------------------|------------------|---------------------|--------------------------|-------------------|
| C1005X7R1H221K | X7R | 50V | 220 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1H221M | X7R | 50V | 220 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1H331K | X7R | 50V | 330 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1H331M | X7R | 50V | 330 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1H471K | X7R | 50V | 470 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1H471M | X7R | 50V | 470 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1H681K | X7R | 50V | 680 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1H681M | X7R | 50V | 680 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1H102K | X7R | 50V | 1,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1H102M | X7R | 50V | 1,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1H152K | X7R | 50V | 1,500 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1H152M | X7R | 50V | 1,500 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1H222K | X7R | 50V | 2,200 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1H222M | X7R | 50V | 2,200 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1H332K | X7R | 50V | 3,300 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1H332M | X7R | 50V | 3,300 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1H472K | X7R | 50V | 4,700 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1H472M | X7R | 50V | 4,700 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1H682K | X7R | 50V | 6,800 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1H682M | X7R | 50V | 6,800 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1H103K | X7R | 50V | 10,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1H103M | X7R | 50V | 10,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1H153K | X7R | 50V | 15,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1H153M | X7R | 50V | 15,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1H223K | X7R | 50V | 22,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1H223M | X7R | 50V | 22,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1H333K | X7R | 50V | 33,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1H333M | X7R | 50V | 33,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1H473K | X7R | 50V | 47,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1H473M | X7R | 50V | 47,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1H683K | X7R | 50V | 68,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1H683M | X7R | 50V | 68,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1H104K | X7R | 50V | 100,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1H104M | X7R | 50V | 100,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1V103K | X7R | 35V | 10,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1V103M | X7R | 35V | 10,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1V223K | X7R | 35V | 22,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1V223M | X7R | 35V | 22,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1V473K | X7R | 35V | 47,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1V473M | X7R | 35V | 47,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1V104K | X7R | 35V | 100,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1V104M | X7R | 35V | 100,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1E102K | X7R | 25V | 1,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1E102M | X7R | 25V | 1,000 | ± 20% | 0.50 ± 0.05 |



Capacitance Range Table

C1005 [EIA CC0402]

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C1005X7R1E152K | X7R | 25V | 1,500 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1E152M | X7R | 25V | 1,500 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1E222K | X7R | 25V | 2,200 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1E222M | X7R | 25V | 2,200 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1E332K | X7R | 25V | 3,300 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1E332M | X7R | 25V | 3,300 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1E472K | X7R | 25V | 4,700 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1E472M | X7R | 25V | 4,700 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1E682K | X7R | 25V | 6,800 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1E682M | X7R | 25V | 6,800 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1E103J | X7R | 25V | 10,000 | ± 5% | 0.50 ± 0.05 |
| C1005X7R1E103K | X7R | 25V | 10,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1E103M | X7R | 25V | 10,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1E153K | X7R | 25V | 15,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1E153M | X7R | 25V | 15,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1E223K | X7R | 25V | 22,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1E223M | X7R | 25V | 22,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1E333K | X7R | 25V | 33,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1E333M | X7R | 25V | 33,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1E473K | X7R | 25V | 47,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1E473M | X7R | 25V | 47,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1E683K | X7R | 25V | 68,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1E683M | X7R | 25V | 68,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1E104K | X7R | 25V | 100,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1E104M | X7R | 25V | 100,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1C103K | X7R | 16V | 10,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1C103M | X7R | 16V | 10,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1C153K | X7R | 16V | 15,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1C153M | X7R | 16V | 15,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1C223K | X7R | 16V | 22,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1C223M | X7R | 16V | 22,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1C333K | X7R | 16V | 33,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1C333M | X7R | 16V | 33,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1C473K | X7R | 16V | 47,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1C473M | X7R | 16V | 47,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1C683K | X7R | 16V | 68,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1C683M | X7R | 16V | 68,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1C104K | X7R | 16V | 100,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1C104M | X7R | 16V | 100,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1C154K | X7R | 16V | 150,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1C154M | X7R | 16V | 150,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1C224K | X7R | 16V | 220,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1C224M | X7R | 16V | 220,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1A473K | X7R | 10V | 47,000 | ± 10% | 0.50 ± 0.05 |



Capacitance Range Table

C1005 [EIA CC0402]

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%), X6S(-55 to 105°C, ±22%), X5R (-55 to +85°C, ±15%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C1005X7R1A473M | X7R | 10V | 47,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1A683K | X7R | 10V | 68,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1A683M | X7R | 10V | 68,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1A104K | X7R | 10V | 100,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1A104M | X7R | 10V | 100,000 | ± 20% | 0.50 ± 0.05 |
| C1005X7R1A224K | X7R | 10V | 220,000 | ± 10% | 0.50 ± 0.05 |
| C1005X7R1A224M | X7R | 10V | 220,000 | ± 20% | 0.50 ± 0.05 |
| C1005X6S1H103K | X6S | 50V | 10,000 | ± 10% | 0.50 ± 0.05 |
| C1005X6S1H103M | X6S | 50V | 10,000 | ± 20% | 0.50 ± 0.05 |
| C1005X6S1H223K | X6S | 50V | 22,000 | ± 10% | 0.50 ± 0.05 |
| C1005X6S1H223M | X6S | 50V | 22,000 | ± 20% | 0.50 ± 0.05 |
| C1005X6S1H473K | X6S | 50V | 47,000 | ± 10% | 0.50 ± 0.05 |
| C1005X6S1H473M | X6S | 50V | 47,000 | ± 20% | 0.50 ± 0.05 |
| C1005X6S1H104K | X6S | 50V | 100,000 | ± 10% | 0.50 ± 0.05 |
| C1005X6S1H104M | X6S | 50V | 100,000 | ± 20% | 0.50 ± 0.05 |
| C1005X6S1V104K | X6S | 35V | 100,000 | ± 10% | 0.50 ± 0.05 |
| C1005X6S1V104M | X6S | 35V | 100,000 | ± 20% | 0.50 ± 0.05 |
| C1005X6S1E104K | X6S | 25V | 100,000 | ± 10% | 0.50 ± 0.05 |
| C1005X6S1E104M | X6S | 25V | 100,000 | ± 20% | 0.50 ± 0.05 |
| C1005X6S1E224K | X6S | 25V | 220,000 | ± 10% | 0.50 ± 0.05 |
| C1005X6S1E224M | X6S | 25V | 220,000 | ± 20% | 0.50 ± 0.05 |
| C1005X6S1C224K | X6S | 16V | 220,000 | ± 10% | 0.50 ± 0.05 |
| C1005X6S1C224M | X6S | 16V | 220,000 | ± 20% | 0.50 ± 0.05 |
| C1005X6S1A474K | X6S | 10V | 470,000 | ± 10% | 0.50 ± 0.05 |
| C1005X6S1A474M | X6S | 10V | 470,000 | ± 20% | 0.50 ± 0.05 |
| C1005X6S1A105K | X6S | 10V | 1,000,000 | ± 10% | 0.50 ± 0.05 |
| C1005X6S1A105M | X6S | 10V | 1,000,000 | ± 20% | 0.50 ± 0.05 |
| C1005X6S0J474K | X6S | 6.3V | 470,000 | ± 10% | 0.50 ± 0.05 |
| C1005X6S0J474M | X6S | 6.3V | 470,000 | ± 20% | 0.50 ± 0.05 |
| C1005X6S0J105K | X6S | 6.3V | 1,000,000 | ± 10% | 0.50 ± 0.05 |
| C1005X6S0J105M | X6S | 6.3V | 1,000,000 | ± 20% | 0.50 ± 0.05 |
| C1005X6S0G105K | X6S | 4V | 1,000,000 | ± 10% | 0.50 ± 0.05 |
| C1005X6S0G105M | X6S | 4V | 1,000,000 | ± 20% | 0.50 ± 0.05 |
| C1005X6S0G225M | X6S | 4V | 2,200,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1H221K | X5R | 50V | 220 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1H331K | X5R | 50V | 330 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1H471K | X5R | 50V | 470 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1H681K | X5R | 50V | 680 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1H102K | X5R | 50V | 1,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1H152K | X5R | 50V | 1,500 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1H222K | X5R | 50V | 2,200 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1H332K | X5R | 50V | 3,300 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1H472K | X5R | 50V | 4,700 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1H682K | X5R | 50V | 6,800 | ± 10% | 0.50 ± 0.05 |



Capacitance Range Table

C1005 [EIA CC0402]

Class 2 (Temperature Stable)

Temperature Characteristics: X5R (-55 to +85°C, ±15%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C1005X5R1H473K | X5R | 50V | 47,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1H473M | X5R | 50V | 47,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1H683K | X5R | 50V | 68,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1H683M | X5R | 50V | 68,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1H104K | X5R | 50V | 100,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1H104M | X5R | 50V | 100,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1V104K | X5R | 35V | 100,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1V104M | X5R | 35V | 100,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1E103K | X5R | 25V | 10,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1E153K | X5R | 25V | 15,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1E223K | X5R | 25V | 22,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1E333K | X5R | 25V | 33,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1E473K | X5R | 25V | 47,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1E473M | X5R | 25V | 47,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1E683K | X5R | 25V | 68,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1E683M | X5R | 25V | 68,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1E104K | X5R | 25V | 100,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1E104M | X5R | 25V | 100,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1E224K | X5R | 25V | 220,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1E224M | X5R | 25V | 220,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1C473K | X5R | 16V | 47,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1C473M | X5R | 16V | 47,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1C683K | X5R | 16V | 68,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1C683M | X5R | 16V | 68,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1C104K | X5R | 16V | 100,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1C104M | X5R | 16V | 100,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1C224K | X5R | 16V | 220,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1C224M | X5R | 16V | 220,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1C334K | X5R | 16V | 330,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1C334M | X5R | 16V | 330,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1C474K | X5R | 16V | 470,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1C474M | X5R | 16V | 470,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1C105K | X5R | 16V | 1,000,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1C105M | X5R | 16V | 1,000,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1A473K | X5R | 10V | 47,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1A473M | X5R | 10V | 47,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1A683K | X5R | 10V | 68,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1A683M | X5R | 10V | 68,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1A104K | X5R | 10V | 100,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1A104M | X5R | 10V | 100,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1A224K | X5R | 10V | 220,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1A224M | X5R | 10V | 220,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1A334K | X5R | 10V | 330,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1A334M | X5R | 10V | 330,000 | ± 20% | 0.50 ± 0.05 |



Capacitance Range Table

C1005 [EIA CC0402]

Class 2 (Temperature Stable)

Temperature Characteristics: X5R (-55 to +85°C, ±15%), Y5V(-30 to +85°C, +22/-82%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C1005X5R1A474K | X5R | 10V | 470,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1A474M | X5R | 10V | 470,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1A105K | X5R | 10V | 1,000,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1A105M | X5R | 10V | 1,000,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1A155K | X5R | 10V | 1,500,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1A155M | X5R | 10V | 1,500,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R1A225K | X5R | 10V | 2,200,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R1A225M | X5R | 10V | 2,200,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R0J104K | X5R | 6.3V | 100,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R0J104M | X5R | 6.3V | 100,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R0J224K | X5R | 6.3V | 220,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R0J224M | X5R | 6.3V | 220,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R0J334K | X5R | 6.3V | 330,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R0J334M | X5R | 6.3V | 330,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R0J474K | X5R | 6.3V | 470,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R0J474M | X5R | 6.3V | 470,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R0J105K | X5R | 6.3V | 1,000,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R0J105M | X5R | 6.3V | 1,000,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R0J225K | X5R | 6.3V | 2,200,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R0J225M | X5R | 6.3V | 2,200,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R0J335K | X5R | 6.3V | 3,300,000 | ± 10% | 0.50 ± 0.15 |
| C1005X5R0J335M | X5R | 6.3V | 3,300,000 | ± 20% | 0.50 ± 0.15 |
| C1005X5R0J475K | X5R | 6.3V | 4,700,000 | ± 10% | 0.50 ± 0.15 |
| C1005X5R0J475M | X5R | 6.3V | 4,700,000 | ± 20% | 0.50 ± 0.15 |
| C1005X5R0G225K | X5R | 4V | 2,200,000 | ± 10% | 0.50 ± 0.05 |
| C1005X5R0G225M | X5R | 4V | 2,200,000 | ± 20% | 0.50 ± 0.05 |
| C1005X5R0G335K | X5R | 4V | 3,300,000 | ± 10% | 0.50 ± 0.15 |
| C1005X5R0G335M | X5R | 4V | 3,300,000 | ± 20% | 0.50 ± 0.15 |
| C1005X5R0G475K | X5R | 4V | 4,700,000 | ± 10% | 0.50 ± 0.15 |
| C1005X5R0G475M | X5R | 4V | 4,700,000 | ± 20% | 0.50 ± 0.15 |
| C1005Y5V1H103Z | Y5V | 50V | 10,000 | +80/-20% | 0.50 ± 0.05 |
| C1005Y5V1E104Z | Y5V | 25V | 100,000 | +80/-20% | 0.50 ± 0.05 |
| C1005Y5V1E224Z | Y5V | 25V | 220,000 | +80/-20% | 0.50 ± 0.05 |
| C1005Y5V1C104Z | Y5V | 16V | 100,000 | +80/-20% | 0.50 ± 0.05 |
| C1005Y5V1C224Z | Y5V | 16V | 220,000 | +80/-20% | 0.50 ± 0.05 |
| C1005Y5V1A224Z | Y5V | 10V | 220,000 | +80/-20% | 0.50 ± 0.05 |
| C1005Y5V1A474Z | Y5V | 10V | 470,000 | +80/-20% | 0.50 ± 0.05 |
| C1005Y5V0J105Z | Y5V | 6.3V | 1,000,000 | +80/-20% | 0.50 ± 0.05 |



Capacitance Range Chart

C1608 [EIA CC0603]

Capacitance Range Chart

Temperature Characteristics: C0G ($0 \pm 30\text{ppm}/^\circ\text{C}$)
 Rated Voltage: 50V (1H), 25V (1E)

| Capacitance (pF) | Cap Code | Tolerance | C0G | |
|------------------|----------|--|--|----------|
| | | | 1H (50V) | 1E (25V) |
| 0.1 | 0R1 | B: $\pm 0.10\text{pF}$ C: $\pm 0.25\text{pF}$ | | |
| 0.5 | 0R5 | | | |
| 0.75 | R75 | | | |
| 1 | 010 | | | |
| 1.2 | 1R2 | | | |
| 1.5 | 1R5 | | | |
| 1.8 | 1R8 | | | |
| 2.2 | 2R2 | | | |
| 2.7 | 2R7 | | | |
| 3.3 | 3R3 | | | |
| 3.9 | 3R9 | | | |
| 4.7 | 4R7 | | | |
| 5.6 | 5R6 | | C: $\pm 0.25\text{pF}$ D: $\pm 0.50\text{pF}$ | |
| 6.8 | 6R8 | | | |
| 8.2 | 8R2 | | | |
| 10 | 100 | J: $\pm 5\%$ | | |
| 11 | 110 | | | |
| 12 | 120 | | | |
| 13 | 130 | | | |
| 15 | 150 | | | |
| 16 | 160 | | | |
| 18 | 180 | | | |
| 20 | 200 | | | |
| 22 | 220 | | | |
| 24 | 240 | | | |
| 27 | 270 | | | |
| 30 | 300 | | | |
| 33 | 330 | | | |
| 36 | 360 | | | |
| 39 | 390 | | | |
| 43 | 430 | | | |
| 47 | 470 | | | |
| 51 | 510 | | | |
| 56 | 560 | | | |
| 62 | 620 | | | |
| 68 | 680 | | | |
| 75 | 750 | | | |
| 82 | 820 | | | |

| Capacitance (pF) | Cap Code | Tolerance | C0G | |
|------------------|----------|--------------|----------|----------|
| | | | 1H (50V) | 1E (25V) |
| 91 | 910 | J: $\pm 5\%$ | | |
| 100 | 101 | | | |
| 110 | 111 | | | |
| 120 | 121 | | | |
| 130 | 131 | | | |
| 150 | 151 | | | |
| 160 | 161 | | | |
| 180 | 181 | | | |
| 200 | 201 | | | |
| 220 | 221 | | | |
| 240 | 241 | | | |
| 270 | 271 | | | |
| 300 | 301 | | | |
| 330 | 331 | | | |
| 360 | 361 | | | |
| 390 | 391 | | | |
| 430 | 431 | | | |
| 470 | 471 | | | |
| 510 | 511 | | | |
| 560 | 561 | | | |
| 620 | 621 | | | |
| 680 | 681 | | | |
| 750 | 751 | | | |
| 820 | 821 | | | |
| 910 | 911 | | | |
| 1,000 | 102 | | | |
| 1,200 | 122 | | | |
| 1,500 | 152 | | | |
| 1,800 | 182 | | | |
| 2,200 | 222 | | | |
| 2,700 | 272 | | | |
| 3,300 | 332 | | | |
| 3,900 | 392 | | | |
| 4,700 | 472 | | | |
| 5,600 | 562 | | | |
| 6,800 | 682 | | | |
| 8,200 | 822 | | | |
| 10,000 | 103 | | | |

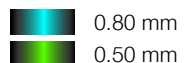
• Standard capacitance is shown. Please refer to Capacitance Range Table for additional capacitance values.

Capacitance Range Chart

Temperature Characteristics: X6S ($\pm 22\%$)
 Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J), 4V (0G)

| Capacitance (pF) | Cap Code | Tolerance | X6S | | | | | | |
|------------------|----------|--------------------------------|----------|----------|----------|----------|----------|-----------|---------|
| | | | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0G (4V) |
| 220,000 | 224 | K: $\pm 10\%$ M: $\pm 20\%$ | | | | | | | |
| 470,000 | 474 | | | | | | | | |
| 1,000,000 | 105 | | | | | | | | |
| 2,200,000 | 225 | | | | | | | | |
| 4,700,000 | 475 | | | | | | | | |
| 10,000,000 | 106 | | | | | | | | |

Standard Thickness





Capacitance Range Chart

C1608 [EIA CC0603]

Capacitance Range Chart

Temperature Characteristics: X7R ($\pm 15\%$), X5R ($\pm 15\%$), Y5V (+22/-82%)

Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J), 4V (0G)

| Capacitance (pF) | Cap Code | Tolerance | X5R | | | | | | | | |
|------------------|----------|--------------------------------|----------|----------|----------|----------|----------|-----------|---------|--|---|
| | | | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0G (4V) | | |
| 100,000 | 104 | K: $\pm 10\%$ M: $\pm 20\%$ | █ | | | | | | | | |
| 150,000 | 154 | | | | | | | | | | |
| 220,000 | 224 | | | | | | | | | | |
| 330,000 | 334 | | | | | | | | | | |
| 470,000 | 474 | | | | | | | | | | |
| 680,000 | 684 | | | | | | | | | | |
| 1,000,000 | 105 | | | █ | █ | | | | | | |
| 1,500,000 | 155 | | | | | | | | | | |
| 2,200,000 | 225 | | | | | | | | | | |
| 3,300,000 | 335 | | | | | | | | | | |
| 4,700,000 | 475 | | | | | | | | | | |
| 6,800,000 | 685 | | | | | | | | | | |
| 10,000,000 | 106 | | | | | | | | | | █ |

| Capacitance (pF) | Cap Code | Tolerance | X7R | | | | | | | | |
|------------------|----------|--------------------------------|----------|----------|----------|----------|----------|-----------|--|--|--|
| | | | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | | | |
| 100 | 101 | K: $\pm 10\%$ M: $\pm 20\%$ | █ | | | | | | | | |
| 220 | 221 | | | | | | | | | | |
| 330 | 331 | | | | | | | | | | |
| 470 | 471 | | | | | | | | | | |
| 680 | 681 | | | | | | | | | | |
| 1,000 | 102 | | | | | | | | | | |
| 1,500 | 152 | | | | | | | | | | |
| 2,200 | 222 | | | | | | | | | | |
| 3,300 | 332 | | | | | | | | | | |
| 4,700 | 472 | | | | | | | | | | |
| 6,800 | 682 | | | | | | | | | | |
| 10,000 | 103 | | | | | | | | | | |
| 15,000 | 153 | | | | | | | | | | |
| 22,000 | 223 | | | | | | | | | | |
| 33,000 | 333 | | | | | | | | | | |
| 47,000 | 473 | | | | | | | | | | |
| 68,000 | 683 | | | | | | | | | | |
| 100,000 | 104 | | | █ | | | | | | | |
| 150,000 | 154 | | | | | | | | | | |
| 220,000 | 224 | | | | | | | | | | |
| 330,000 | 334 | | | | | | | | | | |
| 470,000 | 474 | | | | | | | | | | |
| 680,000 | 684 | | | | | | | | | | |
| 1,000,000 | 105 | | | | | | | | | | |
| 2,200,000 | 225 | | | | | | | | | | |

| Capacitance (pF) | Cap Code | Tolerance | Y5V | | | | |
|------------------|----------|-------------|----------|----------|----------|----------|-----------|
| | | | 1H (50V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) |
| 100,000 | 104 | Z: +80/-20% | █ | | | | |
| 220,000 | 224 | | | | | | |
| 470,000 | 474 | | | | | | |
| 1,000,000 | 105 | | | | | | |
| 2,200,000 | 225 | | | | | | |
| 4,700,000 | 475 | | | | | | |
| 10,000,000 | 106 | | | | | | █ |

Standard Thickness

0.80 mm



Capacitance Range Table

C1608 [EIA CC0603]

Class 1 (Temperature Compensating)

Temperature Characteristics: C0G (-55 to 125°C, 0±30 ppm/°C)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C1608C0G1H0R5B | C0G | 50V | 0.5 | ± 0.10pF | 0.80 ± 0.10 |
| C1608C0G1H0R5C | C0G | 50V | 0.5 | ± 0.25pF | 0.80 ± 0.10 |
| C1608C0G1HR75C | C0G | 50V | 0.75 | ± 0.25pF | 0.80 ± 0.10 |
| C1608C0G1H010B | C0G | 50V | 1.0 | ± 0.10pF | 0.80 ± 0.10 |
| C1608C0G1H010C | C0G | 50V | 1.0 | ± 0.25pF | 0.80 ± 0.10 |
| C1608C0G1H1R2B | C0G | 50V | 1.2 | ± 0.10pF | 0.80 ± 0.10 |
| C1608C0G1H1R2C | C0G | 50V | 1.2 | ± 0.25pF | 0.80 ± 0.10 |
| C1608C0G1H1R5B | C0G | 50V | 1.5 | ± 0.10pF | 0.80 ± 0.10 |
| C1608C0G1H1R5C | C0G | 50V | 1.5 | ± 0.25pF | 0.80 ± 0.10 |
| C1608C0G1H1R8B | C0G | 50V | 1.8 | ± 0.10pF | 0.80 ± 0.10 |
| C1608C0G1H1R8C | C0G | 50V | 1.8 | ± 0.25pF | 0.80 ± 0.10 |
| C1608C0G1H020B | C0G | 50V | 2.0 | ± 0.10pF | 0.80 ± 0.10 |
| C1608C0G1H020C | C0G | 50V | 2.0 | ± 0.25pF | 0.80 ± 0.10 |
| C1608C0G1H2R2B | C0G | 50V | 2.2 | ± 0.10pF | 0.80 ± 0.10 |
| C1608C0G1H2R2C | C0G | 50V | 2.2 | ± 0.25pF | 0.80 ± 0.10 |
| C1608C0G1H2R7B | C0G | 50V | 2.7 | ± 0.10pF | 0.80 ± 0.10 |
| C1608C0G1H2R7C | C0G | 50V | 2.7 | ± 0.25pF | 0.80 ± 0.10 |
| C1608C0G1H030B | C0G | 50V | 3.0 | ± 0.10pF | 0.80 ± 0.10 |
| C1608C0G1H030C | C0G | 50V | 3.0 | ± 0.25pF | 0.80 ± 0.10 |
| C1608C0G1H3R3B | C0G | 50V | 3.3 | ± 0.10pF | 0.80 ± 0.10 |
| C1608C0G1H3R3C | C0G | 50V | 3.3 | ± 0.25pF | 0.80 ± 0.10 |
| C1608C0G1H3R9B | C0G | 50V | 3.9 | ± 0.10pF | 0.80 ± 0.10 |
| C1608C0G1H3R9C | C0G | 50V | 3.9 | ± 0.25pF | 0.80 ± 0.10 |
| C1608C0G1H040B | C0G | 50V | 4.0 | ± 0.10pF | 0.80 ± 0.10 |
| C1608C0G1H040C | C0G | 50V | 4.0 | ± 0.25pF | 0.80 ± 0.10 |
| C1608C0G1H4R7B | C0G | 50V | 4.7 | ± 0.10pF | 0.80 ± 0.10 |
| C1608C0G1H4R7C | C0G | 50V | 4.7 | ± 0.25pF | 0.80 ± 0.10 |
| C1608C0G1H050B | C0G | 50V | 5.0 | ± 0.10pF | 0.80 ± 0.10 |
| C1608C0G1H050C | C0G | 50V | 5.0 | ± 0.25pF | 0.80 ± 0.10 |
| C1608C0G1H5R6C | C0G | 50V | 5.6 | ± 0.25pF | 0.80 ± 0.10 |
| C1608C0G1H5R6D | C0G | 50V | 5.6 | ± 0.50pF | 0.80 ± 0.10 |
| C1608C0G1H060C | C0G | 50V | 6.0 | ± 0.25pF | 0.80 ± 0.10 |
| C1608C0G1H060D | C0G | 50V | 6.0 | ± 0.50pF | 0.80 ± 0.10 |
| C1608C0G1H6R8C | C0G | 50V | 6.8 | ± 0.25pF | 0.80 ± 0.10 |
| C1608C0G1H6R8D | C0G | 50V | 6.8 | ± 0.50pF | 0.80 ± 0.10 |
| C1608C0G1H070C | C0G | 50V | 7.0 | ± 0.25pF | 0.80 ± 0.10 |
| C1608C0G1H070D | C0G | 50V | 7.0 | ± 0.50pF | 0.80 ± 0.10 |
| C1608C0G1H080C | C0G | 50V | 8.0 | ± 0.25pF | 0.80 ± 0.10 |
| C1608C0G1H080D | C0G | 50V | 8.0 | ± 0.50pF | 0.80 ± 0.10 |
| C1608C0G1H8R2C | C0G | 50V | 8.2 | ± 0.25pF | 0.80 ± 0.10 |
| C1608C0G1H8R2D | C0G | 50V | 8.2 | ± 0.50pF | 0.80 ± 0.10 |
| C1608C0G1H090C | C0G | 50V | 9.0 | ± 0.25pF | 0.80 ± 0.10 |
| C1608C0G1H090D | C0G | 50V | 9.0 | ± 0.50pF | 0.80 ± 0.10 |
| C1608C0G1H100C | C0G | 50V | 10 | ± 0.25pF | 0.80 ± 0.10 |



Capacitance Range Table

C1608 [EIA CC0603]

Class 1 (Temperature Compensating)

Temperature Characteristics: C0G (-55 to 125°C, 0±30 ppm/°C)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C1608C0G1H100D | C0G | 50V | 10 | ± 0.50pF | 0.80 ± 0.10 |
| C1608C0G1H110J | C0G | 50V | 11 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H120J | C0G | 50V | 12 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H130J | C0G | 50V | 13 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H150J | C0G | 50V | 15 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H160J | C0G | 50V | 16 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H180J | C0G | 50V | 18 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H200J | C0G | 50V | 20 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H220J | C0G | 50V | 22 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H240J | C0G | 50V | 24 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H270J | C0G | 50V | 27 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H300J | C0G | 50V | 30 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H330J | C0G | 50V | 33 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H360J | C0G | 50V | 36 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H390J | C0G | 50V | 39 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H430J | C0G | 50V | 43 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H470J | C0G | 50V | 47 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H510J | C0G | 50V | 51 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H560J | C0G | 50V | 56 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H620J | C0G | 50V | 62 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H680J | C0G | 50V | 68 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H750J | C0G | 50V | 75 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H820J | C0G | 50V | 82 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H910J | C0G | 50V | 91 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H101J | C0G | 50V | 100 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H111J | C0G | 50V | 110 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H121J | C0G | 50V | 120 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H131J | C0G | 50V | 130 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H151J | C0G | 50V | 150 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H161J | C0G | 50V | 160 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H181J | C0G | 50V | 180 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H201J | C0G | 50V | 200 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H221J | C0G | 50V | 220 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H241J | C0G | 50V | 240 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H271J | C0G | 50V | 270 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H301J | C0G | 50V | 300 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H331J | C0G | 50V | 330 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H361J | C0G | 50V | 360 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H391J | C0G | 50V | 390 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H431J | C0G | 50V | 430 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H471J | C0G | 50V | 470 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H511J | C0G | 50V | 510 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H561J | C0G | 50V | 560 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H621J | C0G | 50V | 620 | ± 5% | 0.80 ± 0.10 |



Capacitance Range Table

C1608 [EIA CC0603]

Class 1 (Temperature Compensating)

Temperature Characteristics: C0G (-55 to 125°C, 0±30 ppm/°C)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|---------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C1608C0G1H681J | C0G | 50V | 680 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H751J | C0G | 50V | 750 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H821J | C0G | 50V | 820 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H911J | C0G | 50V | 910 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H102J | C0G | 50V | 1,000 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H122J | C0G | 50V | 1,200 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H152J | C0G | 50V | 1,500 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H182J | C0G | 50V | 1,800 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H222J | C0G | 50V | 2,200 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H272J | C0G | 50V | 2,700 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H332J | C0G | 50V | 3,300 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H392J | C0G | 50V | 3,900 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H472J | C0G | 50V | 4,700 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H562J | C0G | 50V | 5,600 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H682J | C0G | 50V | 6,800 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H822J | C0G | 50V | 8,200 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1H103J | C0G | 50V | 10,000 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1E392J | C0G | 25V | 3,900 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1E472J | C0G | 25V | 4,700 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1E562J | C0G | 25V | 5,600 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1E682J | C0G | 25V | 6,800 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1E822J | C0G | 25V | 8,200 | ± 5% | 0.80 ± 0.10 |
| C1608C0G1E103J | C0G | 25V | 10,000 | ± 5% | 0.80 ± 0.10 |

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|---------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C1608X7R1H101K | X7R | 50V | 100 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1H101M | X7R | 50V | 100 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1H221K | X7R | 50V | 220 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1H221M | X7R | 50V | 220 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1H331K | X7R | 50V | 330 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1H331M | X7R | 50V | 330 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1H471K | X7R | 50V | 470 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1H471M | X7R | 50V | 470 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1H681K | X7R | 50V | 680 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1H681M | X7R | 50V | 680 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1H102J | X7R | 50V | 1,000 | ± 5% | 0.80 ± 0.10 |
| C1608X7R1H102K | X7R | 50V | 1,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1H102M | X7R | 50V | 1,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1H152K | X7R | 50V | 1,500 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1H152M | X7R | 50V | 1,500 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1H222K | X7R | 50V | 2,200 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1H222M | X7R | 50V | 2,200 | ± 20% | 0.80 ± 0.10 |



Capacitance Range Table

C1608 [EIA CC0603]

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|--------------------------------|------------------|---------------------|--------------------------|-------------------|
| C1608X7R1H332K | X7R | 50V | 3,300 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1H332M | X7R | 50V | 3,300 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1H472K | X7R | 50V | 4,700 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1H472M | X7R | 50V | 4,700 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1H682K | X7R | 50V | 6,800 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1H682M | X7R | 50V | 6,800 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1H103J | X7R | 50V | 10,000 | ± 5% | 0.80 ± 0.10 |
| C1608X7R1H103K | X7R | 50V | 10,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1H103M | X7R | 50V | 10,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1H153K | X7R | 50V | 15,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1H153M | X7R | 50V | 15,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1H223K | X7R | 50V | 22,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1H223M | X7R | 50V | 22,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1H333K | X7R | 50V | 33,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1H333M | X7R | 50V | 33,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1H473K | X7R | 50V | 47,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1H473M | X7R | 50V | 47,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1H683K | X7R | 50V | 68,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1H683M | X7R | 50V | 68,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1H104K | X7R | 50V | 100,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1H104M | X7R | 50V | 100,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1H154K | X7R | 50V | 150,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1H154M | X7R | 50V | 150,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1H224K | X7R | 50V | 220,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1H224M | X7R | 50V | 220,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1H334K | X7R | 50V | 330,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1H334M | X7R | 50V | 330,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1H474K | X7R | 50V | 470,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1H474M | X7R | 50V | 470,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1V334K | X7R | 35V | 330,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1V334M | X7R | 35V | 330,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1V474K | X7R | 35V | 470,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1V474M | X7R | 35V | 470,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1V105K | X7R | 35V | 1,000,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1V105M | X7R | 35V | 1,000,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1E103J | X7R | 25V | 10,000 | ± 5% | 0.80 ± 0.10 |
| C1608X7R1E103K | X7R | 25V | 10,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1E103M | X7R | 25V | 10,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1E153K | X7R | 25V | 15,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1E153M | X7R | 25V | 15,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1E223K | X7R | 25V | 22,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1E223M | X7R | 25V | 22,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1E333K | X7R | 25V | 33,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1E333M | X7R | 25V | 33,000 | ± 20% | 0.80 ± 0.10 |



Capacitance Range Table

C1608 [EIA CC0603]

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C1608X7R1E473K | X7R | 25V | 47,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1E473M | X7R | 25V | 47,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1E683K | X7R | 25V | 68,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1E683M | X7R | 25V | 68,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1E104K | X7R | 25V | 100,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1E104M | X7R | 25V | 100,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1E154K | X7R | 25V | 150,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1E154M | X7R | 25V | 150,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1E224K | X7R | 25V | 220,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1E224M | X7R | 25V | 220,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1E334K | X7R | 25V | 330,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1E334M | X7R | 25V | 330,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1E474K | X7R | 25V | 470,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1E474M | X7R | 25V | 470,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1E684K | X7R | 25V | 680,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1E684M | X7R | 25V | 680,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1E105K | X7R | 25V | 1,000,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1E105M | X7R | 25V | 1,000,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1C223K | X7R | 16V | 22,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1C223M | X7R | 16V | 22,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1C333K | X7R | 16V | 33,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1C333M | X7R | 16V | 33,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1C473K | X7R | 16V | 47,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1C473M | X7R | 16V | 47,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1C683K | X7R | 16V | 68,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1C683M | X7R | 16V | 68,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1C104K | X7R | 16V | 100,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1C104M | X7R | 16V | 100,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1C154K | X7R | 16V | 150,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1C154M | X7R | 16V | 150,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1C224K | X7R | 16V | 220,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1C224M | X7R | 16V | 220,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1C334K | X7R | 16V | 330,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1C334M | X7R | 16V | 330,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1C474K | X7R | 16V | 470,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1C474M | X7R | 16V | 470,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1C684K | X7R | 16V | 680,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1C684M | X7R | 16V | 680,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1C105K | X7R | 16V | 1,000,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1C105M | X7R | 16V | 1,000,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1A224K | X7R | 10V | 220,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1A224M | X7R | 10V | 220,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1A334K | X7R | 10V | 330,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1A334M | X7R | 10V | 330,000 | ± 20% | 0.80 ± 0.10 |



Capacitance Range Table

C1608 [EIA CC0603]

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%), X6S (-55 to +105°C, ±22%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C1608X7R1A474K | X7R | 10V | 470,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1A474M | X7R | 10V | 470,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1A105K | X7R | 10V | 1,000,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1A105M | X7R | 10V | 1,000,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R1A225K | X7R | 10V | 2,200,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R1A225M | X7R | 10V | 2,200,000 | ± 20% | 0.80 ± 0.10 |
| C1608X7R0J225K | X7R | 6.3V | 2,200,000 | ± 10% | 0.80 ± 0.10 |
| C1608X7R0J225M | X7R | 6.3V | 2,200,000 | ± 20% | 0.80 ± 0.10 |
| C1608X6S1H224K | X6S | 50V | 220,000 | ± 10% | 0.80 ± 0.10 |
| C1608X6S1H224M | X6S | 50V | 220,000 | ± 20% | 0.80 ± 0.10 |
| C1608X6S1H474K | X6S | 50V | 470,000 | ± 10% | 0.80 ± 0.10 |
| C1608X6S1H474M | X6S | 50V | 470,000 | ± 20% | 0.80 ± 0.10 |
| C1608X6S1H105K | X6S | 50V | 1,000,000 | ± 10% | 0.80 ± 0.10 |
| C1608X6S1H105M | X6S | 50V | 1,000,000 | ± 20% | 0.80 ± 0.10 |
| C1608X6S1V224K | X6S | 35V | 220,000 | ± 10% | 0.80 ± 0.10 |
| C1608X6S1V224M | X6S | 35V | 220,000 | ± 20% | 0.80 ± 0.10 |
| C1608X6S1V474K | X6S | 35V | 470,000 | ± 10% | 0.80 ± 0.10 |
| C1608X6S1V474M | X6S | 35V | 470,000 | ± 20% | 0.80 ± 0.10 |
| C1608X6S1V105K | X6S | 35V | 1,000,000 | ± 10% | 0.80 ± 0.10 |
| C1608X6S1V105M | X6S | 35V | 1,000,000 | ± 20% | 0.80 ± 0.10 |
| C1608X6S1E474K | X6S | 25V | 470,000 | ± 10% | 0.80 ± 0.10 |
| C1608X6S1E474M | X6S | 25V | 470,000 | ± 20% | 0.80 ± 0.10 |
| C1608X6S1E105K | X6S | 25V | 1,000,000 | ± 10% | 0.80 ± 0.10 |
| C1608X6S1E105M | X6S | 25V | 1,000,000 | ± 20% | 0.80 ± 0.10 |
| C1608X6S1C105K | X6S | 16V | 1,000,000 | ± 10% | 0.80 ± 0.10 |
| C1608X6S1C105M | X6S | 16V | 1,000,000 | ± 20% | 0.80 ± 0.10 |
| C1608X6S1C225K | X6S | 16V | 2,200,000 | ± 10% | 0.80 ± 0.10 |
| C1608X6S1C225M | X6S | 16V | 2,200,000 | ± 20% | 0.80 ± 0.10 |
| C1608X6S1A225K/0.50 | X6S | 10V | 2,200,000 | ± 10% | 0.50 ± 0.05 |
| C1608X6S1A225M/0.50 | X6S | 10V | 2,200,000 | ± 20% | 0.50 ± 0.05 |
| C1608X6S1A475K | X6S | 10V | 4,700,000 | ± 10% | 0.80 ± 0.10 |
| C1608X6S1A475M | X6S | 10V | 4,700,000 | ± 20% | 0.80 ± 0.10 |
| C1608X6S0J225K | X6S | 6.3V | 2,200,000 | ± 10% | 0.80 ± 0.10 |
| C1608X6S0J225M | X6S | 6.3V | 2,200,000 | ± 20% | 0.80 ± 0.10 |
| C1608X6S0J475K | X6S | 6.3V | 4,700,000 | ± 10% | 0.80 ± 0.10 |
| C1608X6S0J475M | X6S | 6.3V | 4,700,000 | ± 20% | 0.80 ± 0.10 |
| C1608X6S0G225K/0.50 | X6S | 4V | 2,200,000 | ± 10% | 0.50 ± 0.05 |
| C1608X6S0G225M/0.50 | X6S | 4V | 2,200,000 | ± 20% | 0.50 ± 0.05 |
| C1608X6S0G475K/0.50 | X6S | 4V | 4,700,000 | ± 10% | 0.50 ± 0.05 |
| C1608X6S0G475M/0.50 | X6S | 4V | 4,700,000 | ± 20% | 0.50 ± 0.05 |
| C1608X6S0G475K/0.80 | X6S | 4V | 4,700,000 | ± 10% | 0.80 ± 0.10 |
| C1608X6S0G475M/0.80 | X6S | 4V | 4,700,000 | ± 20% | 0.80 ± 0.10 |
| C1608X6S0G106K | X6S | 4V | 10,000,000 | ± 10% | 0.80 ± 0.10 |
| C1608X6S0G106M | X6S | 4V | 10,000,000 | ± 20% | 0.80 ± 0.10 |



Capacitance Range Table

C1608 [EIA CC0603]

Class 2 (Temperature Stable)

Temperature Characteristics: X5R (-55 to +85°C, ±15%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C1608X5R1H104K | X5R | 50V | 100,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1H104M | X5R | 50V | 100,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1H154K | X5R | 50V | 150,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1H154M | X5R | 50V | 150,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1H224K | X5R | 50V | 220,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1H224M | X5R | 50V | 220,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1H334K | X5R | 50V | 330,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1H334M | X5R | 50V | 330,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1H474K | X5R | 50V | 470,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1H474M | X5R | 50V | 470,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1H684K | X5R | 50V | 680,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1H684M | X5R | 50V | 680,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1H105K | X5R | 50V | 1,000,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1H105M | X5R | 50V | 1,000,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1V105K | X5R | 35V | 1,000,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1V105M | X5R | 35V | 1,000,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1E154K | X5R | 25V | 150,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1E154M | X5R | 25V | 150,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1E224K | X5R | 25V | 220,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1E224M | X5R | 25V | 220,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1E334K | X5R | 25V | 330,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1E334M | X5R | 25V | 330,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1E474K | X5R | 25V | 470,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1E474M | X5R | 25V | 470,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1E105K | X5R | 25V | 1,000,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1E105M | X5R | 25V | 1,000,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1E155K | X5R | 25V | 1,500,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1E155M | X5R | 25V | 1,500,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1E225K | X5R | 25V | 2,200,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1E225M | X5R | 25V | 2,200,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1C224K | X5R | 16V | 220,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1C224M | X5R | 16V | 220,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1C334K | X5R | 16V | 330,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1C334M | X5R | 16V | 330,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1C474K | X5R | 16V | 470,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1C474M | X5R | 16V | 470,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1C684K | X5R | 16V | 680,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1C684M | X5R | 16V | 680,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1C105K | X5R | 16V | 1,000,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1C105M | X5R | 16V | 1,000,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1C225K/0.50 | X5R | 16V | 2,200,000 | ± 10% | 0.50 ± 0.05 |
| C1608X5R1C225M/0.50 | X5R | 16V | 2,200,000 | ± 20% | 0.50 ± 0.05 |
| C1608X5R1C225K/0.80 | X5R | 16V | 2,200,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1C225M/0.80 | X5R | 16V | 2,200,000 | ± 20% | 0.80 ± 0.10 |



Capacitance Range Table

C1608 [EIA CC0603]

Class 2 (Temperature Stable)

Temperature Characteristics: X5R (-55 to +85°C, ±15%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C1608X5R1C335K | X5R | 16V | 3,300,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1C335M | X5R | 16V | 3,300,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1C475K | X5R | 16V | 4,700,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1C475M | X5R | 16V | 4,700,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1A224K | X5R | 10V | 220,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1A224M | X5R | 10V | 220,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1A334K | X5R | 10V | 330,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1A334M | X5R | 10V | 330,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1A474K | X5R | 10V | 470,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1A474M | X5R | 10V | 470,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1A684K | X5R | 10V | 680,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1A684M | X5R | 10V | 680,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1A105K | X5R | 10V | 1,000,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1A105M | X5R | 10V | 1,000,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1A225K/0.50 | X5R | 10V | 2,200,000 | ± 10% | 0.50 ± 0.05 |
| C1608X5R1A225M/0.50 | X5R | 10V | 2,200,000 | ± 20% | 0.50 ± 0.05 |
| C1608X5R1A225K/0.80 | X5R | 10V | 2,200,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1A225M/0.80 | X5R | 10V | 2,200,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1A335K | X5R | 10V | 3,300,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1A335M | X5R | 10V | 3,300,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1A475K/0.50 | X5R | 10V | 4,700,000 | ± 10% | 0.50 ± 0.05 |
| C1608X5R1A475M/0.50 | X5R | 10V | 4,700,000 | ± 20% | 0.50 ± 0.05 |
| C1608X5R1A475K/0.80 | X5R | 10V | 4,700,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1A475M/0.80 | X5R | 10V | 4,700,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1A685K | X5R | 10V | 6,800,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1A685M | X5R | 10V | 6,800,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R1A106K | X5R | 10V | 10,000,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R1A106M | X5R | 10V | 10,000,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R0J105K | X5R | 6.3V | 1,000,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R0J105M | X5R | 6.3V | 1,000,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R0J155K | X5R | 6.3V | 1,500,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R0J155M | X5R | 6.3V | 1,500,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R0J225K | X5R | 6.3V | 2,200,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R0J225M | X5R | 6.3V | 2,200,000 | ± 20% | 0.80 ± 0.10 |
| C1608X5R0J335K | X5R | 6.3V | 3,300,000 | ± 10% | 0.80 ± 0.15 |
| C1608X5R0J335M | X5R | 6.3V | 3,300,000 | ± 20% | 0.80 ± 0.15 |
| C1608X5R0J475K/0.50 | X5R | 6.3V | 4,700,000 | ± 10% | 0.50 ± 0.05 |
| C1608X5R0J475M/0.50 | X5R | 6.3V | 4,700,000 | ± 20% | 0.50 ± 0.05 |
| C1608X5R0J475K/0.80 | X5R | 6.3V | 4,700,000 | ± 10% | 0.80 ± 0.15 |
| C1608X5R0J475M/0.80 | X5R | 6.3V | 4,700,000 | ± 20% | 0.80 ± 0.15 |
| C1608X5R0J685K | X5R | 6.3V | 6,800,000 | ± 10% | 0.80 ± 0.15 |
| C1608X5R0J685M | X5R | 6.3V | 6,800,000 | ± 20% | 0.80 ± 0.15 |
| C1608X5R0J106K | X5R | 6.3V | 10,000,000 | ± 10% | 0.80 ± 0.10 |
| C1608X5R0J106M | X5R | 6.3V | 10,000,000 | ± 20% | 0.80 ± 0.20 |



Capacitance Range Table

C1608 [EIA CC0603]

Class 2 (Temperature Stable)

Temperature Characteristics: X5R (-55 to +85°C, ±15%), Y5V(-30 to +85°C, +22/-82%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C1608X5R0G106M | X5R | 4V | 10,000,000 | ± 20% | 0.80 ± 0.20 |
| C1608Y5V1H104Z | Y5V | 50V | 100,000 | +80/-20% | 0.80 ± 0.10 |
| C1608Y5V1H224Z | Y5V | 50V | 220,000 | +80/-20% | 0.80 ± 0.10 |
| C1608Y5V1H474Z | Y5V | 50V | 470,000 | +80/-20% | 0.80 ± 0.10 |
| C1608Y5V1E104Z | Y5V | 25V | 100,000 | +80/-20% | 0.80 ± 0.10 |
| C1608Y5V1E224Z | Y5V | 25V | 220,000 | +80/-20% | 0.80 ± 0.10 |
| C1608Y5V1E474Z | Y5V | 25V | 470,000 | +80/-20% | 0.80 ± 0.10 |
| C1608Y5V1E105Z | Y5V | 25V | 1,000,000 | +80/-20% | 0.80 ± 0.10 |
| C1608Y5V1C104Z | Y5V | 16V | 100,000 | +80/-20% | 0.80 ± 0.10 |
| C1608Y5V1C105Z | Y5V | 16V | 1,000,000 | +80/-20% | 0.80 ± 0.10 |
| C1608Y5V1C225Z | Y5V | 16V | 2,200,000 | +80/-20% | 0.80 ± 0.10 |
| C1608Y5V1A105Z | Y5V | 10V | 1,000,000 | +80/-20% | 0.80 ± 0.10 |
| C1608Y5V1A225Z | Y5V | 10V | 2,200,000 | +80/-20% | 0.80 ± 0.10 |
| C1608Y5V0J475Z | Y5V | 6.3V | 4,700,000 | +80/-20% | 0.80 ± 0.10 |
| C1608Y5V0J106Z | Y5V | 6.3V | 10,000,000 | +80/-20% | 0.80 ± 0.15 |



Capacitance Range Chart

C2012 [EIA CC0805]

Capacitance Range Chart

Temperature Characteristics: C0G ($0 \pm 30\text{ppm}/^\circ\text{C}$)
 Rated Voltage: 50V (1H), 25V (1E)

| Capacitance (pF) | Cap Code | Tolerance | C0G | |
|------------------|----------|--------------|----------|----------|
| | | | 1H (50V) | 1E (25V) |
| 10 | 100 | J: $\pm 5\%$ | █ | |
| 100 | 101 | | | |
| 120 | 121 | | | |
| 150 | 151 | | | |
| 180 | 181 | | | |
| 220 | 221 | | | |
| 270 | 271 | | | |
| 330 | 331 | | | |
| 390 | 391 | | | |
| 470 | 471 | | | |
| 560 | 561 | | | |
| 680 | 681 | | | |
| 820 | 821 | | | |
| 1,000 | 102 | | | |
| 1,200 | 122 | | | |
| 1,500 | 152 | | | |
| 1,800 | 182 | | | |
| 2,200 | 222 | | | |
| 2,700 | 272 | | | |
| 3,300 | 332 | | | |
| 3,900 | 392 | | | █ |
| 4,700 | 472 | | | █ |
| 5,600 | 562 | | | █ |
| 6,800 | 682 | | | |
| 8,200 | 822 | | | |
| 10,000 | 103 | | | |
| 15,000 | 153 | | | █ |
| 22,000 | 223 | | | █ |
| 33,000 | 333 | | | █ |

• Standard capacitance is shown. Please refer to Capacitance Range Table for additional capacitance values.

Capacitance Range Chart

Temperature Characteristics: X6S ($\pm 22\%$)
 Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J), 4V(0G)

| Capacitance (pF) | Cap Code | Tolerance | X6S | | | | | | |
|------------------|----------|--------------------------------|----------|----------|----------|----------|----------|-----------|---------|
| | | | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0G (4V) |
| 1,000,000 | 105 | K: $\pm 10\%$ M: $\pm 20\%$ | █ | | | | | | |
| 2,200,000 | 225 | | | █ | | █ | | | |
| 4,700,000 | 475 | | | | | | █ | | |
| 10,000,000 | 106 | | | | | | | █ | |
| 22,000,000 | 226 | | | | | | | | █ |
| 47,000,000 | 476 | | | | | | | █ | |

• Standard thickness is shown. Please refer to Capacitance Range Table for additional thicknesses.

Standard Thickness

| | |
|---|---------|
| █ | 0.60 mm |
| █ | 0.85 mm |
| █ | 1.25 mm |



Capacitance Range Chart

C2012 [EIA CC0805]

Capacitance Range Chart

Temperature Characteristics: X7R ($\pm 15\%$), X5R ($\pm 15\%$), Y5V (+22/-82%)

Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J), 4V (0G)

| Capacitance (pF) | Cap Code | Tolerance | X5R | | | | | |
|------------------|----------|--------------------------------|----------|----------|----------|----------|-----------|---------|
| | | | 1H (50V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0G (4V) |
| 1,000,000 | 105 | K: $\pm 10\%$ M: $\pm 20\%$ | █ | █ | █ | █ | █ | |
| 1,500,000 | 155 | | | | | | | |
| 2,200,000 | 225 | | | | | | | |
| 3,300,000 | 335 | | | | | | | |
| 4,700,000 | 475 | | | | | | | |
| 6,800,000 | 685 | | | | | | | |
| 10,000,000 | 106 | | | | | | | |
| 15,000,000 | 156 | | | | | | | |
| 22,000,000 | 226 | | | | | | | |
| 33,000,000 | 336 | | | | | | | |
| 47,000,000 | 476 | | | | | | █ | |

| Capacitance (pF) | Cap Code | Tolerance | X7R | | | | | |
|------------------|----------|--------------------------------|----------|----------|----------|----------|----------|-----------|
| | | | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) |
| 1,000 | 102 | K: $\pm 10\%$ M: $\pm 20\%$ | █ | | | | | |
| 2,200 | 222 | | | | | | | |
| 4,700 | 472 | | | | | | | |
| 10,000 | 103 | | | | | | | |
| 22,000 | 223 | | | | | | | |
| 47,000 | 473 | | | | | | | |
| 100,000 | 104 | | | | | █ | | |
| 150,000 | 154 | | | | | | | |
| 220,000 | 224 | | | | | | | |
| 330,000 | 334 | | | | | | | |
| 470,000 | 474 | | | | | | | |
| 680,000 | 684 | | | | | | | |
| 1,000,000 | 105 | | | █ | | | | |
| 1,500,000 | 155 | | | | | | | |
| 2,200,000 | 225 | | | | | | | |
| 3,300,000 | 335 | | | | | | | |
| 4,700,000 | 475 | | | | | | | |
| 10,000,000 | 106 | | | | | | █ | |

| Capacitance (pF) | Cap Code | Tolerance | Y5V | | | | |
|------------------|----------|-------------|----------|----------|----------|----------|-----------|
| | | | 1H (50V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) |
| 100,000 | 104 | Z: +80/-20% | █ | | | | |
| 470,000 | 474 | | | | | | |
| 1,000,000 | 105 | | | █ | | | |
| 2,200,000 | 225 | | | | | | |
| 4,700,000 | 475 | | | | | | |
| 10,000,000 | 106 | | | | | | |
| 22,000,000 | 226 | | | | | █ | |

Standard Thickness

| | |
|--|---------|
| | 0.60 mm |
| | 0.85 mm |
| | 1.25 mm |

• Standard thickness is shown. Please refer to Capacitance Range Table for additional thicknesses.



Capacitance Range Table

C2012 [EIA CC0805]

Class 1 (Temperature Compensating)

Temperature Characteristics: C0G (-55 to 125°C, 0±30 ppm/°C)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C2012C0G1H100D | C0G | 50V | 10 | ± 0.50pF | 0.60 ± 0.10 |
| C2012C0G1H101J | C0G | 50V | 100 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H121J | C0G | 50V | 120 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H151J | C0G | 50V | 150 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H181J | C0G | 50V | 180 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H221J | C0G | 50V | 220 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H271J | C0G | 50V | 270 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H331J | C0G | 50V | 330 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H391J | C0G | 50V | 390 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H471J | C0G | 50V | 470 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H561J | C0G | 50V | 560 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H681J | C0G | 50V | 680 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H821J | C0G | 50V | 820 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H102J | C0G | 50V | 1,000 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H122J | C0G | 50V | 1,200 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H152J | C0G | 50V | 1,500 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H182J/0.60 | C0G | 50V | 1,800 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H182J/0.85 | C0G | 50V | 1,800 | ± 5% | 0.85 ± 0.10 |
| C2012C0G1H222J/0.60 | C0G | 50V | 2,200 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H222J/0.85 | C0G | 50V | 2,200 | ± 5% | 0.85 ± 0.10 |
| C2012C0G1H272J/0.60 | C0G | 50V | 2,700 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H272J/1.25 | C0G | 50V | 2,700 | ± 5% | 1.25 ± 0.20 |
| C2012C0G1H332J/0.60 | C0G | 50V | 3,300 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H332J/1.25 | C0G | 50V | 3,300 | ± 5% | 1.25 ± 0.20 |
| C2012C0G1H392J/0.60 | C0G | 50V | 3,900 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H392J/0.85 | C0G | 50V | 3,900 | ± 5% | 0.85 ± 0.10 |
| C2012C0G1H472J/0.60 | C0G | 50V | 4,700 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H472J/0.85 | C0G | 50V | 4,700 | ± 5% | 0.85 ± 0.10 |
| C2012C0G1H562J/0.60 | C0G | 50V | 5,600 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H562J/0.85 | C0G | 50V | 5,600 | ± 5% | 0.85 ± 0.10 |
| C2012C0G1H682J/0.60 | C0G | 50V | 6,800 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H682J/1.25 | C0G | 50V | 6,800 | ± 5% | 1.25 ± 0.20 |
| C2012C0G1H822J/0.60 | C0G | 50V | 8,200 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H822J/1.25 | C0G | 50V | 8,200 | ± 5% | 1.25 ± 0.20 |
| C2012C0G1H103J/0.60 | C0G | 50V | 10,000 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1H103J/1.25 | C0G | 50V | 10,000 | ± 5% | 1.25 ± 0.20 |
| C2012C0G1H153J | C0G | 50V | 15,000 | ± 5% | 0.85 ± 0.10 |
| C2012C0G1H223J | C0G | 50V | 22,000 | ± 5% | 1.25 ± 0.20 |
| C2012C0G1H333J | C0G | 50V | 33,000 | ± 5% | 1.25 ± 0.20 |
| C2012C0G1E392J | C0G | 25V | 3,900 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1E472J | C0G | 25V | 4,700 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1E562J | C0G | 25V | 5,600 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1E682J | C0G | 25V | 6,800 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1E822J | C0G | 25V | 8,200 | ± 5% | 0.60 ± 0.10 |



Capacitance Range Table

C2012 [EIA CC0805]

Class 1 (Temperature Compensating)

Temperature Characteristics: C0G (-55 to 125°C, 0±30 ppm/°C)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|---------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C2012C0G1E103J | C0G | 25V | 10,000 | ± 5% | 0.60 ± 0.10 |
| C2012C0G1E153J | C0G | 25V | 15,000 | ± 5% | 0.85 ± 0.10 |
| C2012C0G1E223J | C0G | 25V | 22,000 | ± 5% | 1.25 ± 0.20 |
| C2012C0G1E333J | C0G | 25V | 33,000 | ± 5% | 1.25 ± 0.20 |

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|---------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C2012X7R1H102K | X7R | 50V | 1,000 | ± 10% | 0.60 ± 0.10 |
| C2012X7R1H102M | X7R | 50V | 1,000 | ± 20% | 0.60 ± 0.10 |
| C2012X7R1H222K | X7R | 50V | 2,200 | ± 10% | 0.60 ± 0.10 |
| C2012X7R1H222M | X7R | 50V | 2,200 | ± 20% | 0.60 ± 0.10 |
| C2012X7R1H472K | X7R | 50V | 4,700 | ± 10% | 0.60 ± 0.10 |
| C2012X7R1H472M | X7R | 50V | 4,700 | ± 20% | 0.60 ± 0.10 |
| C2012X7R1H103K | X7R | 50V | 10,000 | ± 10% | 0.60 ± 0.10 |
| C2012X7R1H103M | X7R | 50V | 10,000 | ± 20% | 0.60 ± 0.10 |
| C2012X7R1H223K/0.60 | X7R | 50V | 22,000 | ± 10% | 0.60 ± 0.10 |
| C2012X7R1H223M/0.60 | X7R | 50V | 22,000 | ± 20% | 0.60 ± 0.10 |
| C2012X7R1H473K/1.25 | X7R | 50V | 47,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1H473M/1.25 | X7R | 50V | 47,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1H104K/0.85 | X7R | 50V | 100,000 | ± 10% | 0.85 ± 0.10 |
| C2012X7R1H104M/0.85 | X7R | 50V | 100,000 | ± 20% | 0.85 ± 0.10 |
| C2012X7R1H104K/1.25 | X7R | 50V | 100,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1H104M/1.25 | X7R | 50V | 100,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1H154K | X7R | 50V | 150,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1H154M | X7R | 50V | 150,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1H224K | X7R | 50V | 220,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1H224M | X7R | 50V | 220,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1H334K | X7R | 50V | 330,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1H334M | X7R | 50V | 330,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1H474K | X7R | 50V | 470,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1H474M | X7R | 50V | 470,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1H684K | X7R | 50V | 680,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1H684M | X7R | 50V | 680,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1H105K | X7R | 50V | 1,000,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1H105M | X7R | 50V | 1,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1H155K | X7R | 50V | 1,500,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1H155M | X7R | 50V | 1,500,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1H225K | X7R | 50V | 2,200,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1H225M | X7R | 50V | 2,200,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1V105K | X7R | 35V | 1,000,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1V105M | X7R | 35V | 1,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1V225K | X7R | 35V | 2,200,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1V225M | X7R | 35V | 2,200,000 | ± 20% | 1.25 ± 0.20 |



Capacitance Range Table

C2012 [EIA CC0805]

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C2012X7R1V335K | X7R | 35V | 3,300,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1V335M | X7R | 35V | 3,300,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1V475K | X7R | 35V | 4,700,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1V475M | X7R | 35V | 4,700,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1E104K/0.85 | X7R | 25V | 100,000 | ± 10% | 0.85 ± 0.10 |
| C2012X7R1E104M/0.85 | X7R | 25V | 100,000 | ± 20% | 0.85 ± 0.10 |
| C2012X7R1E104K/1.25 | X7R | 25V | 100,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1E104M/1.25 | X7R | 25V | 100,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1E224K | X7R | 25V | 220,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1E224M | X7R | 25V | 220,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1E334K | X7R | 25V | 330,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1E334M | X7R | 25V | 330,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1E474K | X7R | 25V | 470,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1E474M | X7R | 25V | 470,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1E684K | X7R | 25V | 680,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1E684M | X7R | 25V | 680,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1E105K | X7R | 25V | 1,000,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1E105M | X7R | 25V | 1,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1E155K | X7R | 25V | 1,500,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1E155M | X7R | 25V | 1,500,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1E225K | X7R | 25V | 2,200,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1E225M | X7R | 25V | 2,200,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1E335K | X7R | 25V | 3,300,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1E335M | X7R | 25V | 3,300,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1E475K | X7R | 25V | 4,700,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1E475M | X7R | 25V | 4,700,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1C224K | X7R | 16V | 220,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1C224M | X7R | 16V | 220,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1C334K/1.25 | X7R | 16V | 330,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1C334M/1.25 | X7R | 16V | 330,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1C474K | X7R | 16V | 470,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1C474M | X7R | 16V | 470,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1C684K | X7R | 16V | 680,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1C684M | X7R | 16V | 680,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1C105K/0.85 | X7R | 16V | 1,000,000 | ± 10% | 0.85 ± 0.10 |
| C2012X7R1C105M/0.85 | X7R | 16V | 1,000,000 | ± 20% | 0.85 ± 0.10 |
| C2012X7R1C105K/1.25 | X7R | 16V | 1,000,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1C105M/1.25 | X7R | 16V | 1,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1C155K | X7R | 16V | 1,500,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1C155M | X7R | 16V | 1,500,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1C225K | X7R | 16V | 2,200,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1C225M | X7R | 16V | 2,200,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1C335K | X7R | 16V | 3,300,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1C335M | X7R | 16V | 3,300,000 | ± 20% | 1.25 ± 0.20 |



Capacitance Range Table

C2012 [EIA CC0805]

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%), X6S(-55 to 105°C, ±22%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|---------------------------------|-----------------------------|---------------|------------------|-----------------------|------------------|
| C2012X7R1C475K | X7R | 16V | 4,700,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1C475M | X7R | 16V | 4,700,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1A105K | X7R | 10V | 1,000,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1A105M | X7R | 10V | 1,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1A155K | X7R | 10V | 1,500,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1A155M | X7R | 10V | 1,500,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1A225K | X7R | 10V | 2,200,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1A225M | X7R | 10V | 2,200,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1A335K | X7R | 10V | 3,300,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1A335M | X7R | 10V | 3,300,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1A475K | X7R | 10V | 4,700,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1A475M | X7R | 10V | 4,700,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R1A106K | X7R | 10V | 10,000,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R1A106M | X7R | 10V | 10,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X7R0J106K | X7R | 6.3V | 10,000,000 | ± 10% | 1.25 ± 0.20 |
| C2012X7R0J106M | X7R | 6.3V | 10,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X6S1H105K | X6S | 50V | 1,000,000 | ± 10% | 1.25 ± 0.20 |
| C2012X6S1H105M | X6S | 50V | 1,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X6S1H225K | X6S | 50V | 2,200,000 | ± 10% | 1.25 ± 0.20 |
| C2012X6S1H225M | X6S | 50V | 2,200,000 | ± 20% | 1.25 ± 0.20 |
| C2012X6S1H475K | X6S | 50V | 4,700,000 | ± 10% | 1.25 ± 0.20 |
| C2012X6S1H475M | X6S | 50V | 4,700,000 | ± 20% | 1.25 ± 0.20 |
| C2012X6S1V475K | X6S | 35V | 4,700,000 | ± 10% | 1.25 ± 0.20 |
| C2012X6S1V475M | X6S | 35V | 4,700,000 | ± 20% | 1.25 ± 0.20 |
| C2012X6S1E225K | X6S | 25V | 2,200,000 | ± 10% | 1.25 ± 0.20 |
| C2012X6S1E225M | X6S | 25V | 2,200,000 | ± 20% | 1.25 ± 0.20 |
| C2012X6S1E475K | X6S | 25V | 4,700,000 | ± 10% | 1.25 ± 0.20 |
| C2012X6S1E475M | X6S | 25V | 4,700,000 | ± 20% | 1.25 ± 0.20 |
| C2012X6S1C225K | X6S | 16V | 2,200,000 | ± 10% | 0.90 +0.05,-0.10 |
| C2012X6S1C225M | X6S | 16V | 2,200,000 | ± 20% | 0.90 +0.05,-0.10 |
| C2012X6S1C475K | X6S | 16V | 4,700,000 | ± 10% | 1.25 ± 0.20 |
| C2012X6S1C475M | X6S | 16V | 4,700,000 | ± 20% | 1.25 ± 0.20 |
| C2012X6S1C106K | X6S | 16V | 10,000,000 | ± 10% | 1.25 ± 0.20 |
| C2012X6S1C106M | X6S | 16V | 10,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X6S1A106K/0.85 | X6S | 10V | 10,000,000 | ± 10% | 0.85 ± 0.10 |
| C2012X6S1A106M/0.85 | X6S | 10V | 10,000,000 | ± 20% | 0.85 ± 0.10 |
| C2012X6S1A226K | X6S | 10V | 22,000,000 | ± 10% | 1.25 ± 0.20 |
| C2012X6S1A226M | X6S | 10V | 22,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X6S0J106K | X6S | 6.3V | 10,000,000 | ± 10% | 0.85 ± 0.10 |
| C2012X6S0J106M | X6S | 6.3V | 10,000,000 | ± 20% | 0.85 ± 0.10 |
| C2012X6S0J226K | X6S | 6.3V | 22,000,000 | ± 10% | 1.25 ± 0.20 |
| C2012X6S0J226M | X6S | 6.3V | 22,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X6S0G226M | X6S | 4V | 22,000,000 | ± 20% | 0.85 ± 0.10 |
| C2012X6S0G476M | X6S | 4V | 47,000,000 | ± 20% | 1.25 ± 0.20 |



Capacitance Range Table

C2012 [EIA CC0805]

Class 2 (Temperature Stable)

Temperature Characteristics: X5R (-55 to +85°C, ±15%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|--------------------------------|------------------|---------------------|--------------------------|-------------------|
| C2012X5R1H105K | X5R | 50V | 1,000,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1H105M | X5R | 50V | 1,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1H155K | X5R | 50V | 1,500,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1H155M | X5R | 50V | 1,500,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1H225K | X5R | 50V | 2,200,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1H225M | X5R | 50V | 2,200,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1H335K | X5R | 50V | 3,300,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1H335M | X5R | 50V | 3,300,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1H475K | X5R | 50V | 4,700,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1H475M | X5R | 50V | 4,700,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1E105K/0.85 | X5R | 25V | 1,000,000 | ± 10% | 0.85 ± 0.10 |
| C2012X5R1E105M/0.85 | X5R | 25V | 1,000,000 | ± 20% | 0.85 ± 0.10 |
| C2012X5R1E105K/1.25 | X5R | 25V | 1,000,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1E105M/1.25 | X5R | 25V | 1,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1E155K | X5R | 25V | 1,500,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1E155M | X5R | 25V | 1,500,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1E225K | X5R | 25V | 2,200,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1E225M | X5R | 25V | 2,200,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1E475K | X5R | 25V | 4,700,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1E475M | X5R | 25V | 4,700,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1E685K | X5R | 25V | 6,800,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1E685M | X5R | 25V | 6,800,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1E106K | X5R | 25V | 10,000,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1E106M | X5R | 25V | 10,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1C105K/0.85 | X5R | 16V | 1,000,000 | ± 10% | 0.85 ± 0.10 |
| C2012X5R1C105M/0.85 | X5R | 16V | 1,000,000 | ± 20% | 0.85 ± 0.10 |
| C2012X5R1C105K/1.25 | X5R | 16V | 1,000,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1C105M/1.25 | X5R | 16V | 1,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1C225K/0.85 | X5R | 16V | 2,200,000 | ± 10% | 0.85 ± 0.10 |
| C2012X5R1C225M/0.85 | X5R | 16V | 2,200,000 | ± 20% | 0.85 ± 0.10 |
| C2012X5R1C225K/1.25 | X5R | 16V | 2,200,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1C225M/1.25 | X5R | 16V | 2,200,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1C475K/1.25 | X5R | 16V | 4,700,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1C475M/1.25 | X5R | 16V | 4,700,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1C685K | X5R | 16V | 6,800,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1C685M | X5R | 16V | 6,800,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1C106K/0.85 | X5R | 16V | 10,000,000 | ± 10% | 0.85 ± 0.10 |
| C2012X5R1C106M/0.85 | X5R | 16V | 10,000,000 | ± 20% | 0.85 ± 0.10 |
| C2012X5R1C106K/1.25 | X5R | 16V | 10,000,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1C106M/1.25 | X5R | 16V | 10,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1C226K | X5R | 16V | 22,000,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1C226M | X5R | 16V | 22,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1A105K/0.85 | X5R | 10V | 1,000,000 | ± 10% | 0.85 ± 0.10 |
| C2012X5R1A105M/0.85 | X5R | 10V | 1,000,000 | ± 20% | 0.85 ± 0.10 |



Capacitance Range Table

C2012 [EIA CC0805]

Class 2 (Temperature Stable)

Temperature Characteristics: X5R (-55 to +85°C, ±15%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C2012X5R1A105K/1.25 | X5R | 10V | 1,000,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1A105M/1.25 | X5R | 10V | 1,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1A225K/0.85 | X5R | 10V | 2,200,000 | ± 10% | 0.85 ± 0.10 |
| C2012X5R1A225M/0.85 | X5R | 10V | 2,200,000 | ± 20% | 0.85 ± 0.10 |
| C2012X5R1A225K/1.25 | X5R | 10V | 2,200,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1A225M/1.25 | X5R | 10V | 2,200,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1A335K | X5R | 10V | 3,300,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1A335M | X5R | 10V | 3,300,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1A475K/0.85 | X5R | 10V | 4,700,000 | ± 10% | 0.85 ± 0.10 |
| C2012X5R1A475M/0.85 | X5R | 10V | 4,700,000 | ± 20% | 0.85 ± 0.10 |
| C2012X5R1A475K/1.25 | X5R | 10V | 4,700,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1A475M/1.25 | X5R | 10V | 4,700,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1A106K/0.85 | X5R | 10V | 10,000,000 | ± 10% | 0.85 ± 0.10 |
| C2012X5R1A106M/0.85 | X5R | 10V | 10,000,000 | ± 20% | 0.85 ± 0.10 |
| C2012X5R1A106K/1.25 | X5R | 10V | 10,000,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1A106M/1.25 | X5R | 10V | 10,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1A156M | X5R | 10V | 15,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R1A226M/0.85 | X5R | 10V | 22,000,000 | ± 20% | 0.85 ± 0.10 |
| C2012X5R1A226K/1.25 | X5R | 10V | 22,000,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R1A226M/1.25 | X5R | 10V | 22,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R0J225K/0.85 | X5R | 6.3V | 2,200,000 | ± 10% | 0.85 ± 0.10 |
| C2012X5R0J225M/0.85 | X5R | 6.3V | 2,200,000 | ± 20% | 0.85 ± 0.10 |
| C2012X5R0J225K/1.25 | X5R | 6.3V | 2,200,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R0J225M/1.25 | X5R | 6.3V | 2,200,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R0J335K/1.25 | X5R | 6.3V | 3,300,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R0J335M/1.25 | X5R | 6.3V | 3,300,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R0J475K/0.85 | X5R | 6.3V | 4,700,000 | ± 10% | 0.85 ± 0.10 |
| C2012X5R0J475M/0.85 | X5R | 6.3V | 4,700,000 | ± 20% | 0.85 ± 0.10 |
| C2012X5R0J475K/1.25 | X5R | 6.3V | 4,700,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R0J475M/1.25 | X5R | 6.3V | 4,700,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R0J685K/1.25 | X5R | 6.3V | 6,800,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R0J685M/1.25 | X5R | 6.3V | 6,800,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R0J106K/0.85 | X5R | 6.3V | 10,000,000 | ± 10% | 0.85 ± 0.10 |
| C2012X5R0J106M/0.85 | X5R | 6.3V | 10,000,000 | ± 20% | 0.85 ± 0.10 |
| C2012X5R0J106K/1.25 | X5R | 6.3V | 10,000,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R0J106M/1.25 | X5R | 6.3V | 10,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R0J156M/0.85 | X5R | 6.3V | 15,000,000 | ± 20% | 0.85 ± 0.10 |
| C2012X5R0J156M/1.25 | X5R | 6.3V | 15,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R0J226M/0.85 | X5R | 6.3V | 22,000,000 | ± 20% | 0.85 ± 0.10 |
| C2012X5R0J226K/1.25 | X5R | 6.3V | 22,000,000 | ± 10% | 1.25 ± 0.20 |
| C2012X5R0J226M/1.25 | X5R | 6.3V | 22,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R0J336M | X5R | 6.3V | 33,000,000 | ± 20% | 1.25 ± 0.20 |



Capacitance Range Table

C2012 [EIA CC0805]

Class 2 (Temperature Stable)

Temperature Characteristics: X5R (-55 to +85°C, ±15%), Y5V(-30 to +85°C, +22/-82%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C2012X5R0J476M | X5R | 6.3V | 47,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012X5R0G476M | X5R | 4V | 47,000,000 | ± 20% | 1.25 ± 0.20 |
| C2012Y5V1H104Z/0.60 | Y5V | 50V | 100,000 | +80/-20% | 0.60 ± 0.10 |
| C2012Y5V1H104Z/0.85 | Y5V | 50V | 100,000 | +80/-20% | 0.85 ± 0.10 |
| C2012Y5V1H474Z/0.85 | Y5V | 50V | 470,000 | +80/-20% | 0.85 ± 0.10 |
| C2012Y5V1H105Z/0.85 | Y5V | 50V | 1,000,000 | +80/-20% | 0.85 ± 0.10 |
| C2012Y5V1H105Z/1.25 | Y5V | 50V | 1,000,000 | +80/-20% | 1.25 ± 0.20 |
| C2012Y5V1H225Z | Y5V | 50V | 2,200,000 | +80/-20% | 1.25 ± 0.20 |
| C2012Y5V1E105Z/0.85 | Y5V | 25V | 1,000,000 | +80/-20% | 0.85 ± 0.10 |
| C2012Y5V1E105Z/1.25 | Y5V | 25V | 1,000,000 | +80/-20% | 1.25 ± 0.20 |
| C2012Y5V1E225Z | Y5V | 25V | 2,200,000 | +80/-20% | 1.25 ± 0.20 |
| C2012Y5V1E475Z | Y5V | 25V | 4,700,000 | +80/-20% | 1.25 ± 0.20 |
| C2012Y5V1C105Z/0.85 | Y5V | 16V | 1,000,000 | +80/-20% | 0.85 ± 0.10 |
| C2012Y5V1C105Z/1.25 | Y5V | 16V | 1,000,000 | +80/-20% | 1.25 ± 0.20 |
| C2012Y5V1C225Z/0.85 | Y5V | 16V | 2,200,000 | +80/-20% | 0.85 ± 0.10 |
| C2012Y5V1C225Z/1.25 | Y5V | 16V | 2,200,000 | +80/-20% | 1.25 ± 0.20 |
| C2012Y5V1C475Z/0.85 | Y5V | 16V | 4,700,000 | +80/-20% | 0.85 ± 0.10 |
| C2012Y5V1C475Z/1.25 | Y5V | 16V | 4,700,000 | +80/-20% | 1.25 ± 0.20 |
| C2012Y5V1C106Z | Y5V | 16V | 10,000,000 | +80/-20% | 1.25 ± 0.20 |
| C2012Y5V1A475Z/0.85 | Y5V | 10V | 4,700,000 | +80/-20% | 0.85 ± 0.10 |
| C2012Y5V1A475Z/1.25 | Y5V | 10V | 4,700,000 | +80/-20% | 1.25 ± 0.20 |
| C2012Y5V1A106Z | Y5V | 10V | 10,000,000 | +80/-20% | 1.25 ± 0.20 |
| C2012Y5V0J106Z | Y5V | 6.3V | 10,000,000 | +80/-20% | 1.25 ± 0.20 |
| C2012Y5V0J226Z | Y5V | 6.3V | 22,000,000 | +80/-20% | 1.25 ± 0.20 |



Capacitance Range Chart

C3216 [EIA CC1206]

Capacitance Range Chart

Temperature Characteristics: C0G (0 ± 30ppm/°C)
 Rated Voltage: 50V (1H), 25V (1E), 10V (1A)

| Capacitance (pF) | Cap Code | Tolerance | C0G | | SL |
|------------------|----------|-----------|----------|----------|----------|
| | | | 1H (50V) | 1E (25V) | 1A (10V) |
| 3,900 | 392 | J: ± 5% | | | |
| 4,700 | 472 | | | | |
| 5,600 | 562 | | | | |
| 6,800 | 682 | | | | |
| 8,200 | 822 | | | | |
| 10,000 | 103 | | | | |
| 15,000 | 153 | | | | |
| 22,000 | 223 | | | | |
| 33,000 | 333 | | | | |
| 47,000 | 473 | | | | |
| 68,000 | 683 | | | | |
| 100,000 | 104 | | | | |
| 220,000 | 224 | | | | |

Capacitance Range Chart

Temperature Characteristics: X7R (±15%), X6S (± 22%), X5R (±15%), Y5V (+22/-82)
 Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J), 4V(0G)

| Capacitance (pF) | Cap Code | Tolerance | X5R | | | | | | X6S | | |
|------------------|----------|-----------|----------|----------|----------|----------|-----------|---------|----------|-----------|---------|
| | | | 1H (50V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0G (4V) | 1A (10V) | 0J (6.3V) | 0G (4V) |
| 1,000,000 | 105 | K: ± 10% | | | | | | | | | |
| 2,200,000 | 225 | | | | | | | | | | |
| 3,300,000 | 335 | | | | | | | | | | |
| 4,700,000 | 475 | | | | | | | | | | |
| 6,800,000 | 685 | | | | | | | | | | |
| 10,000,000 | 106 | | | | | | | | | | |
| 15,000,000 | 156 | | | | | | | | | | |
| 22,000,000 | 226 | | | | | | | | | | |
| 33,000,000 | 336 | | | | | | | | | | |
| 47,000,000 | 476 | | | | | | | | | | |
| 100,000,000 | 107 | | | | | | | | | | |

| Capacitance (pF) | Cap Code | Tolerance | X7R | | | | | Y5V | | | | |
|------------------|----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------------|
| | | | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 1H (50V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) |
| 100,000 | 104 | K: ± 10% | | | | | | | | | | |
| 220,000 | 224 | | | | | | | | | | | M: ± 20% |
| 330,000 | 334 | | | | | | | | | | | Z: +80/-20% |
| 470,000 | 474 | | | | | | | | | | | |
| 680,000 | 684 | | | | | | | | | | | |
| 1,000,000 | 105 | | | | | | | | | | | |
| 1,500,000 | 155 | | | | | | | | | | | |
| 2,200,000 | 225 | | | | | | | | | | | |
| 3,300,000 | 335 | | | | | | | | | | | |
| 4,700,000 | 475 | | | | | | | | | | | |
| 6,800,000 | 685 | | | | | | | | | | | |
| 10,000,000 | 106 | | | | | | | | | | | |
| 22,000,000 | 226 | | | | | | | | | | | |
| 47,000,000 | 476 | | | | | | | | | | | |

Standard Thickness

0.60 mm 0.85 mm 1.15 mm 1.30 mm 1.60 mm

• Standard capacitance and thickness is shown. Please refer to Capacitance Range Table for additional capacitance values and thicknesses.



Capacitance Range Table

C3216 [EIA CC1206]

Class 1 (Temperature Compensating)

Temperature Characteristics: C0G (-55 to 125°C, 0±30 ppm/°C), SL (-25 to +85°C, +350/-1000 ppm/°C)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|---------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C3216C0G1H392J | C0G | 50V | 3,900 | ± 5% | 0.60 ± 0.10 |
| C3216C0G1H472J/0.60 | C0G | 50V | 4,700 | ± 5% | 0.60 ± 0.10 |
| C3216C0G1H472J/0.85 | C0G | 50V | 4,700 | ± 5% | 0.85 ± 0.10 |
| C3216C0G1H562J/0.60 | C0G | 50V | 5,600 | ± 5% | 0.60 ± 0.10 |
| C3216C0G1H562J/0.85 | C0G | 50V | 5,600 | ± 5% | 0.85 ± 0.10 |
| C3216C0G1H682J/0.60 | C0G | 50V | 6,800 | ± 5% | 0.60 ± 0.10 |
| C3216C0G1H822J/0.60 | C0G | 50V | 8,200 | ± 5% | 0.60 ± 0.10 |
| C3216C0G1H822J/0.85 | C0G | 50V | 8,200 | ± 5% | 0.85 ± 0.10 |
| C3216C0G1H822J/1.15 | C0G | 50V | 8,200 | ± 5% | 1.15 ± 0.10 |
| C3216C0G1H103J/0.60 | C0G | 50V | 10,000 | ± 5% | 0.60 ± 0.10 |
| C3216C0G1H103J/1.15 | C0G | 50V | 10,000 | ± 5% | 1.15 ± 0.10 |
| C3216C0G1H153J/0.60 | C0G | 50V | 15,000 | ± 5% | 0.60 ± 0.10 |
| C3216C0G1H153J/1.15 | C0G | 50V | 15,000 | ± 5% | 1.15 ± 0.10 |
| C3216C0G1H223J/0.60 | C0G | 50V | 22,000 | ± 5% | 0.60 ± 0.10 |
| C3216C0G1H223J/1.15 | C0G | 50V | 22,000 | ± 5% | 1.15 ± 0.10 |
| C3216C0G1H333J/0.85 | C0G | 50V | 33,000 | ± 5% | 0.85 ± 0.10 |
| C3216C0G1H333J/1.60 | C0G | 50V | 33,000 | ± 5% | 1.60 ± 0.30 |
| C3216C0G1H473J | C0G | 50V | 47,000 | ± 5% | 1.15 ± 0.10 |
| C3216C0G1H683J | C0G | 50V | 68,000 | ± 5% | 1.60 ± 0.30 |
| C3216C0G1H104J | C0G | 50V | 100,000 | ± 5% | 1.60 ± 0.30 |
| C3216C0G1E822J | C0G | 25V | 8,200 | ± 5% | 0.60 ± 0.20 |
| C3216C0G1E103J | C0G | 25V | 10,000 | ± 5% | 0.60 ± 0.20 |
| C3216C0G1E153J | C0G | 25V | 15,000 | ± 5% | 0.60 ± 0.20 |
| C3216C0G1E223J | C0G | 25V | 22,000 | ± 5% | 0.60 ± 0.10 |
| C3216C0G1E333J | C0G | 25V | 33,000 | ± 5% | 0.85 ± 0.10 |
| C3216C0G1E473J | C0G | 25V | 47,000 | ± 5% | 1.15 ± 0.10 |
| C3216C0G1E683J | C0G | 25V | 68,000 | ± 5% | 1.60 ± 0.30 |
| C3216C0G1E104J | C0G | 25V | 100,000 | ± 5% | 1.60 ± 0.30 |
| C3216SL1A224J | SL | 10V | 220,000 | ± 5% | 1.60 ± 0.30 |

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|---------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C3216X7R1H104K | X7R | 50V | 100,000 | ± 10% | 0.85 ± 0.10 |
| C3216X7R1H104M | X7R | 50V | 100,000 | ± 20% | 0.85 ± 0.10 |
| C3216X7R1H224K | X7R | 50V | 220,000 | ± 10% | 1.15 ± 0.10 |
| C3216X7R1H224M | X7R | 50V | 220,000 | ± 20% | 1.15 ± 0.10 |
| C3216X7R1H334K | X7R | 50V | 330,000 | ± 10% | 1.60 ± 0.30 |
| C3216X7R1H334M | X7R | 50V | 330,000 | ± 20% | 1.60 ± 0.30 |
| C3216X7R1H474K | X7R | 50V | 470,000 | ± 10% | 1.60 ± 0.30 |
| C3216X7R1H474M | X7R | 50V | 470,000 | ± 20% | 1.60 ± 0.30 |
| C3216X7R1H684K | X7R | 50V | 680,000 | ± 10% | 1.60 ± 0.30 |
| C3216X7R1H684M | X7R | 50V | 680,000 | ± 20% | 1.60 ± 0.30 |
| C3216X7R1H105K | X7R | 50V | 1,000,000 | ± 10% | 1.60 ± 0.30 |



Capacitance Range Table

C3216 [EIA CC1206]

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C3216X7R1H105M | X7R | 50V | 1,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X7R1H155K | X7R | 50V | 1,500,000 | ± 10% | 1.60 ± 0.30 |
| C3216X7R1H155M | X7R | 50V | 1,500,000 | ± 20% | 1.60 ± 0.30 |
| C3216X7R1H225K | X7R | 50V | 2,200,000 | ± 10% | 1.60 ± 0.30 |
| C3216X7R1H225M | X7R | 50V | 2,200,000 | ± 20% | 1.60 ± 0.30 |
| C3216X7R1H335K | X7R | 50V | 3,300,000 | ± 10% | 1.60 ± 0.30 |
| C3216X7R1H335M | X7R | 50V | 3,300,000 | ± 20% | 1.60 ± 0.30 |
| C3216X7R1V335K | X7R | 35V | 3,300,000 | ± 10% | 1.60 ± 0.30 |
| C3216X7R1V475K | X7R | 35V | 4,700,000 | ± 10% | 1.60 ± 0.30 |
| C3216X7R1E224K | X7R | 25V | 220,000 | ± 10% | 1.15 ± 0.10 |
| C3216X7R1E224M | X7R | 25V | 220,000 | ± 20% | 1.15 ± 0.10 |
| C3216X7R1E334K | X7R | 25V | 330,000 | ± 10% | 1.15 ± 0.10 |
| C3216X7R1E334M | X7R | 25V | 330,000 | ± 20% | 1.15 ± 0.10 |
| C3216X7R1E474K/0.85 | X7R | 25V | 470,000 | ± 10% | 0.85 ± 0.10 |
| C3216X7R1E474M/0.85 | X7R | 25V | 470,000 | ± 20% | 0.85 ± 0.10 |
| C3216X7R1E684K/0.85 | X7R | 25V | 680,000 | ± 10% | 0.85 ± 0.10 |
| C3216X7R1E684M/0.85 | X7R | 25V | 680,000 | ± 20% | 0.85 ± 0.10 |
| C3216X7R1E105K/0.85 | X7R | 25V | 1,000,000 | ± 10% | 0.85 ± 0.10 |
| C3216X7R1E105M/0.85 | X7R | 25V | 1,000,000 | ± 20% | 0.85 ± 0.10 |
| C3216X7R1E105K/1.60 | X7R | 25V | 1,000,000 | ± 10% | 1.60 ± 0.30 |
| C3216X7R1E105M/1.60 | X7R | 25V | 1,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X7R1E155K | X7R | 25V | 1,500,000 | ± 10% | 1.60 ± 0.30 |
| C3216X7R1E155M | X7R | 25V | 1,500,000 | ± 20% | 1.60 ± 0.30 |
| C3216X7R1E225K | X7R | 25V | 2,200,000 | ± 10% | 1.60 ± 0.30 |
| C3216X7R1E225M | X7R | 25V | 2,200,000 | ± 20% | 1.60 ± 0.30 |
| C3216X7R1E335K | X7R | 25V | 3,300,000 | ± 10% | 1.60 ± 0.30 |
| C3216X7R1E335M | X7R | 25V | 3,300,000 | ± 20% | 1.60 ± 0.30 |
| C3216X7R1E475K | X7R | 25V | 4,700,000 | ± 10% | 1.60 ± 0.30 |
| C3216X7R1E475M | X7R | 25V | 4,700,000 | ± 20% | 1.60 ± 0.30 |
| C3216X7R1E685K | X7R | 25V | 6,800,000 | ± 10% | 1.60 ± 0.30 |
| C3216X7R1E685M | X7R | 25V | 6,800,000 | ± 20% | 1.60 ± 0.30 |
| C3216X7R1E106K | X7R | 25V | 10,000,000 | ± 10% | 1.60 ± 0.30 |
| C3216X7R1E106M | X7R | 25V | 10,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X7R1C474K | X7R | 16V | 470,000 | ± 10% | 1.15 ± 0.10 |
| C3216X7R1C474M | X7R | 16V | 470,000 | ± 20% | 1.15 ± 0.10 |
| C3216X7R1C105K/0.85 | X7R | 16V | 1,000,000 | ± 10% | 0.85 ± 0.10 |
| C3216X7R1C105M/0.85 | X7R | 16V | 1,000,000 | ± 20% | 0.85 ± 0.10 |
| C3216X7R1C105K/1.15 | X7R | 16V | 1,000,000 | ± 10% | 1.15 ± 0.10 |
| C3216X7R1C105K/1.30 | X7R | 16V | 1,000,000 | ± 10% | 1.30 ± 0.15 |
| C3216X7R1C225K/1.60 | X7R | 16V | 2,200,000 | ± 10% | 1.60 ± 0.30 |
| C3216X7R1C225M/1.60 | X7R | 16V | 2,200,000 | ± 20% | 1.60 ± 0.30 |
| C3216X7R1C335K/1.60 | X7R | 16V | 3,300,000 | ± 10% | 1.60 ± 0.30 |
| C3216X7R1C335M/1.60 | X7R | 16V | 3,300,000 | ± 20% | 1.60 ± 0.30 |
| C3216X7R1C475K/1.60 | X7R | 16V | 4,700,000 | ± 10% | 1.60 ± 0.30 |



Capacitance Range Table

C3216 [EIA CC1206]

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%), X6S(-55 to 105°C, ±22%), X5R (-55 to +85°C, ±15%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C3216X7R1C475M/1.60 | X7R | 16V | 4,700,000 | ± 20% | 1.60 ± 0.30 |
| C3216X7R1C685K | X7R | 16V | 6,800,000 | ± 10% | 1.60 ± 0.30 |
| C3216X7R1C685M | X7R | 16V | 6,800,000 | ± 20% | 1.60 ± 0.30 |
| C3216X7R1C106K | X7R | 16V | 10,000,000 | ± 10% | 1.60 ± 0.30 |
| C3216X7R1C106M | X7R | 16V | 10,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X7R1A106K | X7R | 10V | 10,000,000 | ± 10% | 1.60 ± 0.30 |
| C3216X7R1A106M | X7R | 10V | 10,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X6S1A476M | X6S | 10V | 47,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X6S0J476M | X6S | 6.3V | 47,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X6S0G107M | X6S | 4V | 100,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1H105K | X5R | 50V | 1,000,000 | ± 10% | 1.60 ± 0.30 |
| C3216X5R1H105M | X5R | 50V | 1,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1H335K | X5R | 50V | 3,300,000 | ± 10% | 1.60 ± 0.30 |
| C3216X5R1H335M | X5R | 50V | 3,300,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1H475K | X5R | 50V | 4,700,000 | ± 10% | 1.60 ± 0.30 |
| C3216X5R1H475M | X5R | 50V | 4,700,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1H685K | X5R | 50V | 6,800,000 | ± 10% | 1.60 ± 0.30 |
| C3216X5R1H685M | X5R | 50V | 6,800,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1H106K | X5R | 50V | 10,000,000 | ± 10% | 1.60 ± 0.30 |
| C3216X5R1H106M | X5R | 50V | 10,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1E225K | X5R | 25V | 2,200,000 | ± 10% | 1.60 ± 0.30 |
| C3216X5R1E225M | X5R | 25V | 2,200,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1E335K/1.60 | X5R | 25V | 3,300,000 | ± 10% | 1.60 ± 0.30 |
| C3216X5R1E335M/1.60 | X5R | 25V | 3,300,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1E475K | X5R | 25V | 4,700,000 | ± 10% | 1.60 ± 0.30 |
| C3216X5R1E475M | X5R | 25V | 4,700,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1E106K | X5R | 25V | 10,000,000 | ± 10% | 1.60 ± 0.30 |
| C3216X5R1E106M | X5R | 25V | 10,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1E226M | X5R | 25V | 22,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1C225K/1.60 | X5R | 16V | 2,200,000 | ± 10% | 1.60 ± 0.30 |
| C3216X5R1C225M/1.60 | X5R | 16V | 2,200,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1C335K/1.60 | X5R | 16V | 3,300,000 | ± 10% | 1.60 ± 0.30 |
| C3216X5R1C335M/1.60 | X5R | 16V | 3,300,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1C475K/1.15 | X5R | 16V | 4,700,000 | ± 10% | 1.15 ± 0.10 |
| C3216X5R1C475M/1.15 | X5R | 16V | 4,700,000 | ± 20% | 1.15 ± 0.10 |
| C3216X5R1C475K/1.60 | X5R | 16V | 4,700,000 | ± 10% | 1.60 ± 0.30 |
| C3216X5R1C475M/1.60 | X5R | 16V | 4,700,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1C685K | X5R | 16V | 6,800,000 | ± 10% | 1.60 ± 0.30 |
| C3216X5R1C685M | X5R | 16V | 6,800,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1C106K | X5R | 16V | 10,000,000 | ± 10% | 1.60 ± 0.30 |
| C3216X5R1C106M | X5R | 16V | 10,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1C226M | X5R | 16V | 22,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1C336M | X5R | 16V | 33,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1C476M | X5R | 16V | 47,000,000 | ± 20% | 1.60 ± 0.30 |



Capacitance Range Table

C3216 [EIA CC1206]

Class 2 (Temperature Stable)

Temperature Characteristics: X5R (-55 to +85°C, ±15%), Y5V(-30 to +85°C, +22/-82%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C3216X5R1A225K/0.85 | X5R | 10V | 2,200,000 | ± 10% | 0.85 ± 0.10 |
| C3216X5R1A225M/0.85 | X5R | 10V | 2,200,000 | ± 20% | 0.85 ± 0.10 |
| C3216X5R1A335K/0.85 | X5R | 10V | 3,300,000 | ± 10% | 0.85 ± 0.10 |
| C3216X5R1A335M/0.85 | X5R | 10V | 3,300,000 | ± 20% | 0.85 ± 0.10 |
| C3216X5R1A335K/1.15 | X5R | 10V | 3,300,000 | ± 10% | 1.15 ± 0.10 |
| C3216X5R1A335M/1.15 | X5R | 10V | 3,300,000 | ± 20% | 1.15 ± 0.10 |
| C3216X5R1A475K | X5R | 10V | 4,700,000 | ± 10% | 1.60 ± 0.30 |
| C3216X5R1A475M | X5R | 10V | 4,700,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1A106K | X5R | 10V | 10,000,000 | ± 10% | 1.60 ± 0.30 |
| C3216X5R1A106M | X5R | 10V | 10,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1A226M | X5R | 10V | 22,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1A336M | X5R | 10V | 33,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1A476M | X5R | 10V | 47,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R1A107M | X5R | 10V | 100,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R0J106K/0.85 | X5R | 6.3V | 10,000,000 | ± 10% | 0.85 ± 0.10 |
| C3216X5R0J106M/0.85 | X5R | 6.3V | 10,000,000 | ± 20% | 0.85 ± 0.10 |
| C3216X5R0J106K/1.60 | X5R | 6.3V | 10,000,000 | ± 10% | 1.60 ± 0.30 |
| C3216X5R0J106M/1.60 | X5R | 6.3V | 10,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R0J156M | X5R | 6.3V | 15,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R0J226M/0.85 | X5R | 6.3V | 22,000,000 | ± 20% | 0.85 ± 0.10 |
| C3216X5R0J226K/1.60 | X5R | 6.3V | 22,000,000 | ± 10% | 1.60 ± 0.30 |
| C3216X5R0J226M/1.60 | X5R | 6.3V | 22,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R0J336M | X5R | 6.3V | 33,000,000 | ± 20% | 1.30 ± 0.15 |
| C3216X5R0J476M | X5R | 6.3V | 47,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R0J107M | X5R | 6.3V | 100,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216X5R0G107M | X5R | 4V | 100,000,000 | ± 20% | 1.60 ± 0.30 |
| C3216Y5V1H225Z/0.85 | Y5V | 50V | 2,200,000 | +80/-20% | 0.85 ± 0.10 |
| C3216Y5V1H225Z/1.15 | Y5V | 50V | 2,200,000 | +80/-20% | 1.15 ± 0.10 |
| C3216Y5V1H475Z | Y5V | 50V | 4,700,000 | +80/-20% | 1.60 ± 0.30 |
| C3216Y5V1E475Z/0.85 | Y5V | 25V | 4,700,000 | +80/-20% | 0.85 ± 0.10 |
| C3216Y5V1E475Z/1.15 | Y5V | 25V | 4,700,000 | +80/-20% | 1.15 ± 0.10 |
| C3216Y5V1E106Z | Y5V | 25V | 10,000,000 | +80/-20% | 1.60 ± 0.30 |
| C3216Y5V1C475Z/0.85 | Y5V | 16V | 4,700,000 | +80/-20% | 0.85 ± 0.10 |
| C3216Y5V1C475Z/1.15 | Y5V | 16V | 4,700,000 | +80/-20% | 1.15 ± 0.10 |
| C3216Y5V1C475Z/1.30 | Y5V | 16V | 4,700,000 | +80/-20% | 1.30 ± 0.15 |
| C3216Y5V1C106Z | Y5V | 16V | 10,000,000 | +80/-20% | 1.60 ± 0.30 |
| C3216Y5V1C226Z | Y5V | 16V | 22,000,000 | +80/-20% | 1.60 ± 0.30 |
| C3216Y5V1A106Z/0.85 | Y5V | 10V | 10,000,000 | +80/-20% | 0.85 ± 0.10 |
| C3216Y5V1A106Z/1.15 | Y5V | 10V | 10,000,000 | +80/-20% | 1.15 ± 0.10 |
| C3216Y5V1A226Z | Y5V | 10V | 22,000,000 | +80/-20% | 1.60 ± 0.30 |
| C3216Y5V0J476Z | Y5V | 6.3V | 47,000,000 | +80/-20% | 1.60 ± 0.30 |



Capacitance Range Chart

C3225 [EIA CC1210]

Capacitance Range Chart

Temperature Characteristics: C0G (0 ± 30ppm/°C)
 Rated Voltage: 50V (1H)

| Capacitance (pF) | Cap Code | Tolerance | C0G |
|------------------|----------|-----------|----------|
| | | | 1H (50V) |
| 22,000 | 223 | J: ± 5% | |
| 33,000 | 333 | | |
| 47,000 | 473 | | |
| 68,000 | 683 | | |
| 100,000 | 104 | | |

Capacitance Range Chart

Temperature Characteristics: X7R (±15%), X7S (±22%), X5R (±15%), X6S (±22%), Y5V (+22/-82%)
 Rated Voltage: 50V (1H), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J), 4V (0G)

| Capacitance (pF) | Cap Code | Tolerance | X5R | | | | | X6S | | |
|------------------|----------|-----------|----------|----------|----------|----------|-----------|----------|-----------|---------|
| | | | 1H (50V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 1H (50V) | 0J (6.3V) | 0G (4V) |
| 4,700,000 | 475 | K: ± 10% | | | | | | | | |
| 10,000,000 | 106 | | M: ± 20% | | | | | | | |
| 15,000,000 | 156 | | | | | | | | | |
| 22,000,000 | 226 | | | | | | | | | |
| 33,000,000 | 336 | | | | | | | | | |
| 47,000,000 | 476 | | | | | | | | | |
| 68,000,000 | 686 | | | | | | | | | |
| 100,000,000 | 107 | | | | | | | | | |

| Capacitance (pF) | Cap Code | Tolerance | X7R | | | | X7S |
|------------------|----------|-----------|----------|----------|----------|----------|----------|
| | | | 1H (50V) | 1E (25V) | 1C (16V) | 1A (10V) | 1H (50V) |
| 470,000 | 474 | K: ± 10% | | | | | |
| 1,000,000 | 105 | | M: ± 20% | | | | |
| 1,500,000 | 155 | | | | | | |
| 2,200,000 | 225 | | | | | | |
| 3,300,000 | 335 | | | | | | |
| 4,700,000 | 475 | | | | | | |
| 6,800,000 | 685 | | | | | | |
| 10,000,000 | 106 | | | | | | |
| 15,000,000 | 156 | | | | | | |
| 22,000,000 | 226 | | | | | | |

| Capacitance (pF) | Cap Code | Tolerance | Y5V | | | | |
|------------------|----------|-------------|----------|----------|----------|----------|-----------|
| | | | 1H (50V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) |
| 4,700,000 | 475 | Z: +80/-20% | | | | | |
| 10,000,000 | 106 | | | | | | |
| 22,000,000 | 226 | | | | | | |
| 47,000,000 | 476 | | | | | | |
| 100,000,000 | 107 | | | | | | |

Standard Thickness

1.15 mm
 1.25 mm
 1.30 mm
 1.60 mm
 2.00 mm
 2.50 mm
 2.30 mm

• Standard capacitance and thickness is shown. Please refer to Capacitance Range Table for additional capacitance values and thicknesses.



Capacitance Range Table

C3225 [EIA CC1210]

Class 1 (Temperature Compensating)

Temperature Characteristics: C0G (-55 to 125°C, 0±30 ppm/°C)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|---------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C3225C0G1H223J | C0G | 50V | 22,000 | ± 5% | 1.30 ± 0.15 |
| C3225C0G1H333J | C0G | 50V | 33,000 | ± 5% | 1.60 ± 0.30 |
| C3225C0G1H473J | C0G | 50V | 47,000 | ± 5% | 2.00 ± 0.20 |
| C3225C0G1H683J | C0G | 50V | 68,000 | ± 5% | 2.00 ± 0.20 |
| C3225C0G1H104J | C0G | 50V | 100,000 | ± 5% | 2.50 ± 0.30 |

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%), X7S (-55 to +125°C, ±22%), X6S (-55 to +105°C, ±22%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|---------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C3225X7R1H474K/1.30 | X7R | 50V | 470,000 | ± 10% | 1.30 ± 0.15 |
| C3225X7R1H474M/1.30 | X7R | 50V | 470,000 | ± 20% | 1.30 ± 0.15 |
| C3225X7R1H105K/1.60 | X7R | 50V | 1,000,000 | ± 10% | 1.60 ± 0.30 |
| C3225X7R1H105M/1.60 | X7R | 50V | 1,000,000 | ± 20% | 1.60 ± 0.30 |
| C3225X7R1H105K/2.00 | X7R | 50V | 1,000,000 | ± 10% | 2.00 ± 0.20 |
| C3225X7R1H105M/2.00 | X7R | 50V | 1,000,000 | ± 20% | 2.00 ± 0.20 |
| C3225X7R1H155K | X7R | 50V | 1,500,000 | ± 10% | 2.00 ± 0.20 |
| C3225X7R1H155M | X7R | 50V | 1,500,000 | ± 20% | 2.00 ± 0.20 |
| C3225X7R1H225K/2.00 | X7R | 50V | 2,200,000 | ± 10% | 2.00 ± 0.20 |
| C3225X7R1H225M/2.00 | X7R | 50V | 2,200,000 | ± 20% | 2.00 ± 0.20 |
| C3225X7R1H225K/2.50 | X7R | 50V | 2,200,000 | ± 10% | 2.50 ± 0.30 |
| C3225X7R1H225M/2.50 | X7R | 50V | 2,200,000 | ± 20% | 2.50 ± 0.30 |
| C3225X7R1H335K | X7R | 50V | 3,300,000 | ± 10% | 2.50 ± 0.30 |
| C3225X7R1H335M | X7R | 50V | 3,300,000 | ± 20% | 2.50 ± 0.30 |
| C3225X7R1H475K | X7R | 50V | 4,700,000 | ± 10% | 2.50 ± 0.30 |
| C3225X7R1H475M | X7R | 50V | 4,700,000 | ± 20% | 2.50 ± 0.30 |
| C3225X6S1H475K | X6S | 50V | 4,700,000 | ± 10% | 2.50 ± 0.30 |
| C3225X6S1H475M | X6S | 50V | 4,700,000 | ± 20% | 2.50 ± 0.30 |
| C3225X7S1H685K | X7S | 50V | 6,800,000 | ± 10% | 2.50 ± 0.30 |
| C3225X7S1H685M | X7S | 50V | 6,800,000 | ± 20% | 2.50 ± 0.30 |
| C3225X7S1H106K | X7S | 50V | 10,000,000 | ± 10% | 2.50 ± 0.30 |
| C3225X7S1H106M | X7S | 50V | 10,000,000 | ± 20% | 2.50 ± 0.30 |
| C3225X7R1E225K/1.60 | X7R | 25V | 2,200,000 | ± 10% | 1.60 ± 0.30 |
| C3225X7R1E225M/1.60 | X7R | 25V | 2,200,000 | ± 20% | 1.60 ± 0.30 |
| C3225X7R1E335K | X7R | 25V | 3,300,000 | ± 10% | 1.60 ± 0.30 |
| C3225X7R1E335M | X7R | 25V | 3,300,000 | ± 20% | 1.60 ± 0.30 |
| C3225X7R1E475K | X7R | 25V | 4,700,000 | ± 10% | 2.00 ± 0.20 |
| C3225X7R1E475M | X7R | 25V | 4,700,000 | ± 20% | 2.00 ± 0.20 |
| C3225X7R1E685K/2.50 | X7R | 25V | 6,800,000 | ± 10% | 2.50 ± 0.30 |
| C3225X7R1E685M/2.50 | X7R | 25V | 6,800,000 | ± 20% | 2.50 ± 0.30 |
| C3225X7R1E106K | X7R | 25V | 10,000,000 | ± 10% | 2.50 ± 0.30 |
| C3225X7R1E106M | X7R | 25V | 10,000,000 | ± 20% | 2.50 ± 0.30 |
| C3225X7R1C106K | X7R | 16V | 10,000,000 | ± 10% | 2.00 ± 0.20 |
| C3225X7R1C106M | X7R | 16V | 10,000,000 | ± 20% | 2.00 ± 0.20 |
| C3225X7R1C156M | X7R | 16V | 15,000,000 | ± 20% | 2.50 ± 0.30 |



Capacitance Range Table

C3225 [EIA CC1210]

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%), X6S (-55 to +105°C, ±22%), X5R (-55 to +85°C, ±15%), Y5V(-30 to +85°C, +22/-82%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C3225X7R1C226K | X7R | 16V | 22,000,000 | ± 10% | 2.50 ± 0.30 |
| C3225X7R1C226M | X7R | 16V | 22,000,000 | ± 20% | 2.50 ± 0.30 |
| C3225X7R1A226K/2.30 | X7R | 10V | 22,000,000 | ± 10% | 2.30 ± 0.20 |
| C3225X7R1A226M/2.30 | X7R | 10V | 22,000,000 | ± 20% | 2.30 ± 0.20 |
| C3225X5R1H475K | X5R | 50V | 4,700,000 | ± 10% | 2.50 ± 0.30 |
| C3225X5R1H475M | X5R | 50V | 4,700,000 | ± 20% | 2.50 ± 0.30 |
| C3225X5R1E106K | X5R | 25V | 10,000,000 | ± 10% | 2.50 ± 0.30 |
| C3225X5R1E106M | X5R | 25V | 10,000,000 | ± 20% | 2.50 ± 0.30 |
| C3225X5R1C106K | X5R | 16V | 10,000,000 | ± 10% | 2.00 ± 0.20 |
| C3225X5R1C106M | X5R | 16V | 10,000,000 | ± 20% | 2.00 ± 0.20 |
| C3225X5R1C156M | X5R | 16V | 15,000,000 | ± 20% | 2.50 ± 0.30 |
| C3225X5R1C226K | X5R | 16V | 22,000,000 | ± 10% | 2.50 ± 0.30 |
| C3225X5R1C226M | X5R | 16V | 22,000,000 | ± 20% | 2.50 ± 0.30 |
| C3225X5R1A106K | X5R | 10V | 10,000,000 | ± 10% | 2.00 ± 0.20 |
| C3225X5R1A106M | X5R | 10V | 10,000,000 | ± 20% | 2.00 ± 0.20 |
| C3225X5R1A156M/2.30 | X5R | 10V | 15,000,000 | ± 20% | 2.30 ± 0.20 |
| C3225X5R1A226M | X5R | 10V | 22,000,000 | ± 20% | 2.30 ± 0.20 |
| C3225X5R1A336M | X5R | 10V | 33,000,000 | ± 20% | 2.00 ± 0.20 |
| C3225X5R1A476M | X5R | 10V | 47,000,000 | ± 20% | 2.50 ± 0.30 |
| C3225X5R0J226M/1.60 | X5R | 6.3V | 22,000,000 | ± 20% | 1.60 ± 0.30 |
| C3225X5R0J226K/2.00 | X5R | 6.3V | 22,000,000 | ± 10% | 2.00 ± 0.20 |
| C3225X5R0J226M/2.00 | X5R | 6.3V | 22,000,000 | ± 20% | 2.00 ± 0.20 |
| C3225X5R0J226K/2.50 | X5R | 6.3V | 22,000,000 | ± 10% | 2.50 ± 0.30 |
| C3225X5R0J226M/2.50 | X5R | 6.3V | 22,000,000 | ± 20% | 2.50 ± 0.30 |
| C3225X5R0J336M/2.00 | X5R | 6.3V | 33,000,000 | ± 20% | 2.00 ± 0.20 |
| C3225X5R0J336M/2.50 | X5R | 6.3V | 33,000,000 | ± 20% | 2.50 ± 0.30 |
| C3225X5R0J476M | X5R | 6.3V | 47,000,000 | ± 20% | 2.50 ± 0.30 |
| C3225X5R0J686M | X5R | 6.3V | 68,000,000 | ± 20% | 2.00 ± 0.20 |
| C3225X5R0J107M | X5R | 6.3V | 100,000,000 | ± 20% | 2.50 ± 0.30 |
| C3225X6S0J476M | X6S | 6.3V | 47,000,000 | ± 20% | 2.50 ± 0.30 |
| C3225X6S0J107M | X6S | 6.3V | 100,000,000 | ± 20% | 2.50 ± 0.30 |
| C3225X6S0G107M | X6S | 4V | 100,000,000 | ± 20% | 2.50 ± 0.30 |
| C3225Y5V1H475Z/1.15 | Y5V | 50V | 4,700,000 | +80/-20% | 1.15 ± 0.10 |
| C3225Y5V1H475Z/1.60 | Y5V | 50V | 4,700,000 | +80/-20% | 1.60 ± 0.30 |
| C3225Y5V1H106Z | Y5V | 50V | 10,000,000 | +80/-20% | 1.60 ± 0.30 |
| C3225Y5V1E106Z/1.30 | Y5V | 25V | 10,000,000 | +80/-20% | 1.30 ± 0.15 |
| C3225Y5V1E106Z/1.60 | Y5V | 25V | 10,000,000 | +80/-20% | 1.60 ± 0.30 |
| C3225Y5V1E226Z | Y5V | 25V | 22,000,000 | +80/-20% | 2.00 ± 0.20 |
| C3225Y5V1C106Z/1.15 | Y5V | 16V | 10,000,000 | +80/-20% | 1.15 ± 0.10 |
| C3225Y5V1C106Z/1.60 | Y5V | 16V | 10,000,000 | +80/-20% | 1.60 ± 0.30 |
| C3225Y5V1C226Z/1.30 | Y5V | 16V | 22,000,000 | +80/-20% | 1.30 ± 0.15 |
| C3225Y5V1C226Z/2.00 | Y5V | 16V | 22,000,000 | +80/-20% | 2.00 ± 0.20 |
| C3225Y5V1C476Z | Y5V | 16V | 47,000,000 | +80/-20% | 2.30 ± 0.20 |
| C3225Y5V1A226Z/1.15 | Y5V | 10V | 22,000,000 | +80/-20% | 1.15 ± 0.10 |



Capacitance Range Table

C3225 [EIA CC1210]

Class 2 (Temperature Stable)

Temperature Characteristics: Y5V(-30 to +85°C, +22/-82%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C3225Y5V1A476Z | Y5V | 10V | 47,000,000 | +80/-20% | 2.00 ± 0.20 |
| C3225Y5V0J107Z | Y5V | 6.3V | 100,000,000 | +80/-20% | 2.50 ± 0.30 |



Capacitance Range Chart

C4532 [EIA CC1812]

Capacitance Range Chart

Temperature Characteristics: C0G (0 ± 30ppm/°C)
 Rated Voltage: 50V (1H)

| Capacitance (pF) | Cap Code | Tolerance | C0G |
|------------------|----------|-----------|----------|
| | | | 1H (50V) |
| 47,000 | 473 | J: ± 5% | |
| 68,000 | 683 | | |
| 100,000 | 104 | | |
| 150,000 | 154 | | |
| 220,000 | 224 | | |

Capacitance Range Chart

Temperature Characteristics: X7R (±15%), X5R (±15%), Y5V (+22/-82%)
 Rated Voltage: 50V (1H), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J)

| Capacitance (pF) | Cap Code | Tolerance | X7R | | | X5R | | | |
|------------------|----------|----------------------|----------|----------|----------|----------|----------|----------|-----------|
| | | | 1H (50V) | 1E (25V) | 1C (16V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) |
| 1,000,000 | 105 | K: ± 10% M: ± 20% | | | | | | | |
| 1,500,000 | 155 | | | | | | | | |
| 2,200,000 | 225 | | | | | | | | |
| 3,300,000 | 335 | | | | | | | | |
| 4,700,000 | 475 | | | | | | | | |
| 6,800,000 | 685 | | | | | | | | |
| 10,000,000 | 106 | | | | | | | | |
| 15,000,000 | 156 | | | | | | | | |
| 22,000,000 | 226 | | | | | | | | |
| 33,000,000 | 336 | | | | | | | | |
| 47,000,000 | 476 | | | | | | | | |
| 68,000,000 | 686 | | | | | | | | |
| 100,000,000 | 107 | | | | | | | | |

| Capacitance (pF) | Cap Code | Tolerance | Y5V | | | |
|------------------|----------|-------------|----------|----------|----------|----------|
| | | | 1H (50V) | 1E (25V) | 1C (16V) | 1A (10V) |
| 10,000,000 | 106 | Z: +80/-20% | | | | |
| 22,000,000 | 226 | | | | | |
| 47,000,000 | 476 | | | | | |
| 100,000,000 | 107 | | | | | |

Standard Thickness

1.60 mm
 2.00 mm
 2.30 mm
 2.50 mm
 2.80 mm
 3.20 mm

• Standard capacitance and thickness is shown. Please refer to Capacitance Range Table for additional capacitance values and thicknesses.



Capacitance Range Table

C4532 [EIA CC1812]

Class 1 (Temperature Compensating)

Temperature Characteristics: C0G (-55 to 125°C, 0±30 ppm/°C)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|---------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C4532C0G1H473J | C0G | 50V | 47,000 | ± 5% | 1.60 ± 0.30 |
| C4532C0G1H683J | C0G | 50V | 68,000 | ± 5% | 1.60 ± 0.30 |
| C4532C0G1H104J | C0G | 50V | 100,000 | ± 5% | 2.00 ± 0.20 |
| C4532C0G1H154J | C0G | 50V | 150,000 | ± 5% | 2.50 ± 0.30 |
| C4532C0G1H224J | C0G | 50V | 220,000 | ± 5% | 3.20 ± 0.30 |

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%), X5R (-55 to +85°C, ±15%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|---------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C4532X7R1H105K | X7R | 50V | 1,000,000 | ± 10% | 1.60 ± 0.30 |
| C4532X7R1H105M | X7R | 50V | 1,000,000 | ± 20% | 1.60 ± 0.30 |
| C4532X7R1H155K/1.60 | X7R | 50V | 1,500,000 | ± 10% | 1.60 ± 0.30 |
| C4532X7R1H155M/1.60 | X7R | 50V | 1,500,000 | ± 20% | 1.60 ± 0.30 |
| C4532X7R1H225K | X7R | 50V | 2,200,000 | ± 10% | 1.60 ± 0.30 |
| C4532X7R1H225M | X7R | 50V | 2,200,000 | ± 20% | 1.60 ± 0.30 |
| C4532X7R1H335K | X7R | 50V | 3,300,000 | ± 10% | 2.00 ± 0.20 |
| C4532X7R1H335M | X7R | 50V | 3,300,000 | ± 20% | 2.00 ± 0.20 |
| C4532X7R1H475K/2.00 | X7R | 50V | 4,700,000 | ± 10% | 2.00 ± 0.20 |
| C4532X7R1H475M/2.00 | X7R | 50V | 4,700,000 | ± 20% | 2.00 ± 0.20 |
| C4532X7R1H685K | X7R | 50V | 6,800,000 | ± 10% | 2.50 ± 0.30 |
| C4532X7R1H685M | X7R | 50V | 6,800,000 | ± 20% | 2.50 ± 0.30 |
| C4532X7R1E475M/2.00 | X7R | 25V | 4,700,000 | ± 20% | 2.00 ± 0.20 |
| C4532X7R1E106K | X7R | 25V | 10,000,000 | ± 10% | 2.50 ± 0.30 |
| C4532X7R1E106M | X7R | 25V | 10,000,000 | ± 20% | 2.50 ± 0.30 |
| C4532X7R1E156M/2.80 | X7R | 25V | 15,000,000 | ± 20% | 2.80 ± 0.30 |
| C4532X7R1E226M | X7R | 25V | 22,000,000 | ± 20% | 2.50 ± 0.30 |
| C4532X7R1C106K | X7R | 16V | 10,000,000 | ± 10% | 2.30 ± 0.20 |
| C4532X7R1C106M | X7R | 16V | 10,000,000 | ± 20% | 2.30 ± 0.20 |
| C4532X7R1C226M/2.00 | X7R | 16V | 22,000,000 | ± 20% | 2.00 ± 0.20 |
| C4532X7R1C226M/2.30 | X7R | 16V | 22,000,000 | ± 20% | 2.30 ± 0.20 |
| C4532X7R1C336M | X7R | 16V | 33,000,000 | ± 20% | 2.50 ± 0.30 |
| C4532X5R1E106K | X5R | 25V | 10,000,000 | ± 10% | 2.50 ± 0.30 |
| C4532X5R1E106M | X5R | 25V | 10,000,000 | ± 20% | 2.50 ± 0.30 |
| C4532X5R1E156M/2.80 | X5R | 25V | 15,000,000 | ± 20% | 2.80 ± 0.30 |
| C4532X5R1E226M | X5R | 25V | 22,000,000 | ± 20% | 2.50 ± 0.30 |
| C4532X5R1C226M/2.00 | X5R | 16V | 22,000,000 | ± 20% | 2.00 ± 0.20 |
| C4532X5R1C226M/2.30 | X5R | 16V | 22,000,000 | ± 20% | 2.30 ± 0.20 |
| C4532X5R1C336M | X5R | 16V | 33,000,000 | ± 20% | 2.50 ± 0.30 |
| C4532X5R1A226M | X5R | 10V | 22,000,000 | ± 20% | 2.30 ± 0.20 |
| C4532X5R1A336M | X5R | 10V | 33,000,000 | ± 20% | 2.30 ± 0.20 |
| C4532X5R1A476M | X5R | 10V | 47,000,000 | ± 20% | 2.80 ± 0.30 |
| C4532X5R1A107M | X5R | 10V | 100,000,000 | ± 20% | 2.80 ± 0.30 |
| C4532X5R0J476M | X5R | 6.3V | 47,000,000 | ± 20% | 2.50 ± 0.30 |
| C4532X5R0J686M | X5R | 6.3V | 68,000,000 | ± 20% | 2.80 ± 0.30 |



Capacitance Range Table

C4532 [EIA CC1812]

Class 2 (Temperature Stable)

Temperature Characteristics: X5R (-55 to +85°C, ±15%), Y5V(-30 to +85°C, +22/-82%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C4532X5R0J107M | X5R | 6.3V | 100,000,000 | ± 20% | 2.80 ± 0.30 |
| C4532Y5V1H106Z | Y5V | 50V | 10,000,000 | +80/-20% | 2.00 ± 0.20 |
| C4532Y5V1E226Z | Y5V | 25V | 22,000,000 | +80/-20% | 2.00 ± 0.20 |
| C4532Y5V1C476Z | Y5V | 16V | 47,000,000 | +80/-20% | 2.50 ± 0.30 |
| C4532Y5V1A107Z | Y5V | 10V | 100,000,000 | +80/-20% | 2.50 ± 0.30 |



Capacitance Range Chart

C5750 [EIA CC2220]

Capacitance Range Chart

Temperature Characteristics: X7R ($\pm 15\%$), X5R ($\pm 15\%$), Y5V (+22/-82%)
 Rated Voltage: 50V (1H), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J)

| Capacitance (pF) | Cap Code | Tolerance | X7R | | | X5R | | | | |
|------------------|----------|--------------------------------|----------|----------|----------|----------|----------|----------|----------|-----------|
| | | | 1H (50V) | 1E (25V) | 1C (16V) | 1H (50V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) |
| 4,700,000 | 475 | K: $\pm 10\%$ M: $\pm 20\%$ | | | | | | | | |
| 6,800,000 | 685 | | | | | | | | | |
| 10,000,000 | 106 | | | | | | | | | |
| 15,000,000 | 156 | | | | | | | | | |
| 22,000,000 | 226 | | | | | | | | | |
| 33,000,000 | 336 | | | | | | | | | |
| 47,000,000 | 476 | | | | | | | | | |
| 68,000,000 | 686 | | | | | | | | | |
| 100,000,000 | 107 | | | | | | | | | |

| Capacitance (pF) | Cap Code | Tolerance | Y5V | | | |
|------------------|----------|-------------|----------|----------|----------|----------|
| | | | 1H (50V) | 1E (25V) | 1C (16V) | 1A (10V) |
| 10,000,000 | 106 | Z: +80/-20% | | | | |
| 22,000,000 | 226 | | | | | |
| 47,000,000 | 476 | | | | | |
| 100,000,000 | 107 | | | | | |

Standard Thickness

2.00 mm
 2.30 mm
 2.50 mm
 2.80 mm



Capacitance Range Table

C5750 [EIA CC2220]

Class 2 (Temperature Stable)

Temperature Characteristics: X7R (-55 to +125°C, ±15%), X5R (-55 to +85°C, ±15%), Y5V (-30 to +85°C, +22/-82%)

| TDK Part Number (Ordering Code) | Temperature Characteristics | Rated Voltage | Capacitance (pF) | Capacitance Tolerance | Thickness (mm) |
|------------------------------------|-----------------------------|---------------|------------------|-----------------------|----------------|
| C5750X7R1H475K/2.00 | X7R | 50V | 4,700,000 | ± 10% | 2.00 ± 0.20 |
| C5750X7R1H475M/2.00 | X7R | 50V | 4,700,000 | ± 20% | 2.00 ± 0.20 |
| C5750X7R1H475M/2.80 | X7R | 50V | 4,700,000 | ± 20% | 2.80 ± 0.20 |
| C5750X7R1H685K | X7R | 50V | 6,800,000 | ± 10% | 2.50 ± 0.30 |
| C5750X7R1H685M | X7R | 50V | 6,800,000 | ± 20% | 2.50 ± 0.30 |
| C5750X7R1H106K | X7R | 50V | 10,000,000 | ± 10% | 2.30 ± 0.20 |
| C5750X7R1H106M | X7R | 50V | 10,000,000 | ± 20% | 2.30 ± 0.20 |
| C5750X7R1E106M | X7R | 25V | 10,000,000 | ± 20% | 2.00 ± 0.20 |
| C5750X7R1E156M | X7R | 25V | 15,000,000 | ± 20% | 2.30 ± 0.20 |
| C5750X7R1E226M | X7R | 25V | 22,000,000 | ± 20% | 2.50 ± 0.30 |
| C5750X7R1C226M | X7R | 16V | 22,000,000 | ± 20% | 2.80 ± 0.20 |
| C5750X7R1C476M | X7R | 16V | 47,000,000 | ± 20% | 2.30 ± 0.20 |
| C5750X5R1H106K | X5R | 50V | 10,000,000 | ± 10% | 2.30 ± 0.20 |
| C5750X5R1H106M | X5R | 50V | 10,000,000 | ± 20% | 2.30 ± 0.20 |
| C5750X5R1E226M | X5R | 25V | 22,000,000 | ± 20% | 2.30 ± 0.20 |
| C5750X5R1C336M | X5R | 16V | 33,000,000 | ± 20% | 2.00 ± 0.20 |
| C5750X5R1C476M | X5R | 16V | 47,000,000 | ± 20% | 2.30 ± 0.20 |
| C5750X5R1A686M | X5R | 10V | 68,000,000 | ± 20% | 2.30 ± 0.20 |
| C5750X5R1A107M | X5R | 10V | 100,000,000 | ± 20% | 2.80 ± 0.20 |
| C5750X5R0J107M | X5R | 6.3V | 100,000,000 | ± 20% | 2.80 ± 0.20 |
| C5750Y5V1H226Z | Y5V | 50V | 22,000,000 | +80/-20% | 2.00 ± 0.20 |
| C5750Y5V1E476Z | Y5V | 25V | 47,000,000 | +80/-20% | 2.00 ± 0.20 |
| C5750Y5V1C107Z | Y5V | 16V | 100,000,000 | +80/-20% | 2.50 ± 0.30 |
| C5750Y5V1A107Z | Y5V | 10V | 100,000,000 | +80/-20% | 2.50 ± 0.30 |

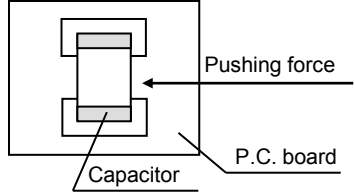
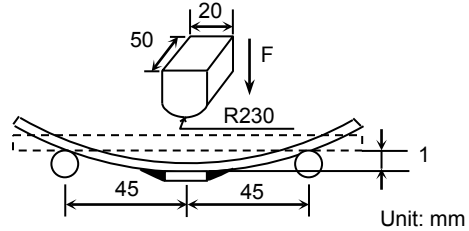


| No. | Item | Performance | Test or Inspection Method | | | | | | | | | | | | | | | | | | | | | |
|-------------------|-------------------------------------|--|--|---------------|-------------------|---------------------|-------------------|---------------|---|-----------|--------------------------|------------|------------|---------|-----------|----------|-------------------------|----------|-------------|---|------------|--------|-----------|---|
| 1 | External Appearance | No defects which may affect performance. | Inspect with magnifying glass (3×), in case of C0603 type, with magnifying glass (10×). | | | | | | | | | | | | | | | | | | | | | |
| 2 | Insulation Resistance | 10,000MΩ or 500MΩ•μF min. (As for the capacitors of rated voltage 16, 10 and 6.3V DC, 10,000 MΩ or 100MΩ•μF min.,) whichever smaller. | Apply rated voltage for 60s. As for the rated voltage 630V DC, apply 500V DC. | | | | | | | | | | | | | | | | | | | | | |
| 3 | Voltage Proof | Withstand test voltage without insulation breakdown or other damage. | <table border="1"> <thead> <tr> <th>Class</th> <th>Apply voltage</th> </tr> </thead> <tbody> <tr> <td>Class 1</td> <td>3 × rated voltage</td> </tr> <tr> <td>Class 2</td> <td>2.5 × rated voltage</td> </tr> </tbody> </table> <p>Above DC voltage shall be applied for 1 to 5s. Charge / discharge current shall not exceed 50mA.</p> | Class | Apply voltage | Class 1 | 3 × rated voltage | Class 2 | 2.5 × rated voltage | | | | | | | | | | | | | | | |
| Class | Apply voltage | | | | | | | | | | | | | | | | | | | | | | | |
| Class 1 | 3 × rated voltage | | | | | | | | | | | | | | | | | | | | | | | |
| Class 2 | 2.5 × rated voltage | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Capacitance | Within the specified tolerance. | <table border="1"> <thead> <tr> <th>Class</th> <th>Rated Capacitance</th> <th>Measuring Frequency</th> <th>Measuring voltage</th> </tr> </thead> <tbody> <tr> <td rowspan="2">Class 1</td> <td>C ≤ 1000pF</td> <td>1MHz±10%</td> <td rowspan="2">0.5 - 5 V_{rms}</td> </tr> <tr> <td>C > 1000pF</td> <td>1kHz ± 10%</td> </tr> <tr> <td rowspan="2">Class 2</td> <td>C ≤ 10uF</td> <td>1kHz±10%</td> <td>0.5±0.2V_{rms}</td> </tr> <tr> <td>C > 10uF</td> <td>120Hz ± 20%</td> <td>1.0±0.2V_{rms} 0.5 ± 0.2 V_{rms}</td> </tr> </tbody> </table> | Class | Rated Capacitance | Measuring Frequency | Measuring voltage | Class 1 | C ≤ 1000pF | 1MHz±10% | 0.5 - 5 V _{rms} | C > 1000pF | 1kHz ± 10% | Class 2 | C ≤ 10uF | 1kHz±10% | 0.5±0.2V _{rms} | C > 10uF | 120Hz ± 20% | 1.0±0.2V _{rms} 0.5 ± 0.2 V _{rms} | | | | |
| Class | Rated Capacitance | Measuring Frequency | Measuring voltage | | | | | | | | | | | | | | | | | | | | | |
| Class 1 | C ≤ 1000pF | 1MHz±10% | 0.5 - 5 V _{rms} | | | | | | | | | | | | | | | | | | | | | |
| | C > 1000pF | 1kHz ± 10% | | | | | | | | | | | | | | | | | | | | | | |
| Class 2 | C ≤ 10uF | 1kHz±10% | 0.5±0.2V _{rms} | | | | | | | | | | | | | | | | | | | | | |
| | C > 10uF | 120Hz ± 20% | 1.0±0.2V _{rms} 0.5 ± 0.2 V _{rms} | | | | | | | | | | | | | | | | | | | | | |
| 5 | Q (Class 1) | <table border="1"> <thead> <tr> <th>Rated Capacitance</th> <th>Q</th> </tr> </thead> <tbody> <tr> <td>30pF and over</td> <td>1,000 min.</td> </tr> <tr> <td>Under 30pF</td> <td>400+20×C min.</td> </tr> </tbody> </table> <p>C : Rated capacitance (pF)</p> | Rated Capacitance | Q | 30pF and over | 1,000 min. | Under 30pF | 400+20×C min. | See No.4 in this table for measuring condition. | | | | | | | | | | | | | | | |
| Rated Capacitance | Q | | | | | | | | | | | | | | | | | | | | | | | |
| 30pF and over | 1,000 min. | | | | | | | | | | | | | | | | | | | | | | | |
| Under 30pF | 400+20×C min. | | | | | | | | | | | | | | | | | | | | | | | |
| 6 | Dissipation Factor (Class 2) | <table border="1"> <thead> <tr> <th>T.C.</th> <th>Rated Voltage</th> <th>D.F.</th> </tr> </thead> <tbody> <tr> <td rowspan="5">X5R X7R</td> <td rowspan="5">-</td> <td>0.03 max.</td> </tr> <tr> <td>0.05 max.</td> </tr> <tr> <td>0.75 max.</td> </tr> <tr> <td>0.1 max.</td> </tr> <tr> <td>0.125 max.</td> </tr> <tr> <td rowspan="5">Y5V</td> <td>50VDC</td> <td>0.05 max.</td> </tr> <tr> <td>25VDC</td> <td>0.075 max.</td> </tr> <tr> <td>16VDC</td> <td>0.10 max.</td> </tr> <tr> <td>10VDC</td> <td>0.125 max.</td> </tr> <tr> <td>6.3VDC</td> <td>0.20 max.</td> </tr> </tbody> </table> | T.C. | Rated Voltage | D.F. | X5R X7R | - | 0.03 max. | 0.05 max. | 0.75 max. | 0.1 max. | 0.125 max. | Y5V | 50VDC | 0.05 max. | 25VDC | 0.075 max. | 16VDC | 0.10 max. | 10VDC | 0.125 max. | 6.3VDC | 0.20 max. | See No.4 in this table for measuring condition. |
| T.C. | Rated Voltage | D.F. | | | | | | | | | | | | | | | | | | | | | | |
| X5R X7R | - | 0.03 max. | | | | | | | | | | | | | | | | | | | | | | |
| | | 0.05 max. | | | | | | | | | | | | | | | | | | | | | | |
| | | 0.75 max. | | | | | | | | | | | | | | | | | | | | | | |
| | | 0.1 max. | | | | | | | | | | | | | | | | | | | | | | |
| | | 0.125 max. | | | | | | | | | | | | | | | | | | | | | | |
| Y5V | 50VDC | 0.05 max. | | | | | | | | | | | | | | | | | | | | | | |
| | 25VDC | 0.075 max. | | | | | | | | | | | | | | | | | | | | | | |
| | 16VDC | 0.10 max. | | | | | | | | | | | | | | | | | | | | | | |
| | 10VDC | 0.125 max. | | | | | | | | | | | | | | | | | | | | | | |
| | 6.3VDC | 0.20 max. | | | | | | | | | | | | | | | | | | | | | | |



General Specifications

C Series – General Application

| No. | Item | Performance | Test or Inspection Method | | | | | | | | | | | | | | | | | | | | | | | | |
|--------------------|---|---|---|-------------------------|------|---------------------|--|------------|------|------------|------|------------|------|----------|------|-----------|--|------|------------------|---|-------------------------|---|------------------------------|---|-------------------------|---|------------------------------|
| 7 | Temperature Characteristics of Capacitance (Class 1) | <table border="1"> <tr> <th>T.C.</th> <th>Temperature Coefficient</th> </tr> <tr> <td>COG</td> <td>0 ± 30 (ppm/°C)</td> </tr> </table> <p>Capacitance drift Within $\pm 0.2\%$ or $\pm 0.05\text{pF}$, whichever larger.</p> | T.C. | Temperature Coefficient | COG | 0 ± 30 (ppm/°C) | <p>Temperature coefficient shall be calculated based on values at 25°C and 85°C temperature.</p> <p>Measuring temperature below 20°C shall be -10°C and -25°C.</p> | | | | | | | | | | | | | | | | | | | | |
| T.C. | Temperature Coefficient | | | | | | | | | | | | | | | | | | | | | | | | | | |
| COG | 0 ± 30 (ppm/°C) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8 | Temperature Characteristics of Capacitance (Class 2) | <p>Capacitance Change (%)</p> <table border="1"> <thead> <tr> <th colspan="2">No Voltage Applied</th> </tr> </thead> <tbody> <tr> <td>X5R:</td> <td>$\pm 15\%$</td> </tr> <tr> <td>X7R:</td> <td>$\pm 15\%$</td> </tr> <tr> <td>X6S:</td> <td>$\pm 22\%$</td> </tr> <tr> <td>X7S:</td> <td>$\pm 22\%$</td> </tr> <tr> <td>X7T:</td> <td>+22/-33%</td> </tr> <tr> <td>Y5V:</td> <td>+ 22/-82%</td> </tr> </tbody> </table> | No Voltage Applied | | X5R: | $\pm 15\%$ | X7R: | $\pm 15\%$ | X6S: | $\pm 22\%$ | X7S: | $\pm 22\%$ | X7T: | +22/-33% | Y5V: | + 22/-82% | <p>Capacitance shall be measured by the steps shown in the following table after thermal equilibrium is obtained for each step.</p> <p>ΔC be calculated ref. STEP 3 reading</p> <table border="1"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Reference temp. ± 2</td> </tr> <tr> <td>2</td> <td>Min. operating temp. ± 2</td> </tr> <tr> <td>3</td> <td>Reference temp. ± 2</td> </tr> <tr> <td>4</td> <td>Max. operating temp. ± 2</td> </tr> </tbody> </table> <p>Measuring voltage: 0.1, 0.2, 0.5, 1.0V_{rms}.</p> | Step | Temperature (°C) | 1 | Reference temp. ± 2 | 2 | Min. operating temp. ± 2 | 3 | Reference temp. ± 2 | 4 | Max. operating temp. ± 2 |
| No Voltage Applied | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X5R: | $\pm 15\%$ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X7R: | $\pm 15\%$ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X6S: | $\pm 22\%$ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X7S: | $\pm 22\%$ | | | | | | | | | | | | | | | | | | | | | | | | | | |
| X7T: | +22/-33% | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Y5V: | + 22/-82% | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Step | Temperature (°C) | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | Reference temp. ± 2 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | Min. operating temp. ± 2 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3 | Reference temp. ± 2 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 4 | Max. operating temp. ± 2 | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | Robustness of Terminations | No sign of termination coming off, breakage of ceramic, or other abnormal signs. | <p>Reflow solder the capacitor on P.C. board (shown in Appendix 1a or Appendix 1b) and apply a pushing force of 2N (C0603, C1005) or 5N (C1608, C2012, C3216, C3225, C4532, C5750) for $10 \pm 1\text{s}$.</p>  | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | Bending | No mechanical damage. | <p>Reflow solder the capacitor on P.C. board (shown in Appendix 2a or Appendix 2b) and bend it for 1mm.</p>  | | | | | | | | | | | | | | | | | | | | | | | | |



| No. | Item | Performance | Test or Inspection Method | | | | | | | | | | | | | |
|----------------------|----------------------------------|---|---|---|-----------------------------------|------------|-------------------|---|---------|-----|-------------|-----|-------------|-----|------------|--|
| 11 | Solderability | <p>New solder to cover over 75% of termination.</p> <p>25% may have pinholes or rough spots but not concentrated in one spot.</p> <p>Ceramic surface of A sections shall not be exposed due to melting or shifting of termination material.</p> | <p>Completely soak both terminations in solder at $235 \pm 5^\circ\text{C}$ for $2 \pm 0.5\text{s}$.</p> <p>Solder: H63A (JIS Z 3282)</p> <p>Flux: Isopropyl alcohol (JIS K 8839) Rosin (JIS K 5902) 25% solid solution.</p> | | | | | | | | | | | | | |
| | | <p>A section</p> | | | | | | | | | | | | | | |
| 12 | Resistance to solder heat | | <p>Completely soak both terminations in solder at $260 \pm 5^\circ\text{C}$ for $5 \pm 1\text{s}$.</p> <p>Preheating condition Temp.: $150 \pm 10^\circ\text{C}$ Time: 1 to 2min.</p> <p>Flux: Isopropyl alcohol (JIS K 8839) Rosin (JIS K 5902) 25% solid solution.</p> <p>Solder: H63A (JIS Z 3282)</p> <p>Leave the capacitor in ambient conditions for 6 to 24h (Class 1) or $24 \pm 2\text{h}$ (Class 2) before measurement.</p> | | | | | | | | | | | | | |
| | External appearance | No cracks are allowed and terminations shall be covered at least 60% with new solder. | | | | | | | | | | | | | | |
| | Capacitance | <table border="1"> <thead> <tr> <th colspan="2">Characteristics</th> <th>Change from the value before test</th> </tr> </thead> <tbody> <tr> <td>Class 1</td> <td>C0G</td> <td>Capacitance drift within $\pm 2.5\%$ or $\pm 0.25\text{pF}$, whichever larger.</td> </tr> <tr> <td rowspan="3">Class 2</td> <td>X5R</td> <td>$\pm 7.5\%$</td> </tr> <tr> <td>X7R</td> <td>$\pm 7.5\%$</td> </tr> <tr> <td>Y5V</td> <td>$\pm 20\%$</td> </tr> </tbody> </table> | Characteristics | | Change from the value before test | Class 1 | C0G | Capacitance drift within $\pm 2.5\%$ or $\pm 0.25\text{pF}$, whichever larger. | Class 2 | X5R | $\pm 7.5\%$ | X7R | $\pm 7.5\%$ | Y5V | $\pm 20\%$ | |
| Characteristics | | Change from the value before test | | | | | | | | | | | | | | |
| Class 1 | C0G | Capacitance drift within $\pm 2.5\%$ or $\pm 0.25\text{pF}$, whichever larger. | | | | | | | | | | | | | | |
| Class 2 | X5R | $\pm 7.5\%$ | | | | | | | | | | | | | | |
| | X7R | $\pm 7.5\%$ | | | | | | | | | | | | | | |
| | Y5V | $\pm 20\%$ | | | | | | | | | | | | | | |
| | Q (Class 1) | <table border="1"> <thead> <tr> <th>Rated Capacitance</th> <th>Q</th> </tr> </thead> <tbody> <tr> <td>$C \geq 30\text{pF}$</td> <td>1,000 min.</td> </tr> <tr> <td>$C < 30\text{pF}$</td> <td>$400 + 20 \times C$ min.</td> </tr> </tbody> </table> <p style="text-align: center;">C : Rated capacitance (pF)</p> | Rated Capacitance | Q | $C \geq 30\text{pF}$ | 1,000 min. | $C < 30\text{pF}$ | $400 + 20 \times C$ min. | | | | | | | | |
| Rated Capacitance | Q | | | | | | | | | | | | | | | |
| $C \geq 30\text{pF}$ | 1,000 min. | | | | | | | | | | | | | | | |
| $C < 30\text{pF}$ | $400 + 20 \times C$ min. | | | | | | | | | | | | | | | |
| | D.F. (Class 2) | Meet the initial spec. | | | | | | | | | | | | | | |
| | Insulation Resistance | Meet the initial spec. | | | | | | | | | | | | | | |
| | Voltage Proof | No insulation breakdown or other damage. | | | | | | | | | | | | | | |



| No. | Item | Performance | Test or Inspection Method | | | | | | | | | | | | | | | |
|-----------------------|--|--|---|--|--|-------------|---|------------------------------|------------|---|-----------------|-------|---|------------------------------|------------|---|-----------------|-------|
| 13 | Vibration | | | | | | | | | | | | | | | | | |
| | External appearance | No mechanical damage. | Reflow solder the capacitor on P.C. board (shown in Appendix 1a or Appendix 1b) before testing. | | | | | | | | | | | | | | | |
| | Capacitance | Characteristics | | Vibrate the capacitor with amplitude of 1.5mm P-P changing the frequencies from 10Hz to 55Hz and back to 10Hz after 1min. Repeat this for 2h each in 3 perpendicular directions. | | | | | | | | | | | | | | |
| | | Change from the value before test | | | | | | | | | | | | | | | | |
| | | Class 1 | C0G | | $\pm 2.5\%$ or $\pm 0.25\text{pF}$, whichever larger. | | | | | | | | | | | | | |
| | | Class 2 | X5R X7R Y5V | | $\pm 7.5\%$ $\pm 7.5\%$ $\pm 20\%$ | | | | | | | | | | | | | |
| | Q (Class 1) | Rated Capacitance | | Q | | | | | | | | | | | | | | |
| | | C \geq 30pF | | | 1,000 min. | | | | | | | | | | | | | |
| | | C < 30pF | | | 400+20 \times C min. | | | | | | | | | | | | | |
| | C : Rated capacitance (pF) | | | | | | | | | | | | | | | | | |
| D.F. (Class 2) | Meet the initial spec. | | | | | | | | | | | | | | | | | |
| 14 | Temperature cycle | | | | | | | | | | | | | | | | | |
| | External appearance | No mechanical damage. | Reflow solder the capacitor on P.C. board (shown in Appendix 1a or Appendix 1b) before testing. | | | | | | | | | | | | | | | |
| | Capacitance | Characteristics | | Expose the capacitor in the condition step1 through step 4 and repeat 5 times consecutively. | | | | | | | | | | | | | | |
| | | Change from the value before test | | | | | | | | | | | | | | | | |
| | | Class 1 | C0G | | $\pm 2.5\%$ or $\pm 0.25\text{pF}$, whichever larger. | | | | | | | | | | | | | |
| | | Class 2 | X5R X7R Y5V | | $\pm 15\%$ $\pm 15\%$ $\pm 20\%$ | | | | | | | | | | | | | |
| | Q (Class 1) | Rated Capacitance | | Q | | | | | | | | | | | | | | |
| | | C \geq 30pF | | | 1,000 min. | | | | | | | | | | | | | |
| | | C < 30pF | | | 400+20 \times C min. | | | | | | | | | | | | | |
| | C : Rated capacitance (pF) | | | | | | | | | | | | | | | | | |
| D.F. (Class 2) | Meet the initial spec. | | | | | | | | | | | | | | | | | |
| Insulation Resistance | Meet the initial spec. | | | | | | | | | | | | | | | | | |
| Voltage Proof | No insulation breakdown or other damage. | | | | | | | | | | | | | | | | | |
| | | | <table border="1"> <thead> <tr> <th>Step</th> <th>Temperature (°C)</th> <th>Time (min.)</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Min. operating temp. ± 3</td> <td>30 \pm 3</td> </tr> <tr> <td>2</td> <td>Reference Temp.</td> <td>2 - 5</td> </tr> <tr> <td>3</td> <td>Max. operating temp. ± 2</td> <td>30 \pm 2</td> </tr> <tr> <td>4</td> <td>Reference Temp.</td> <td>2 - 5</td> </tr> </tbody> </table> | Step | Temperature (°C) | Time (min.) | 1 | Min. operating temp. ± 3 | 30 \pm 3 | 2 | Reference Temp. | 2 - 5 | 3 | Max. operating temp. ± 2 | 30 \pm 2 | 4 | Reference Temp. | 2 - 5 |
| Step | Temperature (°C) | Time (min.) | | | | | | | | | | | | | | | | |
| 1 | Min. operating temp. ± 3 | 30 \pm 3 | | | | | | | | | | | | | | | | |
| 2 | Reference Temp. | 2 - 5 | | | | | | | | | | | | | | | | |
| 3 | Max. operating temp. ± 2 | 30 \pm 2 | | | | | | | | | | | | | | | | |
| 4 | Reference Temp. | 2 - 5 | | | | | | | | | | | | | | | | |



| No. | Item | Performance | Test or Inspection Method | | |
|----------------------------|---|--|--|--|---|
| 15 | Moisture Resistance (Steady State) | | | | |
| | External appearance | No mechanical damage. | Reflow solder the capacitor on P.C. board (shown in Appendix 1a or Appendix 1b) before testing. Leave at temperature $40 \pm 2^\circ\text{C}$, 90 to 95%RH for 500 +24,0h. | | |
| | Capacitance | Characteristics | Change from the value before test | Leave the capacitor in ambient conditions for 6 to 24h (Class 1) or $24 \pm 2\text{h}$ (Class 2) before measurement. | |
| | | Class 1 | C0G | | $\pm 5\%$ or $\pm 0.5\text{pF}$, whichever larger. |
| | | Class 2 | X5R | | $\pm 25\%$ |
| X7R | $\pm 25\%$ | | | | |
| Y5V | $\pm 30\%$ | | | | |
| Q (Class 1) | Rated Capacitance | Q | | | |
| | $C \geq 30\text{pF}$ | | 350 min. | | |
| | $10\text{pF} \leq C < 30\text{pF}$ | | $275 + 5/2 \times C$ min. | | |
| | $C < 10\text{pF}$ | | $200 + 10 \times C$ min. | | |
| C : Rated capacitance (pF) | | | | | |
| D.F. (Class 2) | Characteristics | X5R: 200% of initial spec. max. X7R: 200% of initial spec. max Y5V: 150% of initial spec. max | | | |
| Insulation Resistance | | 1,000M Ω or 50M $\Omega \cdot \mu\text{F}$ min. (As for the capacitors of rated voltage 16, 10 and 6.3V DC, 1,000 M Ω or 10M $\Omega \cdot \mu\text{F}$ min.,) whichever smaller. | | | |



| No. | Item | Performance | Test or Inspection Method | | | | | | | | | | | | | | |
|--|---|---|--|-----------------------------------|----------------------|-----------------------------------|-------------------|----------------------------|--|---------|-----|------------|-----|------------|-----|----------------------------|--|
| 16 | Moisture Resistance | | | | | | | | | | | | | | | | |
| | External appearance | No mechanical damage. | Reflow solder the capacitor on P.C. board (shown in Appendix 1a or Appendix 1b) before testing. Apply the rated voltage at temperature $40 \pm 2^\circ\text{C}$ and 90 to 95%RH for 500 +24,0h. | | | | | | | | | | | | | | |
| | Capacitance | <table border="1"> <thead> <tr> <th colspan="2">Characteristics</th> <th>Change from the value before test</th> </tr> </thead> <tbody> <tr> <td>Class 1</td> <td>C0G</td> <td>$\pm 7.5\%$ or $\pm 0.75\text{pF}$, whichever larger.</td> </tr> <tr> <td rowspan="3">Class 2</td> <td>X5R</td> <td>$\pm 25\%$</td> </tr> <tr> <td>X7R</td> <td>$\pm 25\%$</td> </tr> <tr> <td>Y5V</td> <td>$\pm 30\%$ *($\pm 40\%$)</td> </tr> </tbody> </table> | | Characteristics | | Change from the value before test | Class 1 | C0G | $\pm 7.5\%$ or $\pm 0.75\text{pF}$, whichever larger. | Class 2 | X5R | $\pm 25\%$ | X7R | $\pm 25\%$ | Y5V | $\pm 30\%$ *($\pm 40\%$) | Charge/discharge current shall not exceed 50mA. Leave the capacitor in ambient conditions for 6 to 24h (Class 1) or $24 \pm 2\text{h}$ (Class 2) before measurement. Voltage conditioning (only for Class 2): Voltage treat the capacitor under testing temperature and voltage for 1 hour. |
| | | Characteristics | | Change from the value before test | | | | | | | | | | | | | |
| Class 1 | | C0G | $\pm 7.5\%$ or $\pm 0.75\text{pF}$, whichever larger. | | | | | | | | | | | | | | |
| Class 2 | X5R | $\pm 25\%$ | | | | | | | | | | | | | | | |
| | X7R | $\pm 25\%$ | | | | | | | | | | | | | | | |
| | Y5V | $\pm 30\%$ *($\pm 40\%$) | | | | | | | | | | | | | | | |
| * Inside () is applied to Y5V 6.3V product. | | Leave the capacitor in ambient conditions for $24 \pm 2\text{h}$ before measurement. | | | | | | | | | | | | | | | |
| Q (Class 1) | <table border="1"> <thead> <tr> <th>Rated Capacitance</th> <th>Q</th> </tr> </thead> <tbody> <tr> <td>$C \geq 30\text{pF}$</td> <td>200 min.</td> </tr> <tr> <td>$C < 30\text{pF}$</td> <td>$100 + 10/3 \times C$ min.</td> </tr> </tbody> </table> | | Rated Capacitance | Q | $C \geq 30\text{pF}$ | 200 min. | $C < 30\text{pF}$ | $100 + 10/3 \times C$ min. | Use this measurement for initial value. | | | | | | | | |
| | Rated Capacitance | Q | | | | | | | | | | | | | | | |
| | $C \geq 30\text{pF}$ | 200 min. | | | | | | | | | | | | | | | |
| $C < 30\text{pF}$ | $100 + 10/3 \times C$ min. | | | | | | | | | | | | | | | | |
| C : Rated capacitance (pF) | | | | | | | | | | | | | | | | | |
| D.F. (Class 2) | Characteristics | X5R: 200% of initial spec. max. X7R: 200% of initial spec. max Y5V: 150% of initial spec. max | | | | | | | | | | | | | | | |
| Insulation Resistance | | 500M Ω or 25M $\Omega \cdot \mu\text{F}$ min., whichever smaller. (As for the capacitors of rated voltage 16, 10 and 6.3V DC, 500 M Ω or 5M $\Omega \cdot \mu\text{F}$ min.,) | | | | | | | | | | | | | | | |



| No. | Item | Performance | Test or Inspection Method | | | | | | | | | | | | | |
|-----------------------|--|--|--|-----------------------------------|-----------------------------------|---------|-----|---|---------|-----|------------|-----|------------|-----|----------------------------|--|
| 17 | Life | | | | | | | | | | | | | | | |
| | External appearance | No mechanical damage. | Reflow solder the capacitor on P.C. board (shown in Appendix 1a or Appendix 1b) before testing. Apply voltage at $125 \pm 2^\circ\text{C}$ for 1,000 +48, 0h. | | | | | | | | | | | | | |
| | Capacitance | <table border="1"> <thead> <tr> <th colspan="2">Characteristics</th> <th>Change from the value before test</th> </tr> </thead> <tbody> <tr> <td>Class 1</td> <td>C0G</td> <td>$\pm 3\%$ or $\pm 0.3\text{pF}$, whichever larger.</td> </tr> <tr> <td rowspan="3">Class 2</td> <td>X5R</td> <td>$\pm 25\%$</td> </tr> <tr> <td>X7R</td> <td>$\pm 25\%$</td> </tr> <tr> <td>Y5V</td> <td>$\pm 30\%$ *($\pm 40\%$)</td> </tr> </tbody> </table> | Characteristics | | Change from the value before test | Class 1 | C0G | $\pm 3\%$ or $\pm 0.3\text{pF}$, whichever larger. | Class 2 | X5R | $\pm 25\%$ | X7R | $\pm 25\%$ | Y5V | $\pm 30\%$ *($\pm 40\%$) | Applied voltage is 1xRV. Some items may be tested at higher voltage (1.2x, 1.5x or 2xRV). Charge/discharge current shall not exceed 50mA. |
| | | Characteristics | | Change from the value before test | | | | | | | | | | | | |
| Class 1 | C0G | $\pm 3\%$ or $\pm 0.3\text{pF}$, whichever larger. | | | | | | | | | | | | | | |
| Class 2 | X5R | $\pm 25\%$ | | | | | | | | | | | | | | |
| | X7R | $\pm 25\%$ | | | | | | | | | | | | | | |
| | Y5V | $\pm 30\%$ *($\pm 40\%$) | | | | | | | | | | | | | | |
| | * Inside () is applied to Y5V 6.3V product. | Leave the capacitors in ambient condition for 6 to 24h (Class 1) or $24 \pm 2\text{h}$ (Class 2) before measurement. Voltage conditioning (only for class 2) Voltage treat the capacitor under testing temperature and voltage for 1 hour. | | | | | | | | | | | | | | |
| Q (Class 1) | Rated Capacitance | Q | Leave the capacitor in ambient conditions for $24 \pm 2\text{h}$ before measurement. | | | | | | | | | | | | | |
| | $C \geq 30\text{pF}$ | 350 min. | Use this measurement for initial value. | | | | | | | | | | | | | |
| | $10\text{pF} \leq C < 30\text{pF}$ | $275 + 5/2 \times C$ min. | | | | | | | | | | | | | | |
| | $C < 10\text{pF}$ | $200 + 10 \times C$ min. | | | | | | | | | | | | | | |
| | C : Rated capacitance (pF) | | | | | | | | | | | | | | | |
| D.F. (Class 2) | Characteristics | | | | | | | | | | | | | | | |
| | X5R: 200% of initial spec. max. | | | | | | | | | | | | | | | |
| | X7R: 200% of initial spec. max | | | | | | | | | | | | | | | |
| | Y5V: 150% of initial spec. max | | | | | | | | | | | | | | | |
| Insulation Resistance | 1,000M Ω or 50M $\Omega \cdot \mu\text{F}$ min. , whichever smaller. (As for the capacitors of rated voltage 16, 10 and 6.3V DC, 1,000 M Ω or 10M $\Omega \cdot \mu\text{F}$ min.,) | | | | | | | | | | | | | | | |

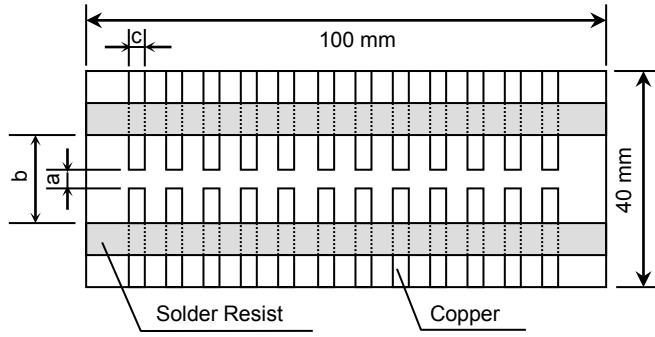
*As for the initial measurement of capacitors (Class2) on number 8,12,13,14 and 15, leave capacitor at $150 - 10, 0^\circ\text{C}$ for 1 hour and measure the value after leaving capacitor for $24 \pm 2\text{h}$ in ambient conditions.



Appendix - 1a

P.C. Board for reliability test

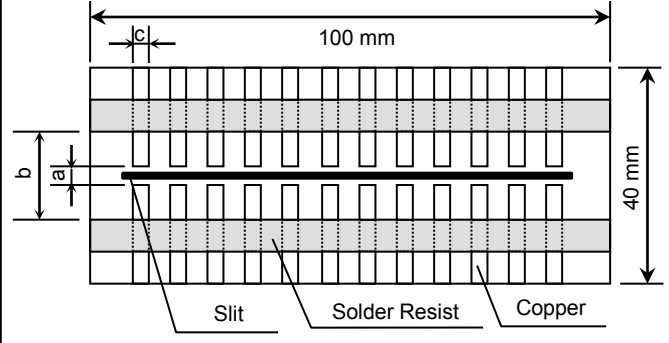
Applied for C0603, C1005, C1608, C2012, C3216



Appendix - 1b

P.C. Board for reliability test

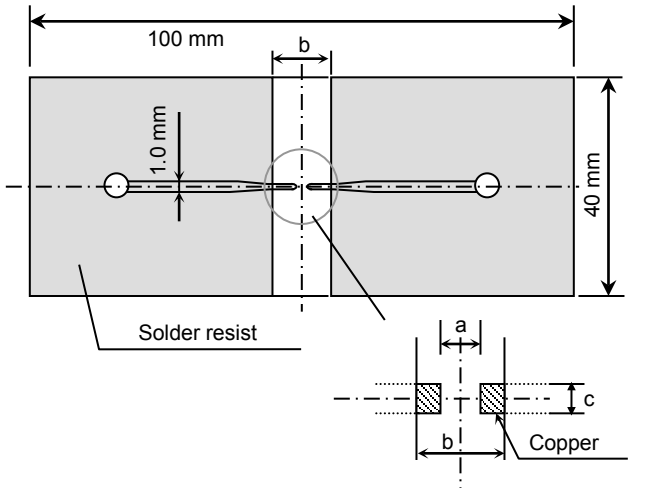
Applied for C3225, C4532, C5750



Appendix - 2a

P.C. Board for bending test

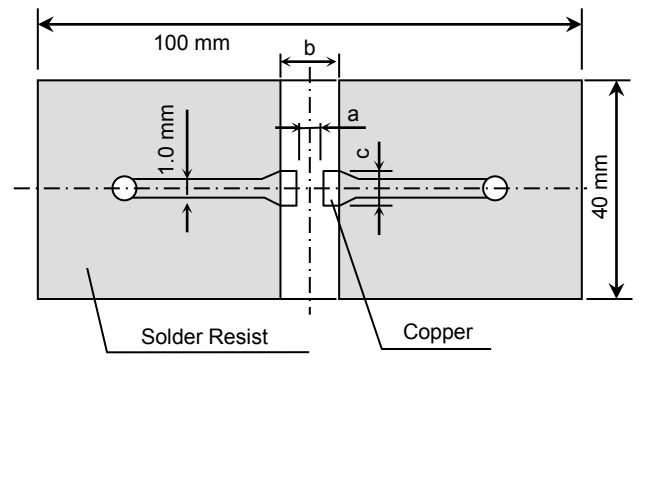
Applied for C0603, C1005



Appendix - 2b

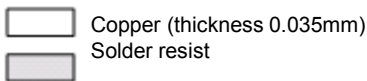
P.C. Board for bending test

Applied for C1608, C2012, C3216, C3225, C4532, C5750



Material: Glass Epoxy (As per JIS C6484 GE4)

P.C. Board thickness: Appendix-2a 0.8mm
Appendix-1a, 1b, 2b 1.6mm

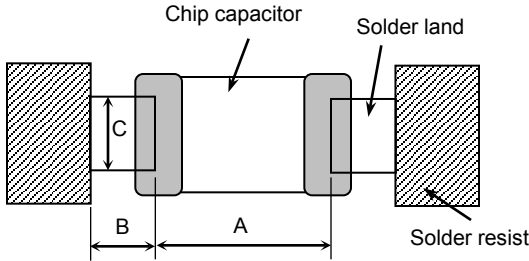


| Case Code | | Dimensions (mm) | | |
|-----------|--------|-----------------|-----|------|
| JIS | EIA | a | b | c |
| C0603 | CC0201 | 0.3 | 0.8 | 0.3 |
| C1005 | CC0402 | 0.4 | 1.5 | 0.5 |
| C1608 | CC0603 | 1.0 | 3.0 | 1.2 |
| C2012 | CC0805 | 1.2 | 4.0 | 1.65 |
| C3216 | CC1206 | 2.2 | 5.0 | 2.0 |
| C3225 | CC1210 | 2.2 | 5.0 | 2.9 |
| C4532 | CC1812 | 3.5 | 7.0 | 3.7 |
| C5750 | CC2220 | 4.5 | 8.0 | 5.6 |

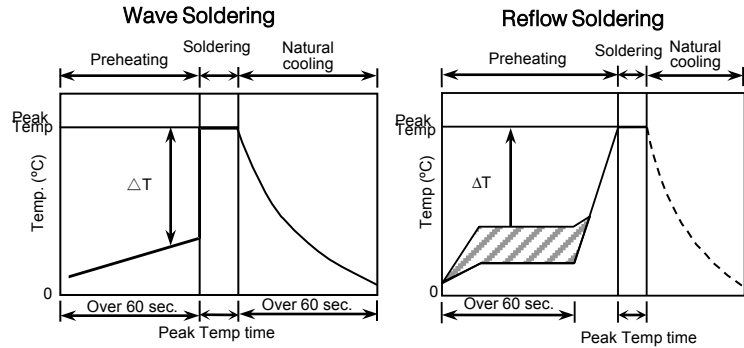
Soldering Information

C Series – General Application

Recommended Soldering Land Pattern



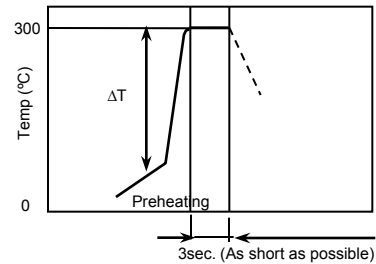
Recommended Soldering Profile



Wave Soldering Unit: mm

| Type | C1608 [CC0603] | C2012 [CC0805] | C3216 [CC1206] |
|------|-------------------|-------------------|-------------------|
| A | 0.7 - 1.0 | 1.0 - 1.3 | 2.1 - 2.5 |
| B | 0.8 - 1.0 | 1.0 - 1.2 | 1.1 - 1.3 |
| C | 0.6 - 0.8 | 0.8 - 1.1 | 1.0 - 1.3 |

Manual soldering (Solder iron)



Reflow Soldering Unit: mm

| Type | C0603 [CC0201] | C1005 [CC0402] | C1608 [CC0603] | C2012 [CC0805] |
|------|-------------------|-------------------|-------------------|-------------------|
| A | 0.25 - 0.35 | 0.3 - 0.5 | 0.6 - 0.8 | 0.9 - 1.2 |
| B | 0.2 - 0.3 | 0.35 - 0.45 | 0.6 - 0.8 | 0.7 - 0.9 |
| C | 0.25 - 0.35 | 0.4 - 0.6 | 0.6 - 0.8 | 0.9 - 1.2 |

Reflow Soldering Unit: mm

| Type | C3216 [CC1206] | C3225 [CC1210] | C4532 [CC1812] | C5750 [CC2220] |
|------|-------------------|-------------------|-------------------|-------------------|
| A | 2.0 - 2.4 | 2.0 - 2.4 | 3.1 - 3.7 | 4.1 - 4.8 |
| B | 1.0 - 1.2 | 1.0 - 1.2 | 1.2 - 1.4 | 1.2 - 1.4 |
| C | 1.1 - 1.6 | 1.9 - 2.5 | 2.4 - 3.2 | 4.0 - 5.0 |

Recommended soldering duration

| Solder | Temp./Dura. | Wave Soldering | | Reflow Soldering | |
|------------------|-------------|----------------|-----------------|------------------|-----------------|
| | | Peak temp (°C) | Duration (sec.) | Peak temp (°C) | Duration (sec.) |
| Sn-Pb Solder | | 250 max. | 3 max. | 230 max. | 20 max. |
| Lead-Free Solder | | 260 max. | 5 max. | 260 max. | 10 max. |

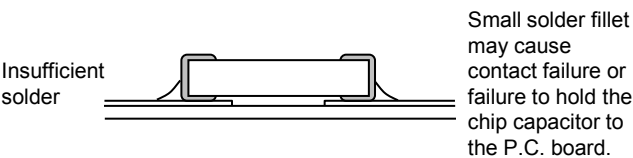
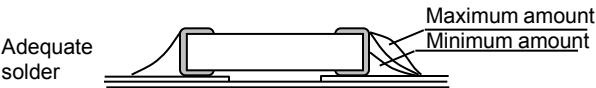
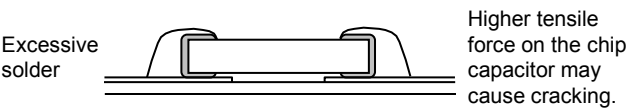
Recommended solder compositions

- Sn-37Pb (Sn-Pb solder)
- Sn-3.0Ag-0.5Cu (Lead Free Solder)

Preheating Condition

| Soldering | Case Size - JIS (EIA) | Temp. (°C) |
|------------------|---|---------------------|
| Wave soldering | C1608(CC0603), C2012(CC0805), C3216(CC1206) | $\Delta T \leq 150$ |
| | C0603(CC0201), C1005(CC0402), C1608(CC0603), C2012(CC0805), C3216(CC1206) | $\Delta T \leq 150$ |
| Reflow soldering | C3225(CC1210), C4532(CC1812), C5750(CC2220) | $\Delta T \leq 130$ |
| | C0603(CC0201), C1005(CC0402), C1608(CC0603), C2012(CC0805), C3216(CC1206) | $\Delta T \leq 150$ |
| Manual soldering | C3225(CC1210), C4532(CC1812), C5750(CC2220) | $\Delta T \leq 130$ |
| | | |

Recommended Solder Amount

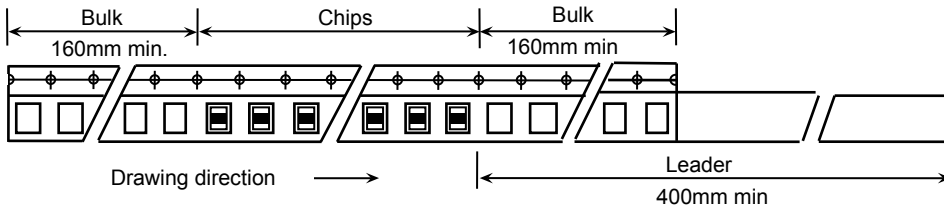




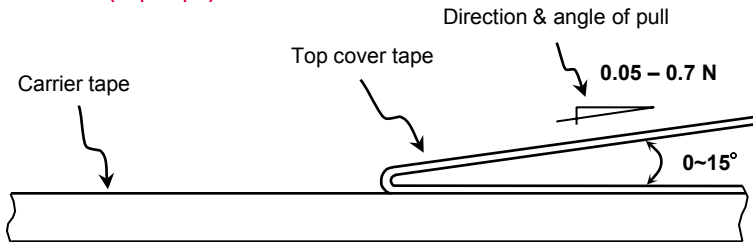
Packaging Information

C Series – General Application

Carrier Tape Configuration

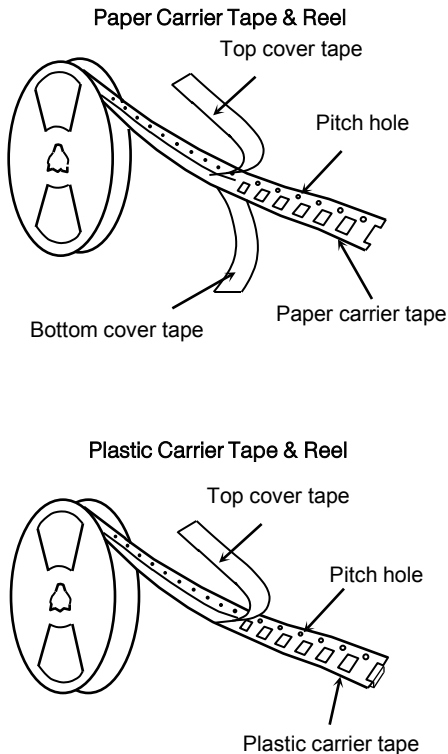


Peel Back Force (Top Tape)



- Carrier tape shall be flexible enough to be wound around a minimum radius of 30mm with components in tape.
- The missing of components shall be less than 0.1%
- Components shall not stick to the cover tape.
- The cover tape shall not protrude beyond the edges of the carrier tape not shall cover the sprocket holes.

Chip Quantity Per Reel and Structure of Reel (Paper & Plastic)



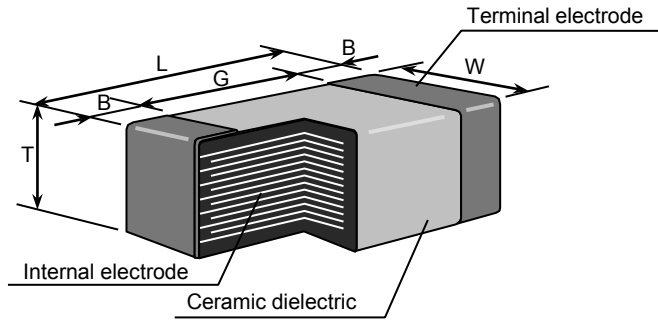
| Case Code | | Chip Thickness | Taping Material | Chip quantity (pcs.) | | | |
|-----------|---------|----------------|-----------------|----------------------|-------------------|-------|-------|
| JIS | EIA | | | φ178mm (7") reel | φ330mm (13") reel | | |
| C0402 | CC01005 | 0.20 mm | Paper | 20,000 | - | | |
| C0603 | CC0201 | 0.30 mm | Paper | 15,000 | - | | |
| C1005 | CC0402 | 0.50 mm | Paper | 10,000 | 50,000 | | |
| C1608 | CC0603 | 0.80 mm | Paper | 4,000 | 10,000 | | |
| C2012 | CC0805 | 0.60 mm | Paper/Plastic | 4,000 | 20,000 | | |
| | | 0.85 mm | | | 10,000 | | |
| | | 1.25 mm | Plastic | | 2,000 | | |
| C3216 | CC1206 | 0.60 mm | Paper | 4,000 | 10,000 | | |
| | | 0.85 mm | Paper/Plastic | | | | |
| | | 1.15 mm | Plastic | | | 2,000 | |
| | | 1.30 mm | | | | | |
| | | 1.60 mm | | | | | |
| C3225 | CC1210 | 1.15 mm | Plastic | 2,000 | 10,000 | | |
| | | 1.25 mm | | | | | |
| | | 1.30 mm | | | | | |
| | | 1.60 mm | | | | | |
| | | 2.00 mm | | | | 1,000 | 5,000 |
| | | 2.30 mm | | | | | |
| | | 2.50 mm | | | | | |
| C4532 | CC1812 | 1.60 mm | Plastic | 1,000 | 3,000 | | |
| | | 2.00 mm | | | | | |
| | | 2.30 mm | | | | | |
| | | 2.50 mm | | | | 500 | 2,000 |
| | | 3.20 mm | | | | | |
| C5750 | CC2220 | 2.00 mm | Plastic | 500 | 3,000 | | |
| | | 2.30 mm | | | | | |
| | | 2.50 mm | | | | | |
| | | 2.80 mm | | | | 2,000 | |



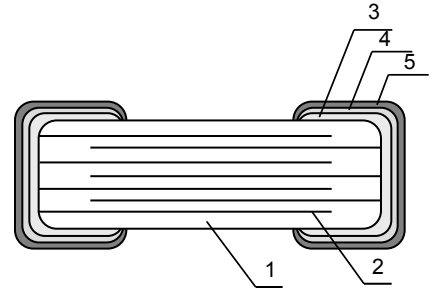
Additional Information

C Series – General Application

• Shape & Dimensions



• Inside Structure & Material System



| Case Code | | Dimensions (mm) | | | | |
|-----------|---------|-----------------|------|------|-----------|-----------|
| JIS | EIA | L | W | T | B | G |
| C0402 | CC01005 | 0.40 | 0.20 | 0.20 | 0.10 | 0.13 min. |
| C0603 | CC0201 | 0.60 | 0.30 | 0.30 | 0.15 | 0.20 min. |
| C1005 | CC0402 | 1.00 | 0.50 | 0.50 | 0.25 | 0.35 min. |
| C1608 | CC0603 | 1.60 | 0.80 | 0.50 | 0.30 | 0.50 min. |
| | | | | 0.80 | 0.20 min. | |
| C2012 | CC0805 | 2.00 | 1.20 | 0.60 | 0.20 min. | 0.50 min. |
| | | | | 0.80 | | |
| | | | | 0.85 | | |
| | | | | 1.25 | | |
| C3216 | CC1206 | 3.20 | 1.60 | 0.60 | 0.20 min. | 1.00 min. |
| | | | | 0.85 | | |
| | | | | 1.15 | | |
| | | | | 1.30 | | |
| C3225 | CC1210 | 3.20 | 2.50 | 1.15 | 0.20 min. | 1.00 min. |
| | | | | 1.25 | 0.30 min. | |
| | | | | 1.30 | | |
| | | | | 1.60 | 0.20 min. | |
| | | | | 2.00 | 0.30 min. | |
| 2.30 | | | | | | |
| 2.50 | | | | | | |
| C4532 | CC1812 | 4.50 | 3.20 | 1.30 | 0.30 min. | 2.00 min. |
| | | | | 1.60 | 0.20 min. | |
| | | | | 2.00 | | |
| | | | | 2.30 | 0.30 min. | |
| | | | | 2.50 | | |
| | | | | 2.80 | | |
| 3.20 | | | | | | |
| C5750 | CC2220 | 5.70 | 5.0 | 1.60 | 0.20 min. | 2.00 min. |
| | | | | 2.00 | | |
| | | | | 2.30 | | |
| | | | | 2.50 | | |
| | | | | 2.80 | | |

| No. | NAME | MATERIAL | |
|-----|--------------------|--------------------|--------------------|
| | | Class 1 | Class 2 |
| (1) | Ceramic Dielectric | CaZrO ₃ | BaTiO ₃ |
| (2) | Internal Electrode | Nickel (Ni) | |
| (3) | Termination | Copper (Cu) | |
| (4) | | Nickel (Ni) | |
| (5) | | Tin (Sn) | |

• Environmental Information

TDK Corporation established internal product environmental assurance standards that include the six hazardous substances banned by the EU RoHS Directive¹ enforced on July 1, 2006 along with additional substances independently banned by TDK and has successfully completed making general purpose electronic components conform to the RoHS Directive².

1. Abbreviation for Restriction on Hazardous Substances, which refers to the regulation EU Directive 2002/95/EC on hazardous substances by the European Union (EU) effective from July 1, 2006. The Directive bans the use of six specific hazardous substances in electric and electronic devices and products handled within the EU. The six substances are lead, mercury, cadmium, hexavalent chromium, PBB (polybrominated biphenyls), and PBDE (polybrominated diphenyl ethers).
2. This means that, in conformity with the EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

For REACH (SVHC : 15 substances according to ECHA / October 2008) : All TDK MLCC do not contain these 15 substances.

For European Directive 2000/53/CE and 2005/673/CE : Cadmium, Hexavalent Chromium, Mercury, Lead are not contained in all TDK MLCC.

For European Directive 2003/11/CE : Pentabromodiphenyl-ether, Octabromodiphenyl-ether are not contained in all TDK MLCC.