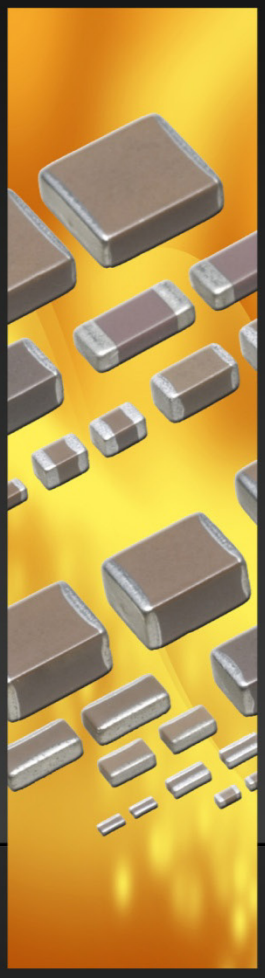
TDK

# 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

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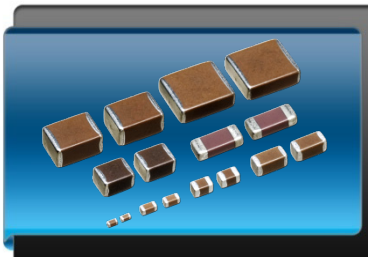


# C Series

## General Application

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

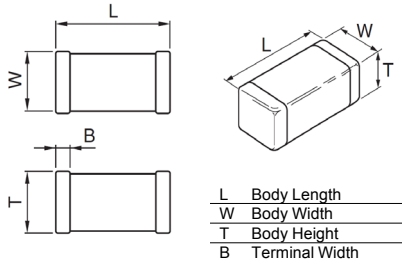
## Features

- 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




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

Dimensions in mm

## Part Number Construction

C 2012 X7R 1E 105 K T XXXX

**Series Name**

**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 ± 30ppm/ºC)
Rated Voltage: 16V (1C)

| Capacitance (pF) | Cap Code | Tolerance | C0G 1C (16V) |
|---|---|---|---|
| 0.1 | 0R1 | W: ± 0.05pF | |
| 0.2 | 0R2 | B: ± 0.10pF | ■ |
| 0.3 | 0R3 | C: ± 0.25pF | ■ |
| 0.4 | 0R4 | D: ± 0.50pF | ■ |
| 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: ± 0.10pF | ■ |
| 7.5 | 7R5 | E: ± 0.20pF | ■ |
| 8.2 | 8R2 | C: ± 0.25pF | ■ |
| 9.1 | 9R1 | D: ± 0.50pF | ■ |
| 10 | 100 | G: ± 2% | ■ |
| 11 | 110 | J: ± 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 (± 15%), X5R (± 15%)
Rated Voltage: 16V (1C), 10V (1A), 6.3V (0J)

| Capacitance (pF) | Cap Code | Tolerance | X7R 1A (10V) | X5R 1C (16V) | X5R 1A (10V) | X5R 0J (6.3V) |
|---|---|---|---|---|---|---|
| 100 | 101 | K: ± 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 125ºC, 0±30 ppm/ºC)

| 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 125ºC, 0±30 ppm/ºC)

| 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 125ºC, 0±30 ppm/ºC)

| 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 125ºC, 0±30 ppm/ºC)

| 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 +125ºC, ±15%), X5R (-55 to +85ºC, ±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 ± 30ppm/ºC)
Rated Voltage: 50V (1H), 25V (1E)

| Capacitance (pF) | Cap Code | Tolerance | C0G 1H (50V) | C0G 1E (25V) |
|---|---|---|---|---|
| 0.2 | 0R2 | W: ± 0.05pF | | ■ |
| 0.3 | 0R3 | B: ± 0.10pF | | ■ |
| 0.4 | 0R4 | C: ± 0.25pF | | ■ |
| 0.5 | 0R5 | D: ± 0.50pF | ■ | ■ |
| 0.6 | 0R6 | | | ■ |
| 0.7 | 0R7 | | | ■ |
| 0.75 | R75 | | | ■ |
| 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 1H (50V) | C0G 1E (25V) |
|---|---|---|---|---|
| 6.8 | 6R8 | B: ± 0.10pF | ■ | ■ |
| 7.5 | 7R5 | E: ± 0.20pF | | ■ |
| 8.2 | 8R2 | C: ± 0.25pF | ■ | ■ |
| 9.1 | 9R1 | D: ± 0.50pF | | ■ |
| 10 | 100 | G: ± 2% | ■ | ■ |
| 11 | 110 | J: ± 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 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 (± 15%), X5R (± 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: ± 10%<br>M: ± 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 125ºC, 0±30 ppm/ºC)

| 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 125ºC, 0±30 ppm/ºC)

| 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 125ºC, 0±30 ppm/ºC)

| 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 125ºC, 0±30 ppm/ºC)

| 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 125ºC, 0±30 ppm/ºC)

| 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 +125ºC, ±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 +125ºC, ±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 +125ºC, ±15%), X6S(-55 to 105ºC, ±22%), X5R (-55 to +85ºC, ±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 +85ºC, ±15%), Y5V(-30 to +85ºC, +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 ± 30ppm/ºC)
Rated Voltage: 50V (1H), 25V (1E)

| Capacitance (pF) | Cap Code | Tolerance | C0G 1H (50V) |
|---|---|---|---|
| 0.1 | 0R1 | B: ± 0.10pF | |
| 0.5 | 0R5 | C: ± 0.25pF | |
| 0.75 | R75 | D: ± 0.50pF | |
| 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: ± 0.25pF | |
| 6.8 | 6R8 | D: ± 0.50pF | |
| 8.2 | 8R2 | | |
| 10 | 100 | | |
| 11 | 110 | J: ± 5% | |
| 12 | 120 | | |
| 13 | 130 | | |
| 15 | 150 | | |
| 16 | 160 | | |
| 18 | 180 | | |
| 20 | 200 | | |
| 22 | 220 | | |
| 24 | 240 | | |
| 27 | 270 | | |

| Capacitance (pF) | Cap Code | Tolerance | C0G 1H (50V) | C0G 1E (25V) |
|---|---|---|---|---|
| 30 | 300 | J: ± 5% | | |
| 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 | | | |
| 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 | | | |

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

### Capacitance Range Chart

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

| Capacitance (pF) | Cap Code | Tolerance | X7R 1H (50V) | X7R 1V (35V) | X7R 1E (25V) | X7R 1C (16V) | X7R 1A (10V) |
|---|---|---|---|---|---|---|---|
| 220 | 221 | K: ± 10% | | | | | |
| 330 | 331 | M: ± 20% | | | | | |
| 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 (± 15%), X6S (± 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: ± 10%<br>M: ± 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: ± 10%<br>M: ± 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 125ºC, 0±30 ppm/ºC)

| 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 125ºC, 0±30 ppm/ºC)

| 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 +125ºC, ±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 +125ºC, ±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 +125ºC, ±15%), X6S(-55 to 105ºC, ±22%), X5R (-55 to +85ºC, ±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 +85ºC, ±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 +85ºC, ±15%), Y5V(-30 to +85ºC, +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 ± 30ppm/ºC)
Rated Voltage: 50V (1H), 25V (1E)

| Capacitance (pF) | Cap Code | Tolerance | C0G 1H (50V) |
|---|---|---|---|
| 0.1 | 0R1 | B: ± 0.10pF | |
| 0.5 | 0R5 | C: ± 0.25pF | |
| 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: ± 0.25pF | |
| 6.8 | 6R8 | D: ± 0.50pF | |
| 8.2 | 8R2 | | |
| 10 | 100 | | |
| 11 | 110 | J: ± 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 | | |

| Capacitance (pF) | Cap Code | Tolerance | C0G 1H (50V) | C0G 1E (25V) |
|---|---|---|---|---|
| 91 | 910 | J: ± 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 (± 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: ± 10% | | | | | | | |
| 470,000 | 474 | M: ± 20% | | | | | | | |
| 1,000,000 | 105 | | | | | | | | |
| 2,200,000 | 225 | | | | | | | | |
| 4,700,000 | 475 | | | | | | | | |
| 10,000,000 | 106 | | | | | | | | |

Standard Thickness
0.80 mm
0.50 mm

## Capacitance Range Chart

# C1608 [EIA CC0603]

**Capacitance Range Chart**

Temperature Characteristics: X7R (± 15%), 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 | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0G (4V) |
| 100,000 | 104 | K: ± 10% | | | | | | | |
| 150,000 | 154 | M: ± 20% | | | | | | | |
| 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: ± 10% | | | | | | |
| 220 | 221 | M: ± 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 | | | | | | | |
| 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 125ºC, 0±30 ppm/ºC)

| 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 125ºC, 0±30 ppm/ºC)

| 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 125ºC, 0±30 ppm/ºC)

| 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 +125ºC, ±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 +125ºC, ±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 +125ºC, ±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 +125ºC, ±15%), X6S (-55 to +105ºC, ±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 +85ºC, ±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 +85ºC, ±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 +85ºC, ±15%), Y5V(-30 to +85ºC, +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 ± 30ppm/ºC)
Rated Voltage: 50V (1H), 25V (1E)

| Capacitance (pF) | Cap Code | Tolerance | C0G | |
|---|---|---|---|---|
| | | | 1H (50V) | 1E (25V) |
| 10 | 100 | J: ± 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 (± 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: ± 10% | | | | | | | |
| 2,200,000 | 225 | M: ± 20% | | | | | | | |
| 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 (± 15%), 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 | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 1H (50V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0G (4V) |
| 1,000,000 | 105 | K: ± 10%<br>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 | | | | | | | |

| Capacitance (pF) | Cap Code | Tolerance | X7R | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) |
| 1,000 | 102 | K: ± 10%<br>M: ± 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 125ºC, 0±30 ppm/ºC)

| 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 125ºC, 0±30 ppm/ºC)

| 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 +125ºC, ±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 +125ºC, ±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 +125ºC, ±15%), X6S(-55 to 105ºC, ±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 +85ºC, ±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 +85ºC, ±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 +85ºC, ±15%), Y5V(-30 to +85ºC, +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/ºC)
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 | M: ± 20% | | | | | | | | | |
| 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 125ºC, 0±30 ppm/ºC), SL (-25 to +85ºC, +350/-1000 ppm/ºC)

| 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 +125ºC, ±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 +125ºC, ±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 +125ºC, ±15%), X6S(-55 to 105ºC, ±22%), X5R (-55 to +85ºC, ±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 +85ºC, ±15%), Y5V(-30 to +85ºC, +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/ºC)
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 125ºC, 0±30 ppm/ºC)

| 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 +125ºC, ±15%), X7S (-55 to +125ºC, ±22%), X6S (-55 to +105ºC, ±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 +125ºC, ±15%), X6S (-55 to +105ºC, ±22%), X5R (-55 to +85ºC, ±15%), Y5V(-30 to +85ºC, +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 +85ºC, +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/ºC)
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% | | | | | | | |
| 1,500,000 | 155 | M: ± 20% | | | | | | | |
| 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 125ºC, 0±30 ppm/ºC)

| 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 +125ºC, ±15%), X5R (-55 to +85ºC, ±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 +85ºC, ±15%), Y5V(-30 to +85ºC, +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 (± 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) | 1H (50V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) |
| 4,700,000 | 475 | K: ± 10%<br>M: ± 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 +125ºC, ±15%), X5R (-55 to +85ºC, ±15%), Y5V(-30 to +85ºC, +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 |

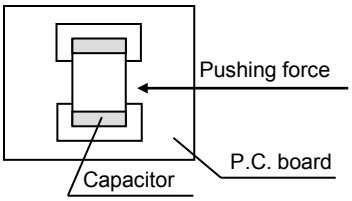
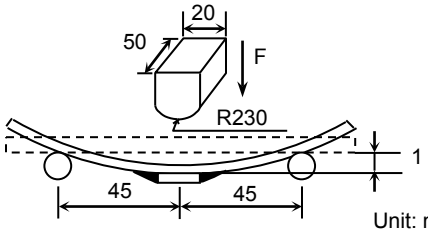
General Specifications

# C Series – General Application

| 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.<br>(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. | **Class** / **Apply voltage**<br>Class 1: 3 × rated voltage<br>Class 2: 2.5 × rated voltage<br>Above DC voltage shall be applied for 1 to 5s. Charge / discharge current shall not exceed 50mA. |
| 4 | **Capacitance** | Within the specified tolerance. | **Class** / **Rated Capacitance** / **Measuring Frequency** / **Measuring voltage**<br>Class 1: C ≤ 1000pF: 1MHz±10%: 0.5 - 5 $V_{rms}$<br>Class 1: C >1000pF: 1kHz±10%: 0.5 - 5 $V_{rms}$<br>Class 2: C ≤ 10uF: 1kHz±10%: 0.5±0.2$V_{rms}$<br>Class 2: C ≤ 10uF: 1kHz±10%: 1.0±0.2$V_{rms}$<br>Class 2: C > 10uF: 120Hz±20%: 0.5±0.2 $V_{rms}$ |
| 5 | **Q**<br>**(Class 1)** | **Rated Capacitance** / **Q**<br>30pF and over: 1,000 min.<br>Under 30pF: 400+20×C min.<br>C : Rated capacitance (pF) | See No.4 in this table for measuring condition. |
| 6 | **Dissipation Factor**<br>**(Class 2)** | **T.C.** / **Rated Voltage** / **D.F.**<br>X5R / - / 0.03 max.<br>X7R / - / 0.05 max.<br>- / - / 0.75 max.<br>- / - / 0.1 max.<br>- / - / 0.125 max.<br>- / - / 0.15 max.<br>Y5V / 50VDC / 0.05 max.<br>Y5V / 25VDC / 0.075 max.<br>Y5V / 16VDC / 0.10 max.<br>Y5V / 10VDC / 0.125 max.<br>Y5V / 6.3VDC / 0.20 max. | See No.4 in this table for measuring condition. |

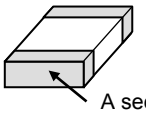
General Specifications

# C Series – General Application

| No. | Item | Performance | Test or Inspection Method |
|---|---|---|---|
| 7 | **Temperature Characteristics of Capacitance (Class 1)** | <table><tr><th>T.C.</th><th>Temperature Coefficient</th></tr><tr><td>C0G</td><td>0 ± 30 (ppm/ºC)</td></tr></table> Capacitance drift Within ± 0.2% or ±0.05pF, whichever larger. | Temperature coefficient shall be calculated based on values at 25ºC and 85ºC temperature. Measuring temperature below 20ºC shall be -10ºC and -25ºC. |
| 8 | **Temperature Characteristics of Capacitance (Class 2)** | Capacitance Change (%)<br>**No Voltage Applied**<br>X5R: ± 15%<br>X7R: ± 15%<br>X6S: ± 22%<br>X7S: ± 22%<br>X7T: +22/-33%<br>Y5V: + 22/-82% | Capacitance shall be measured by the steps shown in the following table after thermal equilibrium is obtained for each step. ΔC be calculated ref. STEP 3 reading<br><table><tr><th>Step</th><th>Temperature (ºC)</th></tr><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></table> Measuring voltage: 0.1, 0.2, 0.5, 1.0$V_{rms}$. |
| 9 | **Robustness of Terminations** | No sign of termination coming off, breakage of ceramic, or other abnormal signs. | 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±1s.<br>  |
| 10 | **Bending** | No mechanical damage. | Reflow solder the capacitor on P.C. board (shown in Appendix 2a or Appendix 2b) and bend it for 1mm.<br>  <br>Unit: mm |

General Specifications

# C Series – General Application

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

General Specifications

# C Series – General Application

<table>
<tr><th>No.</th><th>Item</th><th>Performance</th><th>Test or Inspection Method</th></tr>
<tr><td>13</td><td>Vibration</td><td></td><td rowspan="4">Reflow solder the capacitor on P.C. board (shown in Appendix 1a or Appendix 1b) before testing.<br><br>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.</td></tr>
<tr><td></td><td>External appearance</td><td>No mechanical damage.</td></tr>
<tr><td></td><td>Capacitance</td><td><table><tr><th colspan="2">Characteristics</th><th>Change from the value before test</th></tr><tr><td>Class 1</td><td>C0G</td><td>±2.5% or ±0.25pF, whichever larger.</td></tr><tr><td>Class 2</td><td>X5R<br>X7R<br>Y5V</td><td>± 7.5 %<br>± 7.5 %<br>± 20 %</td></tr></table></td></tr>
<tr><td></td><td>Q (Class 1)</td><td><table><tr><th>Rated Capacitance</th><th>Q</th></tr><tr><td>C ≥ 30pF</td><td>1,000 min.</td></tr><tr><td>C < 30pF</td><td>400+20×C min.</td></tr></table>C : Rated capacitance (pF)</td></tr>
<tr><td></td><td></td><td>D.F. (Class 2)</td><td>Meet the initial spec.</td><td></td></tr>
<tr><td>14</td><td>Temperature cycle</td><td></td><td rowspan="5">Reflow solder the capacitor on P.C. board (shown in Appendix 1a or Appendix 1b) before testing.<br><br>Expose the capacitor in the condition step1 through step 4 and repeat 5 times consecutively.<br><br>Leave the capacitor in ambient conditions for 6 to 24h (Class 1) or 24±2h (Class 2) before measurement.<br><br><table><tr><th>Step</th><th>Temperature (ºC)</th><th>Time (min.)</th></tr><tr><td>1</td><td>Min. operating temp. ±3</td><td>30 ± 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 ± 2</td></tr><tr><td>4</td><td>Reference Temp.</td><td>2 - 5</td></tr></table></td></tr>
<tr><td></td><td></td><td>External appearance</td><td>No mechanical damage.</td></tr>
<tr><td></td><td></td><td>Capacitance</td><td><table><tr><th colspan="2">Characteristics</th><th>Change from the value before test</th></tr><tr><td>Class 1</td><td>C0G</td><td>±2.5% or ±0.25pF, whichever larger.</td></tr><tr><td>Class 2</td><td>X5R<br>X7R<br>Y5V</td><td>± 15 %<br>± 15 %<br>± 20 %</td></tr></table></td></tr>
<tr><td></td><td></td><td>Q (Class 1)</td><td><table><tr><th>Rated Capacitance</th><th>Q</th></tr><tr><td>C ≥ 30pF</td><td>1,000 min.</td></tr><tr><td>C < 30pF</td><td>400+20×C min.</td></tr></table>C : Rated capacitance (pF)</td></tr>
<tr><td></td><td></td><td>D.F. (Class 2)</td><td>Meet the initial spec.</td><td></td></tr>
<tr><td></td><td></td><td>Insulation Resistance</td><td>Meet the initial spec.</td><td></td></tr>
<tr><td></td><td></td><td>Voltage Proof</td><td>No insulation breakdown or other damage.</td><td></td></tr>
</table>

General Specifications

# C Series – General Application

<table>
<tr><th>No.</th><th>Item</th><th>Performance</th><th>Test or Inspection Method</th></tr>
<tr><td>15</td><td colspan="2">Moisture Resistance (Steady State)</td><td rowspan="5">Reflow solder the capacitor on P.C. board (shown in Appendix 1a or Appendix 1b) before testing.<br><br>Leave at temperature 40±2ºC, 90 to 95%RH for 500 +24,0h.<br><br>Leave the capacitor in ambient conditions for 6 to 24h (Class 1) or 24±2h (Class 2) before measurement.</td></tr>
<tr><td></td><td>External appearance</td><td>No mechanical damage.</td></tr>
<tr><td></td><td>Capacitance</td><td>
<table>
<tr><th colspan="2">Characteristics</th><th>Change from the value before test</th></tr>
<tr><td>Class 1</td><td>C0G</td><td>±5% or ±0.5pF, whichever larger.</td></tr>
<tr><td>Class 2</td><td>X5R<br>X7R<br>Y5V</td><td>± 25 %<br>± 25 %<br>± 30 %</td></tr>
</table>
</td></tr>
<tr><td></td><td>Q<br>(Class 1)</td><td>
<table>
<tr><th>Rated Capacitance</th><th>Q</th></tr>
<tr><td>C ≥ 30pF</td><td>350 min.</td></tr>
<tr><td>10pF ≤ C < 30pF</td><td>275+5/2×C min.</td></tr>
<tr><td>C <10pF</td><td>200+10×C min.</td></tr>
</table>
C : Rated capacitance (pF)
</td></tr>
<tr><td></td><td>D.F.<br>(Class 2)</td><td>Characteristics<br>X5R: 200% of initial spec. max.<br>X7R: 200% of initial spec. max<br>Y5V: 150% of initial spec. max</td></tr>
<tr><td></td><td>Insulation Resistance</td><td>1,000MΩ or 50MΩ•μF min.<br>(As for the capacitors of rated voltage 16, 10 and 6.3V DC, 1,000 MΩ or 10MΩ•μF min.,) whichever smaller.</td></tr>
</table>

General Specifications

# C Series – General Application

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

General Specifications

# C Series – General Application

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

***As for the initial measurement of capacitors (Class2) on number 8,12,13,14 and 15, leave capacitor at 150 –10, 0°C for 1 hour and measure the value after leaving capacitor for 24±2h in ambient conditions.**

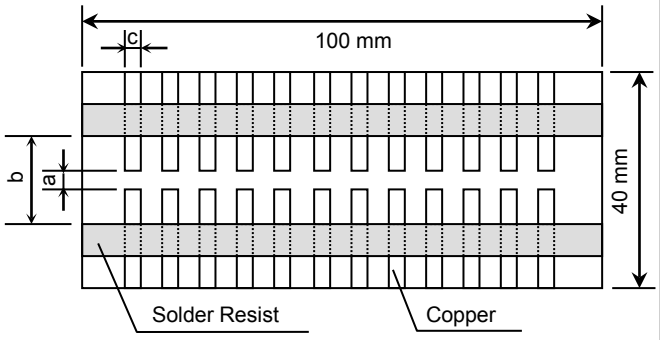
General Specifications

# C Series – General Application

## Appendix - 1a

**P.C. Board for reliability test**

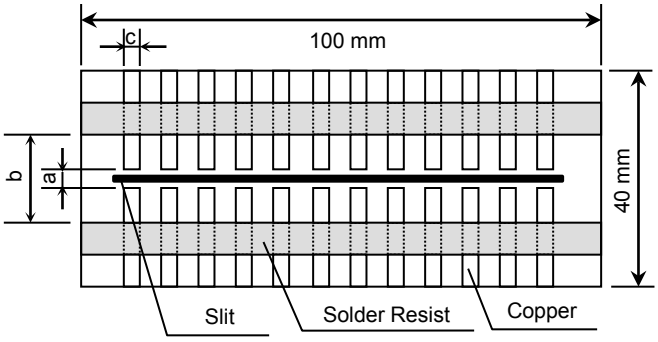
Applied for C0603, C1005, C1608, C2012, C3216




## Appendix - 1b

**P.C. Board for reliability test**

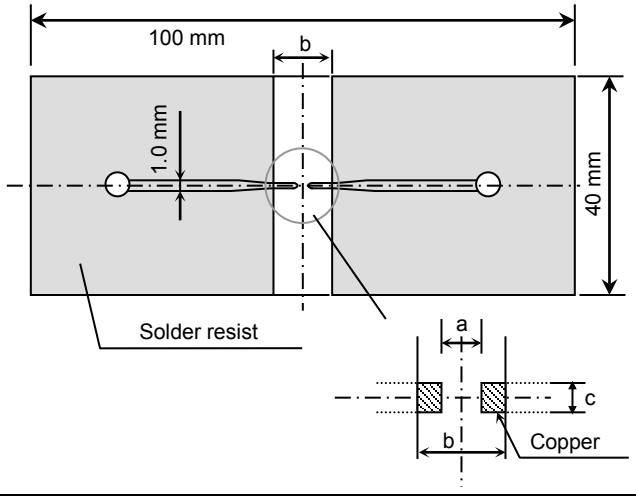
Applied for C3225, C4532, C5750




## Appendix - 2a

**P.C. Board for bending test**

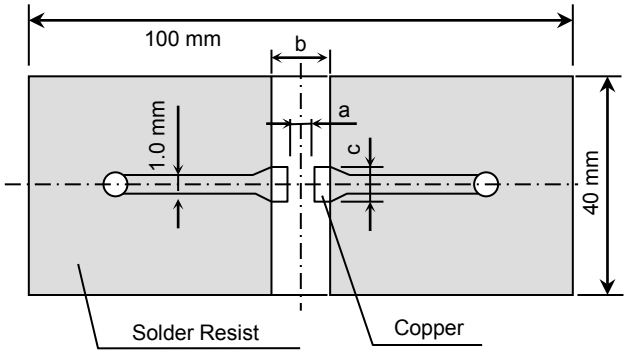
Applied for C0603, C1005




## 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

Copper (thickness 0.035mm)

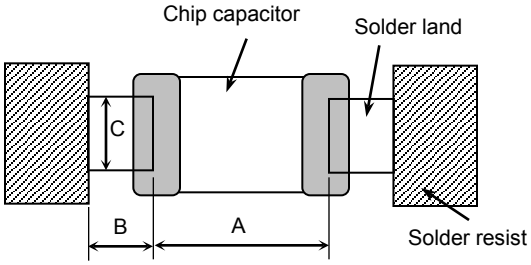
Solder resist

| 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




**Wave Soldering** Unit: mm

| Symbol \ 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 |

**Reflow Soldering** Unit: mm

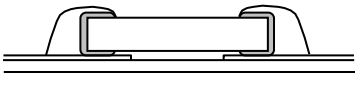
| Symbol \ Type | C0603 [CC0201] | C1005 [CC0402] | C1608 [CC0603] | C2012 [CC0805] |
|---|---|---|---|---|
| A | 0.25 - 0.35 | 0.3 - 0.5 | 0.6 - 0.8 | 0.9 - 1.2 |
| B | 0.2 - 0.3 | 0.35 - 0.45 | 0.6 - 0.8 | 0.7 - 0.9 |
| C | 0.25 - 0.35 | 0.4 - 0.6 | 0.6 - 0.8 | 0.9 - 1.2 |

**Reflow Soldering** Unit: mm

| Symbol \ 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 Solder Amount

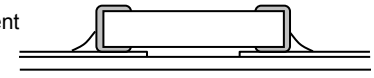
Excessive solder



Higher tensile force on the chip capacitor may cause cracking.

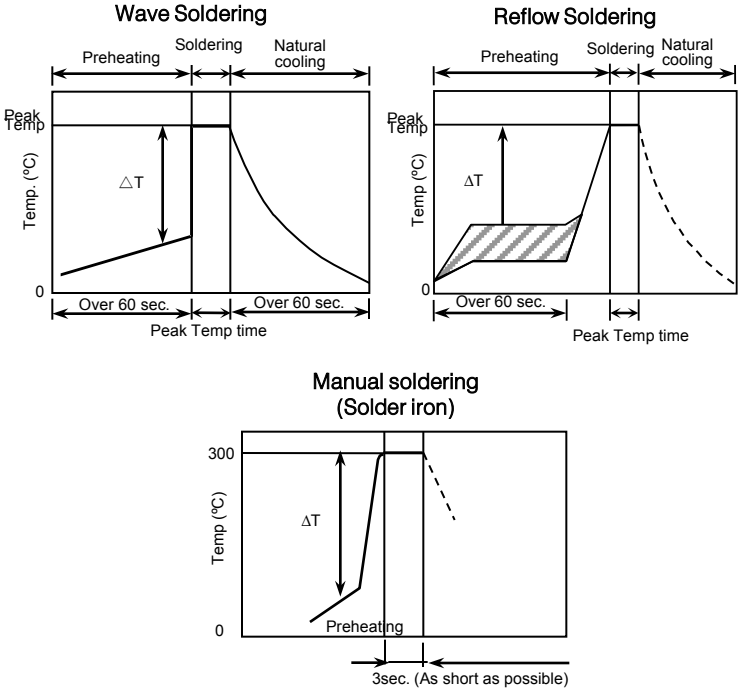
Adequate solder

Insufficient solder



Small solder fillet may cause contact failure or failure to hold the chip capacitor to the P.C. board.

## • Recommended Soldering Profile




**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)

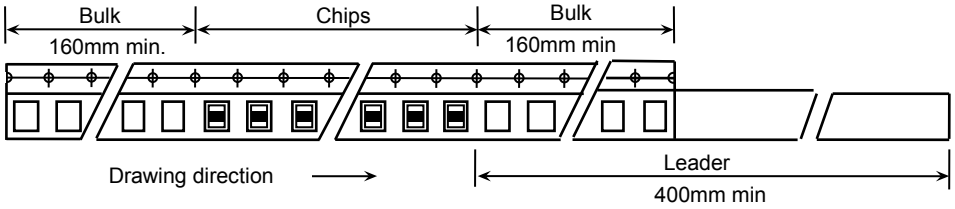
**Preheating Condition**

| Soldering | Case Size - JIS (EIA) | Temp. (ºC) |
|---|---|---|
| Wave soldering | C1608(CC0603), C2012(CC0805), C3216(CC1206) | ΔT ≤ 150 |
| Reflow soldering | C0603(CC0201), C1005(CC0402), C1608(CC0603), C2012(CC0805), C3216(CC1206) | ΔT ≤ 150 |
| | C3225(CC1210), C4532(CC1812), C5750(CC2220) | ΔT ≤ 130 |
| Manual soldering | C0603(CC0201), C1005(CC0402), C1608(CC0603), C2012(CC0805), C3216(CC1206) | ΔT ≤ 150 |
| | C3225(CC1210), C4532(CC1812), C5750(CC2220) | ΔT ≤ 130 |

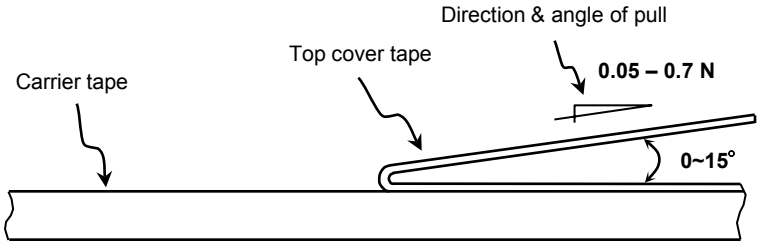
## Packaging Information

# C Series – General Application

- Carrier Tape Configuration



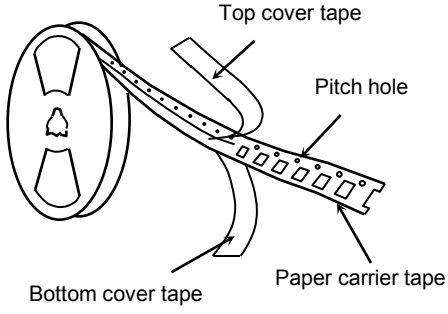

- Peel Back Force (Top Tape)



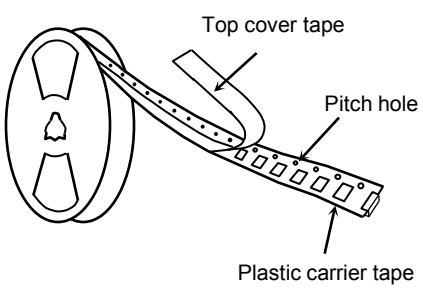

- Carrier tape shall be flexible enough to be wound around a minimum radius of 30mm with components in tape.
- The missing of components shall be less than 0.1%
- Components shall not stick to the cover tape.
- The cover tape shall not protrude beyond the edges of the carrier tape not shall cover the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

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

Paper Carrier Tape & Reel




Plastic Carrier Tape & Reel

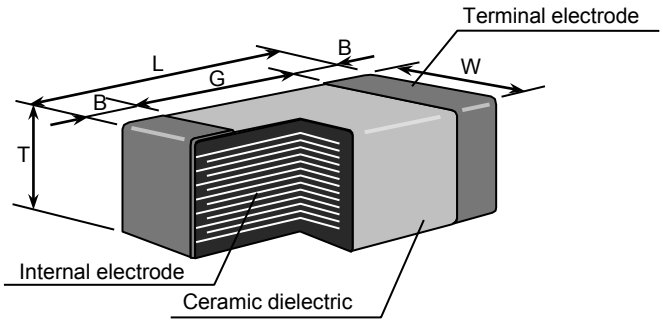



| Case Code | | Chip Thickness | Taping Material | Chip quantity (pcs.) | |
|---|---|---|---|---|---|
| JIS | EIA | | | φ178mm (7") reel | φ330mm (13") reel |
| C0402 | CC01005 | 0.20 mm | Paper | 20,000 | - |
| C0603 | CC0201 | 0.30 mm | Paper | 15,000 | - |
| C1005 | CC0402 | 0.50 mm | Paper | 10,000 | 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 | | | 8,000 |
| C3225 | CC1210 | 1.15 mm | Plastic | 2,000 | 10,000 |
| | | 1.25 mm | | 2,000 | 8,000 |
| | | 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 | | 500 | |
| | | 2.50 mm | | | |
| | | 2.80 mm | | | 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

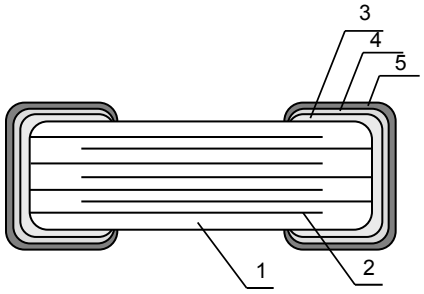
# C Series – General Application

## • Shape & Dimensions




| 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 | | |
| | | | | 1.60 | | |
| 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 | | |
| | | | | 2.30 | 0.30 min. | |
| | | | | 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 | | |
| | | | | 2.50 | 0.30 min. | |
| | | | | 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 | | |

## • Inside Structure & Material System




| 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 Directive[1] 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 Directive[2].

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.