# THE DATASHEET OF

# C1005X5R0J475M050BC

TDK

May 2025

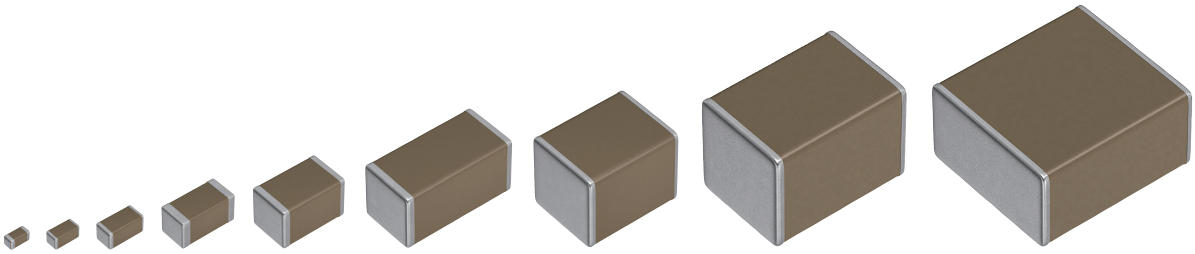
# MULTILAYER CERAMIC CHIP CAPACITORS

Commercial grade, general (Up to 75V)

# C series

| | |
|---|---|
| **C0402** | **[01005 inch]** |
| **C0603** | **[0201 inch]** |
| **C1005** | **[0402 inch]** |
| **C1608** | **[0603 inch]** |
| **C2012** | **[0805 inch]** |
| **C3216** | **[1206 inch]** |
| **C3225** | **[1210 inch]** |
| **C4532** | **[1812 inch]** |
| **C5750** | **[2220 inch]** |

* Dimensions code: JIS[EIA]



# REMINDERS FOR USING THESE PRODUCTS

Before using these products, be sure to request the delivery specifications.

# SAFETY REMINDERS

Please pay sufficient attention to the warnings for safe designing when using this products

# REMINDERS

1. The products listed on this catalog are intended for use in general electronic equipment (AV equipment, telecommunications equipment, home appliances, amusement equipment, computer equipment, personal equipment, office equipment, measurement equipment, industrial robots) under a normal operation and use condition.
   The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality require a more stringent level of safety or reliability, or whose failure, malfunction or trouble could cause serious damage to society, person or property.
   If you intend to use the products in the applications listed below or if you have special requirements exceeding the range or conditions set forth in the each catalog, please contact us.

   (1) Aerospace/aviation equipment
   (2) Transportation equipment (cars, electric trains, ships, etc.)
   (3) Medical equipment (excepting Pharmaceutical Affairs Law classification Class1,2)
   (4) Power-generation control equipment
   (5) Atomic energy-related equipment
   (6) Seabed equipment
   (7) Transportation control equipment
   (8) Public information-processing equipment
   (9) Military equipment
   (10) Electric heating apparatus, burning equipment
   (11) Disaster prevention/crime prevention equipment
   (12) Safety equipment
   (13) Other applications that are not considered general-purpose applications

   When designing your equipment even for general-purpose applications, you are kindly requested to take into consideration securing protection circuit/device or providing backup circuits in your equipment.
2. We may modify products or discontinue production of a product listed in this catalog without prior notification.
3. We provide “Delivery Specification” that explain precautions for the specifications and safety of each product listed in this catalog. We strongly recommend that you exchange these delivery specifications with customers that use one of these products.
4. If you plan to export a product listed in this catalog, keep in mind that it may be a restricted item according to the “Foreign Exchange and Foreign Trade Control Law”. In such cases, it is necessary to acquire export permission in harmony with this law.
5. Any reproduction or transferring of the contents of this catalog is prohibited without prior permission from our company.
6. We are not responsible for problems that occur related to the intellectual property rights or other rights of our company or a third party when you use a product listed in this catalog. We do not grant license of these rights.
7. This catalog only applies to products purchased through our company or one of our company’s official agencies. This catalog does not apply to products that are purchased through other third parties.

Notice: Effective January 2013, TDK will use a new catalog number which adds product thickness and packaging specification detail.
This new catalog number should be referenced on all catalog orders going forward, and is not applicable for OEM part number orders.
Please be aware the last five digits of the catalog number will differ from the item description (internal control number) on the product label.
Contact your local TDK Sales representative for more information.

(Example)

| Catalog issued date | Catalog number | Item description (on delivery label) |
|---|---|---|
| Prior to January 2013 | C1608C0G1E103J(080AA) | C1608C0G1E103JT000N |
| January 2013 and later | C1608C0G1E103J080AA | C1608C0G1E103JT000N |

# C series

## General (Up to 75V)

RoHS REACH Halogen Free Lead Free

Type: C0402 [01005 inch], C0603 [0201 inch], C1005 [0402 inch], C1608 [0603 inch], C2012 [0805 inch], C3216 [1206 inch], C3225 [1210 inch], C4532 [1812 inch], C5750 [2220 inch]

## SERIES OVERVIEW

General type C series is a surface-mounted component, which multilayer dielectrics and inner electrodes are stacked alternately. The monolithic structure ensures superior mechanical strength and high reliability. Also, outstanding frequency characteristics such as low ESR and low ESL are provided owing to the simpler structure than other capacitors. The capacitance range is up to 100µF and the lineup has been expanding to a range of the film capacitor and electrolytic capacitor.

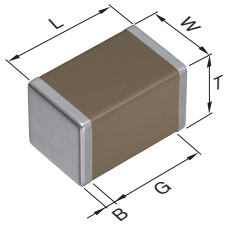
## FEATURES

- Superior mechanical strength and high reliability due to the monolithic structure
- Outstanding frequency characteristics such as low ESR and low ESL by the simple structure
- Low self-heating value and high resistance to ripple on account of the low ESR
- No polarity

## APPLICATION

- General electronic equipment
- Mobile devices
- Servers, PCs, tablets
- Power supply circuit

## SHAPE & DIMENSIONS



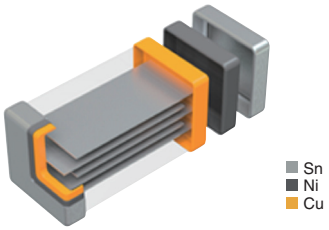

| | |
|---|---|
| L | Body length |
| W | Body width |
| T | Body height |
| B | Terminal width |
| G | Terminal spacing |

Dimensions in mm

| Type | L | W | T | B | G |
|---|---|---|---|---|---|
| C0402 | 0.40±0.02 | 0.20±0.02 | 0.20±0.02 | 0.07 min. | 0.14 min. |
| C0603 | 0.60±0.03 | 0.30±0.03 | 0.30±0.03 | 0.10 min. | 0.20 min. |
| C1005 | 1.00±0.05 | 0.50±0.05 | 0.50±0.05 | 0.10 min. | 0.30 min. |
| C1608 | 1.60±0.10 | 0.80±0.10 | 0.80±0.10 | 0.20 min. | 0.30 min. |
| C2012 | 2.00±0.20 | 1.25±0.20 | 1.25±0.20 | 0.20 min. | 0.50 min. |
| C3216 | 3.20±0.20 | 1.60±0.20 | 1.60±0.20 | 0.20 min. | 1.00 min. |
| C3225 | 3.20±0.40 | 2.50±0.30 | 2.50±0.30 | 0.20 min. | - |
| C4532 | 4.50±0.40 | 3.20±0.40 | 3.20±0.40 | 0.20 min. | - |
| C5750 | 5.70±0.40 | 5.00±0.40 | 2.80±0.30 | 0.20 min. | - |

* Dimensional tolerances are typical values.

## PRODUCT STRUCTURE




The structure which multilayer dielectrics and inner electrodes are stacked alternately. The monolithic and simple structure contributes to superior mechanical strength and excellent frequency characteristics.

## CATALOG NUMBER CONSTRUCTION

| C | 3216 | X5R | 1A | 107 | M | 160 | A | C |
|---|---|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |

### (1)Series

### (2)Dimensions L x W (mm)

| Code | EIA | Length | Width | Terminal width |
|---|---|---|---|---|
| 0402 | CC01005 | 0.40 | 0.20 | 0.07 |
| 0603 | CC0201 | 0.60 | 0.30 | 0.10 |
| 1005 | CC0402 | 1.00 | 0.50 | 0.10 |
| 1608 | CC0603 | 1.60 | 0.80 | 0.20 |
| 2012 | CC0805 | 2.00 | 1.25 | 0.20 |
| 3216 | CC1206 | 3.20 | 1.60 | 0.20 |
| 3225 | CC1210 | 3.20 | 2.50 | 0.20 |
| 4532 | CC1812 | 4.50 | 3.20 | 0.20 |
| 5750 | CC2220 | 5.70 | 5.00 | 0.20 |

### (3)Temperature characteristics

| Temperature characteristics | Temperature coefficient or capacitance change | Temperature range |
|---|---|---|
| C0G | 0±30 ppm/°C | −55 to +125°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 |
| X7T | +22,−33% | −55 to +125°C |

### (4)Rated voltage (DC)

| Code | Voltage (DC) |
|---|---|
| 0G | 4V |
| 0J | 6.3V |
| 1A | 10V |
| 1C | 16V |
| 1E | 25V |
| 1V | 35V |
| 1H | 50V |
| 1N | 75V |

### (5)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.

(Example) 0R5 = 0.5pF
101 = 100pF
225 = 2,200,000pF = 2.2μF

### (6)Capacitance tolerance

| Code | Tolerance |
|---|---|
| B | ±0.10pF |
| C | ±0.25pF |
| D | ±0.50pF |
| F | ±1% |
| G | ±2% |
| J | ±5% |
| K | ±10% |
| M | ±20% |

### (7)Thickness

| Code | Thickness |
|---|---|
| 020 | 0.20 mm |
| 030 | 0.30 mm |
| 050 | 0.50 mm |
| 060 | 0.60 mm |
| 080 | 0.80 mm |
| 085 | 0.85 mm |
| 115 | 1.15 mm |
| 125 | 1.25 mm |
| 160 | 1.60 mm |
| 200 | 2.00 mm |
| 230 | 2.30 mm |
| 250 | 2.50 mm |
| 280 | 2.80 mm |
| 320 | 3.20 mm |

### (8)Packaging style

| Code | Style |
|---|---|
| A | 178mm reel, 4mm pitch |
| B | 178mm reel, 2mm pitch |
| K | 178mm reel, 8mm pitch |

### (9)Special reserved code

| Code | Description |
|---|---|
| A,B,C | TDK internal code |
| T | Special temperature characteristic |

## Capacitance range chart

## C0402 [01005 inch]

| Capacitance | | C0G | X5R | | | | X6S | | | X7R | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (pF) | Code | 1C (16V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0G (4V) | 1A (10V) | 0J (6.3V) | 0G (4V) | 1A (10V) | 0J (6.3V) | 0G (4V) |
| 1 | 010 | | | | | | | | | | | |
| 10 | 100 | | | | | | | | | | | |
| 15 | 150 | | | | | | | | | | | |
| 22 | 220 | | | | | | | | | | | |
| 33 | 330 | | | | | | | | | | | |
| 47 | 470 | | | | | | | | | | | |
| 68 | 680 | | | | | | | | | | | |
| 100 | 101 | | | | | | | | | | | |
| 150 | 151 | | | | | | | | | | | |
| 220 | 221 | | | | | | | | | | | |
| 330 | 331 | | | | | | | | | | | |
| 470 | 471 | | | | | | | | | | | |
| 680 | 681 | | | | | | | | | | | |
| 1,000 | 102 | | | | | | | | | | | |
| 1,500 | 152 | | | | | | | | | | | |
| 2,200 | 222 | | | | | | | | | | | |

Standard thickness 0.20 mm

Background gray: These products are not recommended for new designs.

■Click the charts for details.

■For details such as the catalog numbers, please refer to the capacitance range table on page 16 and after.

## Capacitance range chart

## C0603 [0201 inch]

| Capacitance | | C0G | | X5R | | | | X6S | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (pF) | Code | 1H (50V) | 1E (25V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0G (4V) |
| 1 | 010 | | | | | | | | | | | |
| 10 | 100 | | | | | | | | | | | |
| 15 | 150 | | | | | | | | | | | |
| 22 | 220 | | | | | | | | | | | |
| 33 | 330 | | | | | | | | | | | |
| 47 | 470 | | | | | | | | | | | |
| 68 | 680 | | | | | | | | | | | |
| 100 | 101 | | | | | | | | | | | |
| 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 | | | | | | | | | | | |
| 47,000 | 473 | | | | | | | | | | | |
| 100,000 | 104 | | | | | | | | | | | |
| 150,000 | 154 | | | | | | | | | | | |
| 220,000 | 224 | | | | | | | | | | | |
| 330,000 | 334 | | | | | | | | | | | |
| 470,000 | 474 | | | | | | | | | | | |

| Capacitance | | X7R | | | | X7S | | |
|---|---|---|---|---|---|---|---|---|
| (pF) | Code | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 1A (10V) | 0J (6.3V) | 0G (4V) |
| 100 | 101 | | | | | | | |
| 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 | | | | | | | |
| 22,000 | 223 | | | | | | | |
| 47,000 | 473 | | | | | | | |
| 100,000 | 104 | | | | | | | |
| 150,000 | 154 | | | | | | | |
| 220,000 | 224 | | | | | | | |

Standard thickness 0.30 mm

Background gray: These products are not recommended for new designs.

■Click the charts for details.

■For details such as the catalog numbers, please refer to the capacitance range table on page 16 and after.

## Capacitance range chart C1005 [0402 inch]

| Capacitance | | C0G | | X5R | | | | | | | X6S | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (pF) | Code | 1H (50V) | 1E (25V) | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0G (4V) | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0G (4V) |
| 1 | 010 | | | | | | | | | | | | | | | | |
| 10 | 100 | | | | | | | | | | | | | | | | |
| 15 | 150 | | | | | | | | | | | | | | | | |
| 22 | 220 | | | | | | | | | | | | | | | | |
| 33 | 330 | | | | | | | | | | | | | | | | |
| 47 | 470 | | | | | | | | | | | | | | | | |
| 68 | 680 | | | | | | | | | | | | | | | | |
| 100 | 101 | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | | |

Standard thickness 0.50 mm

Background gray: These products are not recommended for new designs.

■Click the charts for details.

■For details such as the catalog numbers, please refer to the capacitance range table on page 16 and after.

## Capacitance range chart

## C1005 [0402 inch]

| Capacitance | | X7R | | | | | X7S | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| (pF) | Code | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0G (4V) |
| 220 | 221 | ■ | | | | | | | | |
| 330 | 331 | ■ | | | | | | | | |
| 470 | 471 | ■ | | | | | | | | |
| 680 | 681 | ■ | | | | | | | | |
| 1,000 | 102 | ■ | | ■ | | | | | | |
| 1,500 | 152 | ■ | | | | | | | | |
| 2,200 | 222 | ■ | | | | | | | | |
| 3,300 | 332 | ■ | | | | | | | | |
| 4,700 | 472 | ■ | | | | | | | | |
| 6,800 | 682 | ■ | | | | | | | | |
| 10,000 | 103 | ■ | ■ | ■ | ■ | | | | | |
| 15,000 | 153 | ■ | ■ | | | | | | | |
| 22,000 | 223 | ■ | ■ | ■ | | | | | | |
| 33,000 | 333 | ■ | ■ | | | | | | | |
| 47,000 | 473 | ■ | ■ | ■ | ■ | | | | | |
| 68,000 | 683 | ■ | ■ | ■ | ■ | | | | | |
| 100,000 | 104 | ■ | ■ | ■ | ■ | ■ | | | | |
| 150,000 | 154 | | ■ | ■ | ■ | ■ | | | | |
| 220,000 | 224 | | ■ | ■ | ■ | ■ | | | | |
| 330,000 | 334 | | | | | | ■ | ■ | ■ | |
| 470,000 | 474 | | | | | | | ■ | ■ | |
| 680,000 | 684 | | | | | | | ■ | ■ | ■ |
| 1,000,000 | 105 | | | | | | | ■ | | ■ |
| 1,500,000 | 155 | | | | | | | ■ | ■ | ■ |
| 2,200,000 | 225 | | | | | | | ■ | ■ | ■ |

Standard thickness ■ 0.50 mm

■ Background gray: These products are not recommended for new designs.

■ Click the charts for details.

■ For details such as the catalog numbers, please refer to the capacitance range table on page 16 and after.

## Capacitance range chart C1608 [0603 inch]

| Capacitance | | C0G | | | | X5R | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (pF) | Code | 1H (50V) | 1V (35V) | 1E (25V) | 0G (4V) | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0G (4V) |
| 1 | 010 | | | | | | | | | | | |
| 10 | 100 | | | | | | | | | | | |
| 15 | 150 | | | | | | | | | | | |
| 22 | 220 | | | | | | | | | | | |
| 33 | 330 | | | | | | | | | | | |
| 47 | 470 | | | | | | | | | | | |
| 68 | 680 | | | | | | | | | | | |
| 100 | 101 | | | | | | | | | | | |
| 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 | | | | | | | | | | | |
| 18,000 | 183 | | | | | | | | | | | |
| 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 | | | | | | | | | | | |
| 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 | | | | | | | | | | | |

Standard thickness 0.80 mm

Background gray: These products are not recommended for new designs.

■Click the charts for details.

■For details such as the catalog numbers, please refer to the capacitance range table on page 16 and after.

## Capacitance range chart

## C1608 [0603 inch]

| Capacitance | | X6S | | | | | | | X7R | | | | | | X7S | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (pF) | Code | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0G (4V) | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 1C (16V) | 1A (10V) | 0J (6.3V) |
| 1,000 | 102 | | | | | | | | | | | | | | | | |
| 2,200 | 222 | | | | | | | | | | | | | | | | |
| 4,700 | 472 | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | | |

Standard thickness 0.80 mm

Background gray: These products are not recommended for new designs.

■Click the charts for details.

■For details such as the catalog numbers, please refer to the capacitance range table on page 16 and after.

## Capacitance range chart C2012 [0805 inch]

| Capacitance | | C0G | | | X5R | | | | | | | X6S | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (pF) | Code | 1H (50V) | 1V (35V) | 1E (25V) | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0G (4V) | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0G (4V) |
| 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 | | | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | | | |
| 15,000,000 | 156 | | | | | | | | | | | | | | | | | |
| 22,000,000 | 226 | | | | | | | | | | | | | | | | | |
| 33,000,000 | 336 | | | | | | | | | | | | | | | | | |
| 47,000,000 | 476 | | | | | | | | | | | | | | | | | |

| Capacitance | | X7R | | | | | | X7S | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (pF) | Code | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0G (4V) |
| 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 | | | | | | | | | | | |
| 15,000,000 | 156 | | | | | | | | | | | |
| 22,000,000 | 226 | | | | | | | | | | | |

Standard thickness 0.60 mm 0.85 mm 1.25 mm

Background gray: These products are not recommended for new designs.

■Click the charts for details.

■For details such as the catalog numbers, please refer to the capacitance range table on page 16 and after.

## Capacitance range chart

## C3216 [1206 inch]

| Capacitance | | C0G | X5R | | | | | | | X6S | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (pF) | Code | 1H (50V) | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0G (4V) | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0G (4V) |
| 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 | | | | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | | | | |
| 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 | | X7R | | | | | | X7S | | |
|---|---|---|---|---|---|---|---|---|---|---|
| (pF) | Code | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 1A (10V) | 0J (6.3V) | 0G (4V) |
| 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 | | | | | | | | | |
| 15,000,000 | 156 | | | | | | | | | |
| 22,000,000 | 226 | | | | | | | | | |
| 33,000,000 | 336 | | | | | | | | | |
| 47,000,000 | 476 | | | | | | | | | |

Standard thickness 0.60 mm 0.85 mm 1.15 mm 1.60 mm

Background gray: These products are not recommended for new designs.

■Click the charts for details.

■For details such as the catalog numbers, please refer to the capacitance range table on page 16 and after.

## Capacitance range chart C3225 [1210 inch]

| Capacitance | | C0G | X5R | | | | | X6S | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (pF) | Code | 1H (50V) | 1H (50V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) |
| 22,000 | 223 | | | | | | | | | | | | |
| 33,000 | 333 | | | | | | | | | | | | |
| 47,000 | 473 | | | | | | | | | | | | |
| 68,000 | 683 | | | | | | | | | | | | |
| 100,000 | 104 | | | | | | | | | | | | |
| 2,200,000 | 225 | | | | | | | | | | | | |
| 3,300,000 | 335 | | | | | | | | | | | | |
| 4,700,000 | 475 | | | | | | | | | | | | |
| 6,800,000 | 685 | | | | | | | | | | | | |
| 10,000,000 | 106 | | | | | | | | | | | | |
| 15,000,000 | 156 | | | | | | | | | | | | |
| 22,000,000 | 226 | | | | | | | | | | | | |
| 33,000,000 | 336 | | | | | | | | | | | | |
| 47,000,000 | 476 | | | | | | | | | | | | |
| 100,000,000 | 107 | | | | | | | | | | | | |

| Capacitance | | X7R | | | | | X7S | | | X7T | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| (pF) | Code | 1N (75V) | 1H (50V) | 1E (25V) | 1C (16V) | 1A (10V) | 1H (50V) | 1A (10V) | 0J (6.3V) | 1A (10V) | 0J (6.3V) |
| 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 | | | | | | | | | | |
| 15,000,000 | 156 | | | | | | | | | | |
| 22,000,000 | 226 | | | | | | | | | | |
| 47,000,000 | 476 | | | | | | | | | | |
| 100,000,000 | 107 | | | | | | | | | | |

Standard thickness 1.25 mm 1.60 mm 2.00 mm 2.30 mm 2.50 mm

Background gray: These products are not recommended for new designs.

■Click the charts for details.

■For details such as the catalog numbers, please refer to the capacitance range table on page 16 and after.

## Capacitance range chart

## C4532 [1812 inch]

| Capacitance | | C0G | X5R | | | | | X6S | X7R | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| (pF) | Code | 1H (50V) | 1H (50V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0J (6.3V) | 1H (50V) | 1E (25V) | 1C (16V) |
| 47,000 | 473 | | | | | | | | | | |
| 68,000 | 683 | | | | | | | | | | |
| 100,000 | 104 | | | | | | | | | | |
| 150,000 | 154 | | | | | | | | | | |
| 220,000 | 224 | | | | | | | | | | |
| 1,000,000 | 105 | | | | | | | | | | |
| 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 | | | | | | | | | | |

Standard thickness 1.60 mm 2.00 mm 2.30 mm 2.50 mm 2.80 mm 3.20 mm

Background gray: These products are not recommended for new designs.

■Click the charts for details.

■For details such as the catalog numbers, please refer to the capacitance range table on page 16 and after.

## Capacitance range chart

## C5750 [2220 inch]

| Capacitance | | X5R | | | | | X7R | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| (pF) | Code | 1H (50V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) |
| 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 | | | | | | | | | |

Standard thickness 2.00 mm 2.30 mm 2.50 mm 2.80 mm

Background gray: These products are not recommended for new designs.

■Click the charts for details.

■For details such as the catalog numbers, please refer to the capacitance range table on page 16 and after.

## Capacitance range table

## Temperature characteristic: C0G (−55 to +125°C,0±30 ppm/°C)

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | |
|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 50V | Rated voltage Edc: 25V | Rated voltage Edc: 16V |
| 1 pF | 0402 | 0.20±0.02 | ±0.25pF | | | C0402C0G1C010C020BC |
| | 0603 | 0.30±0.03 | ±0.25pF | C0603C0G1H010C030BA | C0603C0G1E010C030BA | |
| | 1005 | 0.50±0.05 | ±0.10pF | C1005C0G1H010B050BA | | |
| | | | ±0.25pF | C1005C0G1H010C050BA | | |
| | 1608 | 0.80±0.10 | ±0.25pF | C1608C0G1H010C080AA | | |
| 2 pF | 0402 | 0.20±0.02 | ±0.25pF | | | C0402C0G1C020C020BC |
| | 0603 | 0.30±0.03 | ±0.25pF | C0603C0G1H020C030BA | C0603C0G1E020C030BA | |
| | 1005 | 0.50±0.05 | ±0.10pF | C1005C0G1H020B050BA | | |
| | | | ±0.25pF | C1005C0G1H020C050BA | | |
| | 1608 | 0.80±0.10 | ±0.25pF | C1608C0G1H020C080AA | | |
| 3 pF | 0402 | 0.20±0.02 | ±0.25pF | | | C0402C0G1C030C020BC |
| | 0603 | 0.30±0.03 | ±0.25pF | C0603C0G1H030C030BA | C0603C0G1E030C030BA | |
| | 1005 | 0.50±0.05 | ±0.10pF | C1005C0G1H030B050BA | | |
| | | | ±0.25pF | C1005C0G1H030C050BA | | |
| | 1608 | 0.80±0.10 | ±0.25pF | C1608C0G1H030C080AA | | |
| 4 pF | 0402 | 0.20±0.02 | ±0.25pF | | | C0402C0G1C040C020BC |
| | 0603 | 0.30±0.03 | ±0.25pF | C0603C0G1H040C030BA | C0603C0G1E040C030BA | |
| | 1005 | 0.50±0.05 | ±0.10pF | C1005C0G1H040B050BA | | |
| | | | ±0.25pF | C1005C0G1H040C050BA | | |
| | 1608 | 0.80±0.10 | ±0.25pF | C1608C0G1H040C080AA | | |
| 5 pF | 0402 | 0.20±0.02 | ±0.25pF | | | C0402C0G1C050C020BC |
| | 0603 | 0.30±0.03 | ±0.25pF | C0603C0G1H050C030BA | C0603C0G1E050C030BA | |
| | 1005 | 0.50±0.05 | ±0.10pF | C1005C0G1H050B050BA | | |
| | | | ±0.25pF | C1005C0G1H050C050BA | | |
| | 1608 | 0.80±0.10 | ±0.25pF | C1608C0G1H050C080AA | | |
| 6 pF | 0402 | 0.20±0.02 | ±0.50pF | | | C0402C0G1C060D020BC |
| | 0603 | 0.30±0.03 | ±0.50pF | C0603C0G1H060D030BA | C0603C0G1E060D030BA | |
| | 1005 | 0.50±0.05 | ±0.25pF | C1005C0G1H060C050BA | | |
| | | | ±0.50pF | C1005C0G1H060D050BA | | |
| | 1608 | 0.80±0.10 | ±0.25pF | C1608C0G1H060C080AA | | |
| | | | ±0.50pF | C1608C0G1H060D080AA | | |
| 7 pF | 0402 | 0.20±0.02 | ±0.50pF | | | C0402C0G1C070D020BC |
| | 0603 | 0.30±0.03 | ±0.50pF | C0603C0G1H070D030BA | C0603C0G1E070D030BA | |
| | 1005 | 0.50±0.05 | ±0.25pF | C1005C0G1H070C050BA | | |
| | | | ±0.50pF | C1005C0G1H070D050BA | | |
| | 1608 | 0.80±0.10 | ±0.25pF | C1608C0G1H070C080AA | | |
| | | | ±0.50pF | C1608C0G1H070D080AA | | |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table

## Temperature characteristic: C0G (−55 to +125°C,0±30 ppm/°C)

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | |
|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 50V | Rated voltage Edc: 25V | Rated voltage Edc: 16V |
| 8 pF | 0402 | 0.20±0.02 | ±0.50pF | | | C0402C0G1C080D020BC |
| | 0603 | 0.30±0.03 | ±0.50pF | C0603C0G1H080D030BA | C0603C0G1E080D030BA | |
| | 1005 | 0.50±0.05 | ±0.25pF | C1005C0G1H080C050BA | | |
| | | | ±0.50pF | C1005C0G1H080D050BA | | |
| | 1608 | 0.80±0.10 | ±0.25pF | C1608C0G1H080C080AA | | |
| | | | ±0.50pF | C1608C0G1H080D080AA | | |
| 9 pF | 0402 | 0.20±0.02 | ±0.50pF | | | C0402C0G1C090D020BC |
| | 0603 | 0.30±0.03 | ±0.50pF | C0603C0G1H090D030BA | C0603C0G1E090D030BA | |
| | 1005 | 0.50±0.05 | ±0.25pF | C1005C0G1H090C050BA | | |
| | | | ±0.50pF | C1005C0G1H090D050BA | | |
| | 1608 | 0.80±0.10 | ±0.25pF | C1608C0G1H090C080AA | | |
| | | | ±0.50pF | C1608C0G1H090D080AA | | |
| 10 pF | 0402 | 0.20±0.02 | ±0.50pF | | | C0402C0G1C100D020BC |
| | 0603 | 0.30±0.03 | ±0.50pF | C0603C0G1H100D030BA | C0603C0G1E100D030BA | |
| | 1005 | 0.50±0.05 | ±0.25pF | C1005C0G1H100C050BA | | |
| | | | ±0.50pF | C1005C0G1H100D050BA | | |
| | 1608 | 0.80±0.10 | ±0.25pF | C1608C0G1H100C080AA | | |
| | | | ±0.50pF | C1608C0G1H100D080AA | | |
| 15 pF | 0402 | 0.20±0.02 | ±10% | | | C0402C0G1C150K020BC |
| | | | ±5% | | | C0402C0G1C150J020BC |
| | 0603 | 0.30±0.03 | ±10% | C0603C0G1H150K030BA | C0603C0G1E150K030BA | |
| | | | ±5% | C0603C0G1H150J030BA | C0603C0G1E150J030BA | |
| | 1005 | 0.50±0.05 | ±1% | C1005C0G1H150F050BA | | |
| | | | ±2% | C1005C0G1H150G050BA | | |
| | | | ±5% | C1005C0G1H150J050BA | | |
| | 1608 | 0.80±0.10 | ±1% | C1608C0G1H150F080AA | | |
| | | | ±2% | C1608C0G1H150G080AA | | |
| | | | ±5% | C1608C0G1H150J080AA | | |
| 22 pF | 0402 | 0.20±0.02 | ±10% | | | C0402C0G1C220K020BC |
| | | | ±5% | | | C0402C0G1C220J020BC |
| | 0603 | 0.30±0.03 | ±10% | C0603C0G1H220K030BA | C0603C0G1E220K030BA | |
| | | | ±5% | C0603C0G1H220J030BA | C0603C0G1E220J030BA | |
| | 1005 | 0.50±0.05 | ±1% | C1005C0G1H220F050BA | | |
| | | | ±2% | C1005C0G1H220G050BA | | |
| | | | ±5% | C1005C0G1H220J050BA | | |
| | 1608 | 0.80±0.10 | ±1% | C1608C0G1H220F080AA | | |
| | | | ±2% | C1608C0G1H220G080AA | | |
| | | | ±5% | C1608C0G1H220J080AA | | |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table

## Temperature characteristic: C0G (−55 to +125°C,0±30 ppm/°C)

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | |
|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 50V | Rated voltage Edc: 25V | Rated voltage Edc: 16V |
| 33 pF | 0402 | 0.20±0.02 | ±10% | | | C0402C0G1C330K020BC |
| | | | ±5% | | | C0402C0G1C330J020BC |
| | 0603 | 0.30±0.03 | ±10% | C0603C0G1H330K030BA | C0603C0G1E330K030BA | |
| | | | ±5% | C0603C0G1H330J030BA | C0603C0G1E330J030BA | |
| | 1005 | 0.50±0.05 | ±1% | C1005C0G1H330F050BA | | |
| | | | ±2% | C1005C0G1H330G050BA | | |
| | | | ±5% | C1005C0G1H330J050BA | | |
| | 1608 | 0.80±0.10 | ±1% | C1608C0G1H330F080AA | | |
| | | | ±2% | C1608C0G1H330G080AA | | |
| | | | ±5% | C1608C0G1H330J080AA | | |
| 47 pF | 0402 | 0.20±0.02 | ±10% | | | C0402C0G1C470K020BC |
| | | | ±5% | | | C0402C0G1C470J020BC |
| | 0603 | 0.30±0.03 | ±10% | C0603C0G1H470K030BA | C0603C0G1E470K030BA | |
| | | | ±5% | C0603C0G1H470J030BA | C0603C0G1E470J030BA | |
| | 1005 | 0.50±0.05 | ±1% | C1005C0G1H470F050BA | | |
| | | | ±2% | C1005C0G1H470G050BA | | |
| | | | ±5% | C1005C0G1H470J050BA | | |
| | 1608 | 0.80±0.10 | ±1% | C1608C0G1H470F080AA | | |
| | | | ±2% | C1608C0G1H470G080AA | | |
| | | | ±5% | C1608C0G1H470J080AA | | |
| 68 pF | 0402 | 0.20±0.02 | ±10% | | | C0402C0G1C680K020BC |
| | | | ±5% | | | C0402C0G1C680J020BC |
| | 0603 | 0.30±0.03 | ±10% | C0603C0G1H680K030BA | C0603C0G1E680K030BA | |
| | | | ±5% | C0603C0G1H680J030BA | C0603C0G1E680J030BA | |
| | 1005 | 0.50±0.05 | ±1% | C1005C0G1H680F050BA | | |
| | | | ±2% | C1005C0G1H680G050BA | | |
| | | | ±5% | C1005C0G1H680J050BA | | |
| | 1608 | 0.80±0.10 | ±1% | C1608C0G1H680F080AA | | |
| | | | ±2% | C1608C0G1H680G080AA | | |
| | | | ±5% | C1608C0G1H680J080AA | | |
| 100 pF | 0402 | 0.20±0.02 | ±10% | | | C0402C0G1C101K020BC |
| | | | ±5% | | | C0402C0G1C101J020BC |
| | 0603 | 0.30±0.03 | ±10% | C0603C0G1H101K030BA | C0603C0G1E101K030BA | |
| | | | ±5% | C0603C0G1H101J030BA | C0603C0G1E101J030BA | |
| | 1005 | 0.50±0.05 | ±1% | C1005C0G1H101F050BA | | |
| | | | ±10% | C1005C0G1H101K050BA | | |
| | | | ±2% | C1005C0G1H101G050BA | | |
| | | | ±5% | C1005C0G1H101J050BA | | |
| | 1608 | 0.80±0.10 | ±1% | C1608C0G1H101F080AA | | |
| | | | ±10% | C1608C0G1H101K080AA | | |
| | | | ±2% | C1608C0G1H101G080AA | | |
| | | | ±5% | C1608C0G1H101J080AA | | |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table

## Temperature characteristic: C0G (−55 to +125°C,0±30 ppm/°C)

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number |
|---|---|---|---|---|
| | | | | Rated voltage Edc: 50V |
| 150 pF | 1005 | 0.50±0.05 | ±1% | C1005C0G1H151F050BA |
| | | | ±10% | C1005C0G1H151K050BA |
| | | | ±2% | C1005C0G1H151G050BA |
| | | | ±5% | C1005C0G1H151J050BA |
| | 1608 | 0.80±0.10 | ±1% | C1608C0G1H151F080AA |
| | | | ±10% | C1608C0G1H151K080AA |
| | | | ±2% | C1608C0G1H151G080AA |
| | | | ±5% | C1608C0G1H151J080AA |
| 220 pF | 1005 | 0.50±0.05 | ±1% | C1005C0G1H221F050BA |
| | | | ±10% | C1005C0G1H221K050BA |
| | | | ±2% | C1005C0G1H221G050BA |
| | | | ±5% | C1005C0G1H221J050BA |
| | 1608 | 0.80±0.10 | ±1% | C1608C0G1H221F080AA |
| | | | ±10% | C1608C0G1H221K080AA |
| | | | ±2% | C1608C0G1H221G080AA |
| | | | ±5% | C1608C0G1H221J080AA |
| 330 pF | 1005 | 0.50±0.05 | ±1% | C1005C0G1H331F050BA |
| | | | ±10% | C1005C0G1H331K050BA |
| | | | ±2% | C1005C0G1H331G050BA |
| | | | ±5% | C1005C0G1H331J050BA |
| | 1608 | 0.80±0.10 | ±1% | C1608C0G1H331F080AA |
| | | | ±10% | C1608C0G1H331K080AA |
| | | | ±2% | C1608C0G1H331G080AA |
| | | | ±5% | C1608C0G1H331J080AA |
| 470 pF | 1005 | 0.50±0.05 | ±1% | C1005C0G1H471F050BA |
| | | | ±10% | C1005C0G1H471K050BA |
| | | | ±2% | C1005C0G1H471G050BA |
| | | | ±5% | C1005C0G1H471J050BA |
| | 1608 | 0.80±0.10 | ±1% | C1608C0G1H471F080AA |
| | | | ±10% | C1608C0G1H471K080AA |
| | | | ±2% | C1608C0G1H471G080AA |
| | | | ±5% | C1608C0G1H471J080AA |
| 680 pF | 1005 | 0.50±0.05 | ±1% | C1005C0G1H681F050BA |
| | | | ±10% | C1005C0G1H681K050BA |
| | | | ±2% | C1005C0G1H681G050BA |
| | | | ±5% | C1005C0G1H681J050BA |
| | 1608 | 0.80±0.10 | ±1% | C1608C0G1H681F080AA |
| | | | ±10% | C1608C0G1H681K080AA |
| | | | ±2% | C1608C0G1H681G080AA |
| | | | ±5% | C1608C0G1H681J080AA |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table

## Temperature characteristic: C0G (−55 to +125°C,0±30 ppm/°C)

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | |
|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 50V | Rated voltage Edc: 25V |
| 1 nF | 1005 | 0.50±0.05 | ±1% | C1005C0G1H102F050BA | |
| | | | ±10% | C1005C0G1H102K050BA | |
| | | | ±2% | C1005C0G1H102G050BA | |
| | | | ±5% | C1005C0G1H102J050BA | C1005C0G1E102J050BA |
| | 1608 | 0.80±0.10 | ±1% | C1608C0G1H102F080AA | |
| | | | ±10% | C1608C0G1H102K080AA | |
| | | | ±2% | C1608C0G1H102G080AA | |
| | | | ±5% | C1608C0G1H102J080AA | |
| | 2012 | 0.60±0.15 | ±10% | C2012C0G1H102K060AA | |
| | | | ±5% | C2012C0G1H102J060AA | |
| 1.5 nF | 1608 | 0.80±0.10 | ±5% | C1608C0G1H152J080AA | |
| | 2012 | 0.60±0.15 | ±10% | C2012C0G1H152K060AA | |
| | | | ±5% | C2012C0G1H152J060AA | |
| 2.2 nF | 1608 | 0.80±0.10 | ±10% | C1608C0G1H222K080AA | |
| | | | ±5% | C1608C0G1H222J080AA | |
| | 2012 | 0.60±0.15 | ±10% | C2012C0G1H222K060AA | |
| | | | ±5% | C2012C0G1H222J060AA | |
| | | 0.85±0.15 | ±5% | C2012C0G1H222J085AA | |
| 3.3 nF | 1608 | 0.80±0.10 | ±10% | C1608C0G1H332K080AA | |
| | | | ±5% | C1608C0G1H332J080AA | |
| | 2012 | 0.60±0.15 | ±10% | C2012C0G1H332K060AA | |
| | | | ±5% | C2012C0G1H332J060AA | |
| | | 1.25±0.20 | ±5% | C2012C0G1H332J125AA | |
| 4.7 nF | 1608 | 0.80±0.10 | ±10% | C1608C0G1H472K080AA | |
| | | | ±5% | C1608C0G1H472J080AA | C1608C0G1E472J080AA |
| | 2012 | 0.60±0.15 | ±10% | C2012C0G1H472K060AA | |
| | | | ±5% | C2012C0G1H472J060AA | |
| | 3216 | 0.60±0.15 | ±10% | C3216C0G1H472K060AA | |
| | | | ±5% | C3216C0G1H472J060AA | |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table

## Temperature characteristic: C0G (−55 to +125°C,0±30 ppm/°C)

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | |
|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 50V | Rated voltage Edc: 35V | Rated voltage Edc: 25V |
| 6.8 nF | 1608 | 0.80±0.10 | ±10% | C1608C0G1H682K080AA | | |
| | | | ±5% | C1608C0G1H682J080AA | | C1608C0G1E682J080AA |
| | 2012 | 0.60±0.15 | ±10% | C2012C0G1H682K060AA | | |
| | | | ±5% | C2012C0G1H682J060AA | | |
| | 3216 | 0.60±0.15 | ±10% | C3216C0G1H682K060AA | | |
| | | | ±5% | C3216C0G1H682J060AA | | |
| 10 nF | 1608 | 0.80±0.10 | ±10% | C1608C0G1H103K080AA | C1608C0G1V103K080AC | |
| | | | ±5% | C1608C0G1H103J080AA | C1608C0G1V103J080AC | C1608C0G1E103J080AA |
| | 2012 | 0.60±0.15 | ±10% | C2012C0G1H103K060AA | | |
| | | | ±5% | C2012C0G1H103J060AA | | C2012C0G1E103J060AA |
| | 3216 | 0.60±0.15 | ±10% | C3216C0G1H103K060AA | | |
| | | | ±5% | C3216C0G1H103J060AA | | |
| 15 nF | 1608 | 0.80±0.10 | ±10% | | C1608C0G1V153K080AC | |
| | | | ±5% | | C1608C0G1V153J080AC | |
| | 2012 | 0.85±0.15 | ±10% | C2012C0G1H153K085AA | | |
| | | | ±5% | C2012C0G1H153J085AA | | |
| | 3216 | 0.60±0.15 | ±10% | C3216C0G1H153K060AA | | |
| | | | ±5% | C3216C0G1H153J060AA | | |
| 18 nF | 1608 | 0.80±0.10 | ±10% | | C1608C0G1V183K080AC | |
| | | | ±5% | | C1608C0G1V183J080AC | |
| 22 nF | 2012 | 0.60±0.15 | ±10% | | C2012C0G1V223K060AC | |
| | | | ±5% | | C2012C0G1V223J060AC | |
| | | 1.25±0.20 | ±10% | C2012C0G1H223K125AA | | |
| | | | ±5% | C2012C0G1H223J125AA | | C2012C0G1E223J125AA |
| | 3216 | 0.60±0.15 | ±10% | C3216C0G1H223K060AA | | |
| | | | ±5% | C3216C0G1H223J060AA | | |
| | 3225 | 1.25±0.20 | ±10% | C3225C0G1H223K125AA | | |
| | | | ±5% | C3225C0G1H223J125AA | | |
| 33 nF | 2012 | 1.25±0.20 | ±10% | C2012C0G1H333K125AA | | |
| | | | ±5% | C2012C0G1H333J125AA | | C2012C0G1E333J125AA |
| | 3216 | 0.85±0.15 | ±10% | C3216C0G1H333K085AA | | |
| | | | ±5% | C3216C0G1H333J085AA | | |
| | 3225 | 1.60±0.20 | ±10% | C3225C0G1H333K160AA | | |
| | | | ±5% | C3225C0G1H333J160AA | | |
| 47 nF | 3216 | 1.15±0.15 | ±10% | C3216C0G1H473K115AA | | |
| | | | ±5% | C3216C0G1H473J115AA | | |
| | 3225 | 2.00±0.20 | ±10% | C3225C0G1H473K200AA | | |
| | | | ±5% | C3225C0G1H473J200AA | | |
| | 4532 | 1.60±0.20 | ±10% | C4532C0G1H473K160KA | | |
| | | | ±5% | C4532C0G1H473J160KA | | |
| 68 nF | 3216 | 1.60±0.20 | ±10% | C3216C0G1H683K160AA | | |
| | | | ±5% | C3216C0G1H683J160AA | | |
| | 3225 | 2.00±0.20 | ±10% | C3225C0G1H683K200AA | | |
| | | | ±5% | C3225C0G1H683J200AA | | |
| | 4532 | 1.60±0.20 | ±10% | C4532C0G1H683K160KA | | |
| | | | ±5% | C4532C0G1H683J160KA | | |
| 100 nF | 3216 | 1.60±0.20 | ±10% | C3216C0G1H104K160AA | | |
| | | | ±5% | C3216C0G1H104J160AA | | |
| | 3225 | 2.50±0.30 | ±10% | C3225C0G1H104K250AA | | |
| | | | ±5% | C3225C0G1H104J250AA | | |
| | 4532 | 2.00±0.20 | ±10% | C4532C0G1H104K200KA | | |
| | | | ±5% | C4532C0G1H104J200KA | | |
| 150 nF | 4532 | 2.50±0.30 | ±10% | C4532C0G1H154K250KA | | |
| | | | ±5% | C4532C0G1H154J250KA | | |
| 220 nF | 4532 | 3.20±0.30 | ±10% | C4532C0G1H224K320KA | | |
| | | | ±5% | C4532C0G1H224J320KA | | |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table

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

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | |
|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 50V | Rated voltage Edc: 25V | Rated voltage Edc: 16V |
| 100 pF | 0402 | 0.20±0.02 | ±10% | | | C0402X5R1C101K020BC |
| | | | ±20% | | | C0402X5R1C101M020BC |
| | 0603 | 0.30±0.03 | ±10% | | C0603X5R1E101K030BA | |
| | | | ±20% | | C0603X5R1E101M030BA | |
| 150 pF | 0402 | 0.20±0.02 | ±10% | | | C0402X5R1C151K020BC |
| | | | ±20% | | | C0402X5R1C151M020BC |
| | 0603 | 0.30±0.03 | ±10% | | C0603X5R1E151K030BA | |
| | | | ±20% | | C0603X5R1E151M030BA | |
| 220 pF | 0402 | 0.20±0.02 | ±10% | | | C0402X5R1C221K020BC |
| | | | ±20% | | | C0402X5R1C221M020BC |
| | 0603 | 0.30±0.03 | ±10% | | C0603X5R1E221K030BA | |
| | | | ±20% | | C0603X5R1E221M030BA | |
| | 1005 | 0.50±0.05 | ±10% | C1005X5R1H221K050BA | | |
| | | | ±20% | C1005X5R1H221M050BA | | |
| 330 pF | 0402 | 0.20±0.02 | ±10% | | | C0402X5R1C331K020BC |
| | | | ±20% | | | C0402X5R1C331M020BC |
| | 0603 | 0.30±0.03 | ±10% | | C0603X5R1E331K030BA | |
| | | | ±20% | | C0603X5R1E331M030BA | |
| | 1005 | 0.50±0.05 | ±10% | C1005X5R1H331K050BA | | |
| | | | ±20% | C1005X5R1H331M050BA | | |
| 470 pF | 0402 | 0.20±0.02 | ±10% | | | C0402X5R1C471K020BC |
| | | | ±20% | | | C0402X5R1C471M020BC |
| | 0603 | 0.30±0.03 | ±10% | | C0603X5R1E471K030BA | |
| | | | ±20% | | C0603X5R1E471M030BA | |
| | 1005 | 0.50±0.05 | ±10% | C1005X5R1H471K050BA | | |
| | | | ±20% | C1005X5R1H471M050BA | | |
| 680 pF | 0402 | 0.20±0.02 | ±10% | | | C0402X5R1C681K020BC |
| | | | ±20% | | | C0402X5R1C681M020BC |
| | 0603 | 0.30±0.03 | ±10% | | C0603X5R1E681K030BA | |
| | | | ±20% | | C0603X5R1E681M030BA | |
| | 1005 | 0.50±0.05 | ±10% | C1005X5R1H681K050BA | | |
| | | | ±20% | C1005X5R1H681M050BA | | |
| 1 nF | 0603 | 0.30±0.03 | ±10% | | C0603X5R1E102K030BA | |
| | | | ±20% | | C0603X5R1E102M030BA | |
| | 1005 | 0.50±0.05 | ±10% | C1005X5R1H102K050BA | | |
| | | | ±20% | C1005X5R1H102M050BA | | |
| | 1608 | 0.80±0.10 | ±10% | C1608X5R1H102K080AA | | |
| 1.5 nF | 0603 | 0.30±0.03 | ±10% | | C0603X5R1E152K030BA | |
| | | | ±20% | | C0603X5R1E152M030BA | |
| | 1005 | 0.50±0.05 | ±10% | C1005X5R1H152K050BA | | |
| | | | ±20% | C1005X5R1H152M050BA | | |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table

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

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | | |
|---|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 50V | Rated voltage Edc: 35V | Rated voltage Edc: 25V | Rated voltage Edc: 16V |
| 2.2 nF | 0603 | 0.30±0.03 | ±10% | | | C0603X5R1E222K030BA | |
| | | | ±20% | | | C0603X5R1E222M030BA | |
| | 1005 | 0.50±0.05 | ±10% | C1005X5R1H222K050BA | | | |
| | | | ±20% | C1005X5R1H222M050BA | | | |
| | 1608 | 0.80±0.10 | ±10% | C1608X5R1H222K080AA | | | |
| 3.3 nF | 0603 | 0.30±0.03 | ±10% | | | C0603X5R1E332K030BA | |
| | | | ±20% | | | C0603X5R1E332M030BA | |
| | 1005 | 0.50±0.05 | ±10% | C1005X5R1H332K050BA | | | |
| | | | ±20% | C1005X5R1H332M050BA | | | |
| 4.7 nF | 0603 | 0.30±0.03 | ±10% | | | | C0603X5R1C472K030BA |
| | | | ±20% | | | | C0603X5R1C472M030BA |
| | 1005 | 0.50±0.05 | ±10% | C1005X5R1H472K050BA | | | |
| | | | ±20% | C1005X5R1H472M050BA | | | |
| | 1608 | 0.80±0.10 | ±10% | C1608X5R1H472K080AA | | | |
| 6.8 nF | 1005 | 0.50±0.05 | ±10% | C1005X5R1H682K050BA | | | |
| | | | ±20% | C1005X5R1H682M050BA | | | |
| 10 nF | 0603 | 0.30±0.03 | ±10% | | | | C0603X5R1C103K030BA |
| | | | ±20% | | | | C0603X5R1C103M030BA |
| | 1005 | 0.50±0.05 | ±10% | C1005X5R1H103K050BB | | C1005X5R1E103K050BA | |
| | | | ±20% | C1005X5R1H103M050BB | | C1005X5R1E103M050BA | |
| | 1608 | 0.80±0.10 | ±10% | C1608X5R1H103K080AA | | | |
| | | | ±20% | C1608X5R1H103M080AA | | | |
| 15 nF | 1005 | 0.50±0.05 | ±10% | C1005X5R1H153K050BB | | C1005X5R1E153K050BA | C1005X5R1C153K050BA |
| | | | ±20% | C1005X5R1H153M050BB | | C1005X5R1E153M050BA | C1005X5R1C153M050BA |
| | 1608 | 0.80±0.10 | ±10% | C1608X5R1H153K080AA | | | |
| | | | ±20% | C1608X5R1H153M080AA | | | |
| 22 nF | 0603 | 0.30±0.03 | ±10% | | | C0603X5R1E223K030BB | |
| | | | ±20% | | | C0603X5R1E223M030BB | |
| | 1005 | 0.50±0.05 | ±10% | C1005X5R1H223K050BB | | C1005X5R1E223K050BA | C1005X5R1C223K050BA |
| | | | ±20% | C1005X5R1H223M050BB | | C1005X5R1E223M050BA | C1005X5R1C223M050BA |
| | 1608 | 0.80±0.10 | ±10% | C1608X5R1H223K080AA | | | |
| | | | ±20% | C1608X5R1H223M080AA | | | |
| 33 nF | 1005 | 0.50±0.05 | ±10% | C1005X5R1H333K050BB | | C1005X5R1E333K050BA | C1005X5R1C333K050BA |
| | | | ±20% | C1005X5R1H333M050BB | | C1005X5R1E333M050BA | C1005X5R1C333M050BA |
| | 1608 | 0.80±0.10 | ±10% | C1608X5R1H333K080AA | | | |
| | | | ±20% | C1608X5R1H333M080AA | | | |
| 47 nF | 0603 | 0.30±0.03 | ±10% | | | C0603X5R1E473K030BB | |
| | | | ±20% | | | C0603X5R1E473M030BB | |
| | 1005 | 0.50±0.05 | ±10% | C1005X5R1H473K050BB | | C1005X5R1E473K050BA | C1005X5R1C473K050BA |
| | | | ±20% | C1005X5R1H473M050BB | | C1005X5R1E473M050BA | C1005X5R1C473M050BA |
| | 1608 | 0.80±0.10 | ±10% | C1608X5R1H473K080AA | | | |
| | | | ±20% | C1608X5R1H473M080AA | | | |
| 68 nF | 1005 | 0.50±0.05 | ±10% | C1005X5R1H683K050BB | C1005X5R1V683K050BB | C1005X5R1E683K050BC | C1005X5R1C683K050BA |
| | | | ±20% | C1005X5R1H683M050BB | C1005X5R1V683M050BB | C1005X5R1E683M050BC | C1005X5R1C683M050BA |
| | 1608 | 0.80±0.10 | ±10% | C1608X5R1H683K080AA | | | |
| | | | ±20% | C1608X5R1H683M080AA | | | |
| 100 nF | 0603 | 0.30±0.03 | ±10% | | | C0603X5R1E104K030BB | C0603X5R1C104K030BC |
| | | | ±20% | | | C0603X5R1E104M030BB | C0603X5R1C104M030BC |
| | 1005 | 0.50±0.05 | ±10% | C1005X5R1H104K050BB | C1005X5R1V104K050BB | C1005X5R1E104K050BC | C1005X5R1C104K050BA |
| | | | ±20% | C1005X5R1H104M050BB | C1005X5R1V104M050BB | C1005X5R1E104M050BC | C1005X5R1C104M050BA |
| | 1608 | 0.80±0.10 | ±10% | C1608X5R1H104K080AA | | | |
| | | | ±20% | C1608X5R1H104M080AA | | | |
| 150 nF | 0603 | 0.30±0.03 | ±10% | | | | C0603X5R1C154K030BC |
| | | | ±20% | | | | C0603X5R1C154M030BC |
| | | 0.30±0.05 | ±10% | | | C0603X5R1E154K030BC | |
| | | | ±20% | | | C0603X5R1E154M030BC | |
| | 1005 | 0.50±0.05 | ±10% | | | C1005X5R1E154K050BC | C1005X5R1C154K050BB |
| | | | ±20% | | | C1005X5R1E154M050BC | C1005X5R1C154M050BB |
| | 1608 | 0.80±0.10 | ±10% | C1608X5R1H154K080AB | C1608X5R1V154K080AB | C1608X5R1E154K080AA | |
| | | | ±20% | C1608X5R1H154M080AB | C1608X5R1V154M080AB | C1608X5R1E154M080AA | |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table

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

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | | |
|---|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 50V | Rated voltage Edc: 35V | Rated voltage Edc: 25V | Rated voltage Edc: 16V |
| 220 nF | 0603 | 0.30±0.03 | ±10% | | | | C0603X5R1C224K030BC |
| | | | ±20% | | | | C0603X5R1C224M030BC |
| | | 0.30±0.05 | ±10% | | | C0603X5R1E224K030BC | |
| | | | ±20% | | | C0603X5R1E224M030BC | |
| | 1005 | 0.50±0.05 | ±10% | | | C1005X5R1E224K050BC | C1005X5R1C224K050BB |
| | | | ±20% | | | C1005X5R1E224M050BC | C1005X5R1C224M050BB |
| | 1608 | 0.80±0.10 | ±10% | C1608X5R1H224K080AB | C1608X5R1V224K080AB | C1608X5R1E224K080AA | |
| | | | ±20% | C1608X5R1H224M080AB | C1608X5R1V224M080AB | C1608X5R1E224M080AA | |
| | 2012 | 1.25±0.20 | ±10% | C2012X5R1H224K125AA | | | |
| | | | ±20% | C2012X5R1H224M125AA | | | |
| 330 nF | 1005 | 0.50±0.05 | ±10% | | C1005X5R1V334K050BC | C1005X5R1E334K050BB | |
| | | | ±20% | | C1005X5R1V334M050BC | C1005X5R1E334M050BB | |
| | 1608 | 0.80±0.10 | ±10% | C1608X5R1H334K080AB | C1608X5R1V334K080AB | C1608X5R1E334K080AC | C1608X5R1C334K080AA |
| | | | ±20% | C1608X5R1H334M080AB | C1608X5R1V334M080AB | C1608X5R1E334M080AC | C1608X5R1C334M080AA |
| | 2012 | 1.25±0.20 | ±10% | C2012X5R1H334K125AA | | | |
| | | | ±20% | C2012X5R1H334M125AA | | | |
| 470 nF | 1005 | 0.50±0.05 | ±10% | | C1005X5R1V474K050BC | C1005X5R1E474K050BB | |
| | | | ±20% | | C1005X5R1V474M050BC | C1005X5R1E474M050BB | |
| | 1608 | 0.80±0.10 | ±10% | C1608X5R1H474K080AB | C1608X5R1V474K080AB | C1608X5R1E474K080AC | C1608X5R1C474K080AA |
| | | | ±20% | C1608X5R1H474M080AB | C1608X5R1V474M080AB | C1608X5R1E474M080AC | C1608X5R1C474M080AA |
| | 2012 | 1.25±0.20 | ±10% | C2012X5R1H474K125AB | | | |
| | | | ±20% | C2012X5R1H474M125AB | | | |
| 680 nF | 1005 | 0.50±0.05 | ±10% | | C1005X5R1V684K050BC | C1005X5R1E684K050BC | C1005X5R1C684K050BC |
| | | | ±20% | | C1005X5R1V684M050BC | C1005X5R1E684M050BC | C1005X5R1C684M050BC |
| | 1608 | 0.80±0.10 | ±10% | C1608X5R1H684K080AB | C1608X5R1V684K080AB | C1608X5R1E684K080AC | C1608X5R1C684K080AA |
| | | | ±20% | C1608X5R1H684M080AB | C1608X5R1V684M080AB | C1608X5R1E684M080AC | C1608X5R1C684M080AA |
| | 2012 | 1.25±0.20 | ±10% | C2012X5R1H684K125AB | | C2012X5R1E684K125AA | |
| | | | ±20% | C2012X5R1H684M125AB | | C2012X5R1E684M125AA | |
| 1 µF | 1005 | 0.50±0.05 | ±10% | | C1005X5R1V105K050BC | C1005X5R1E105K050BC | |
| | | | ±20% | | C1005X5R1V105M050BC | C1005X5R1E105M050BC | |
| | 1608 | 0.80±0.10 | ±10% | C1608X5R1H105K080AB | C1608X5R1V105K080AB | C1608X5R1E105K080AC | C1608X5R1C105K080AA |
| | | | ±20% | C1608X5R1H105M080AB | C1608X5R1V105M080AB | C1608X5R1E105M080AC | C1608X5R1C105M080AA |
| | 2012 | 0.85±0.15 | ±10% | C2012X5R1H105K085AB | C2012X5R1V105K085AB | C2012X5R1E105K085AC | C2012X5R1C105K085AA |
| | | | ±20% | C2012X5R1H105M085AB | C2012X5R1V105M085AB | C2012X5R1E105M085AC | C2012X5R1C105M085AA |
| | | 1.25±0.20 | ±10% | C2012X5R1H105K125AB | | C2012X5R1E105K125AA | |
| | | | ±20% | C2012X5R1H105M125AB | | C2012X5R1E105M125AA | |
| | 3216 | 1.60±0.20 | ±10% | C3216X5R1H105K160AA | | | |
| | | | ±20% | C3216X5R1H105M160AA | | | |
| 1.5 µF | 1005 | 0.50±0.05 | ±10% | | | | C1005X5R1C155K050BC |
| | | | ±20% | | | | C1005X5R1C155M050BC |
| | | 0.50±0.10 | ±10% | | | C1005X5R1E155K050BC | |
| | | | ±20% | | | C1005X5R1E155M050BC | |
| | | 0.50+0.15,-0.10 | ±10% | | C1005X5R1V155K050BC | | |
| | | | ±20% | | C1005X5R1V155M050BC | | |
| | 1608 | 0.80±0.10 | ±10% | | C1608X5R1V155K080AC | C1608X5R1E155K080AB | C1608X5R1C155K080AB |
| | | | ±20% | | C1608X5R1V155M080AC | C1608X5R1E155M080AB | C1608X5R1C155M080AB |
| | 2012 | 0.85±0.15 | ±10% | | | C2012X5R1E155K085AC | |
| | | | ±20% | | | C2012X5R1E155M085AC | |
| | | 1.25±0.20 | ±10% | C2012X5R1H155K125AB | C2012X5R1V155K125AB | C2012X5R1E155K125AA | C2012X5R1C155K125AA |
| | | | ±20% | C2012X5R1H155M125AB | C2012X5R1V155M125AB | C2012X5R1E155M125AA | C2012X5R1C155M125AA |
| | 3216 | 1.60±0.20 | ±10% | C3216X5R1H155K160AB | | C3216X5R1E155K160AA | |
| | | | ±20% | C3216X5R1H155M160AB | | C3216X5R1E155M160AA | |
| 2.2 µF | 1005 | 0.50±0.05 | ±10% | | | | C1005X5R1C225K050BC |
| | | | ±20% | | | | C1005X5R1C225M050BC |
| | | 0.50±0.10 | ±10% | | | C1005X5R1E225K050BC | |
| | | | ±20% | | | C1005X5R1E225M050BC | |
| | | 0.50+0.15,-0.10 | ±10% | | C1005X5R1V225K050BC | | |
| | | | ±20% | | C1005X5R1V225M050BC | | |
| | 1608 | 0.80±0.10 | ±10% | | C1608X5R1V225K080AC | C1608X5R1E225K080AB | C1608X5R1C225K080AB |
| | | | ±20% | | C1608X5R1V225M080AC | C1608X5R1E225M080AB | C1608X5R1C225M080AB |
| | 2012 | 0.85±0.15 | ±10% | C2012X5R1H225K085AB | C2012X5R1V225K085AB | C2012X5R1E225K085AC | C2012X5R1C225K085AC |
| | | | ±20% | C2012X5R1H225M085AB | C2012X5R1V225M085AB | C2012X5R1E225M085AC | C2012X5R1C225M085AC |
| | | 1.25±0.20 | ±10% | C2012X5R1H225K125AB | C2012X5R1V225K125AB | C2012X5R1E225K125AC | C2012X5R1C225K125AA |
| | | | ±20% | C2012X5R1H225M125AB | C2012X5R1V225M125AB | C2012X5R1E225M125AC | C2012X5R1C225M125AA |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table

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

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | | |
|---|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 50V | Rated voltage Edc: 35V | Rated voltage Edc: 25V | Rated voltage Edc: 16V |
| 2.2 µF | 3216 | 1.60±0.20 | ±10% | C3216X5R1H225K160AB | | C3216X5R1E225K160AA | |
| | | | ±20% | C3216X5R1H225M160AB | | C3216X5R1E225M160AA | |
| | 3225 | 2.50±0.30 | ±10% | C3225X5R1H225K250AB | | | |
| | | | ±20% | C3225X5R1H225M250AB | | | |
| 3.3 µF | 1608 | 0.80±0.10 | ±10% | | | C1608X5R1E335K080AC | C1608X5R1C335K080AC |
| | | | ±20% | | | C1608X5R1E335M080AC | C1608X5R1C335M080AC |
| | | 0.80±0.20 | ±10% | | C1608X5R1V335K080AC | | |
| | | | ±20% | | C1608X5R1V335M080AC | | |
| | 2012 | 0.60±0.15 | ±10% | | | | C2012X5R1C335K060AC |
| | | | ±20% | | | | C2012X5R1C335M060AC |
| | | 0.85±0.15 | ±10% | | | C2012X5R1E335K085AC | C2012X5R1C335K085AB |
| | | | ±20% | | | C2012X5R1E335M085AC | C2012X5R1C335M085AB |
| | | 1.25±0.20 | ±10% | C2012X5R1H335K125AB | C2012X5R1V335K125AC | C2012X5R1E335K125AB | C2012X5R1C335K125AC |
| | | | ±20% | C2012X5R1H335M125AB | C2012X5R1V335M125AC | C2012X5R1E335M125AB | C2012X5R1C335M125AC |
| | 3216 | 1.60±0.20 | ±10% | C3216X5R1H335K160AB | C3216X5R1V335K160AB | C3216X5R1E335K160AA | |
| | | | ±20% | C3216X5R1H335M160AB | C3216X5R1V335M160AB | C3216X5R1E335M160AA | |
| | 3225 | 2.50±0.30 | ±10% | C3225X5R1H335K250AB | | | |
| | | | ±20% | C3225X5R1H335M250AB | | | |
| 4.7 µF | 1608 | 0.80±0.10 | ±10% | | | C1608X5R1E475K080AC | C1608X5R1C475K080AC |
| | | | ±20% | | | C1608X5R1E475M080AC | C1608X5R1C475M080AC |
| | | 0.80±0.20 | ±10% | | C1608X5R1V475K080AC | | |
| | | | ±20% | | C1608X5R1V475M080AC | | |
| | 2012 | 0.60±0.15 | ±10% | | | | C2012X5R1C475K060AC |
| | | | ±20% | | | | C2012X5R1C475M060AC |
| | | 0.85±0.15 | ±10% | | | C2012X5R1E475K085AC | C2012X5R1C475K085AB |
| | | | ±20% | | | C2012X5R1E475M085AC | C2012X5R1C475M085AB |
| | | 1.25±0.20 | ±10% | C2012X5R1H475K125AB | C2012X5R1V475K125AC | C2012X5R1E475K125AB | C2012X5R1C475K125AC |
| | | | ±20% | C2012X5R1H475M125AB | C2012X5R1V475M125AC | C2012X5R1E475M125AB | C2012X5R1C475M125AC |
| | 3216 | 0.85±0.15 | ±10% | C3216X5R1H475K085AB | C3216X5R1V475K085AB | C3216X5R1E475K085AB | |
| | | | ±20% | C3216X5R1H475M085AB | C3216X5R1V475M085AB | C3216X5R1E475M085AB | |
| | | 1.15±0.15 | ±10% | | | C3216X5R1E475K115AB | C3216X5R1C475K115AA |
| | | | ±20% | | | C3216X5R1E475M115AB | C3216X5R1C475M115AA |
| | | 1.60±0.20 | ±10% | C3216X5R1H475K160AB | C3216X5R1V475K160AB | C3216X5R1E475K160AA | |
| | | | ±20% | C3216X5R1H475M160AB | C3216X5R1V475M160AB | C3216X5R1E475M160AA | |
| | 3225 | 2.50±0.30 | ±10% | C3225X5R1H475K250AB | | | |
| | | | ±20% | C3225X5R1H475M250AB | | | |
| 6.8 µF | 1608 | 0.80±0.20 | ±10% | | | C1608X5R1E685K080AC | C1608X5R1C685K080AB |
| | | | ±20% | | | C1608X5R1E685M080AC | C1608X5R1C685M080AB |
| | 2012 | 0.85±0.15 | ±10% | | | | C2012X5R1C685K085AC |
| | | | ±20% | | | | C2012X5R1C685M085AC |
| | | 1.25±0.20 | ±10% | | C2012X5R1V685K125AC | C2012X5R1E685K125AC | |
| | | | ±20% | | C2012X5R1V685M125AC | C2012X5R1E685M125AC | |
| | 3216 | 1.60±0.20 | ±10% | C3216X5R1H685K160AB | C3216X5R1V685K160AB | C3216X5R1E685K160AB | C3216X5R1C685K160AA |
| | | | ±20% | C3216X5R1H685M160AB | C3216X5R1V685M160AB | C3216X5R1E685M160AB | C3216X5R1C685M160AA |
| | 3225 | 2.00±0.20 | ±10% | | | | C3225X5R1C685K200AA |
| | | | ±20% | | | | C3225X5R1C685M200AA |
| | | 2.50±0.30 | ±10% | C3225X5R1H685K250AB | | C3225X5R1E685K250AA | |
| | | | ±20% | C3225X5R1H685M250AB | | C3225X5R1E685M250AA | |
| | 4532 | 2.50±0.30 | ±10% | C4532X5R1H685K250KA | | | |
| | | | ±20% | C4532X5R1H685M250KA | | | |
| 10 µF | 1608 | 0.80±0.20 | ±20% | | | C1608X5R1E106M080AC | C1608X5R1C106M080AB |
| | 2012 | 0.85±0.15 | ±10% | | C2012X5R1V106K085AC | C2012X5R1E106K085AC | C2012X5R1C106K085AC |
| | | | ±20% | | C2012X5R1V106M085AC | C2012X5R1E106M085AC | C2012X5R1C106M085AC |
| | | 1.25±0.20 | ±10% | | C2012X5R1V106K125AC | C2012X5R1E106K125AB | |
| | | | ±20% | | C2012X5R1V106M125AC | C2012X5R1E106M125AB | |
| | | 1.25+0.25,-0.15 | ±10% | C2012X5R1H106K125AC | | | |
| | 3216 | 0.85±0.15 | ±10% | | | C3216X5R1E106K085AC | |
| | | | ±20% | | | C3216X5R1E106M085AC | |
| | | 1.60±0.20 | ±10% | C3216X5R1H106K160AB | C3216X5R1V106K160AB | C3216X5R1E106K160AB | C3216X5R1C106K160AA |
| | | | ±20% | C3216X5R1H106M160AB | C3216X5R1V106M160AB | C3216X5R1E106M160AB | C3216X5R1C106M160AA |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table

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

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | | |
|---|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 50V | Rated voltage Edc: 35V | Rated voltage Edc: 25V | Rated voltage Edc: 16V |
| 10 µF | 3225 | 2.00±0.20 | ±10% | | | | C3225X5R1C106K200AA |
| | | | ±20% | | | | C3225X5R1C106M200AA |
| | | 2.50±0.30 | ±10% | C3225X5R1H106K250AB | | C3225X5R1E106K250AA | |
| | | | ±20% | C3225X5R1H106M250AB | | C3225X5R1E106M250AA | |
| | 4532 | 2.50±0.30 | ±10% | | | C4532X5R1E106K250KA | |
| | | | ±20% | | | C4532X5R1E106M250KA | |
| | 5750 | 2.30±0.20 | ±10% | C5750X5R1H106K230KA | | | |
| | | | ±20% | C5750X5R1H106M230KA | | | |
| 15 µF | 2012 | 1.25±0.20 | ±20% | | C2012X5R1V156M125AC | C2012X5R1E156M125AC | C2012X5R1C156M125AC |
| | 3216 | 1.60±0.20 | ±20% | | C3216X5R1V156M160AC | C3216X5R1E156M160AB | C3216X5R1C156M160AB |
| | 3225 | 2.50±0.30 | ±20% | | | | C3225X5R1C156M250AA |
| | 4532 | 2.50±0.30 | ±20% | | | C4532X5R1E156M250KA | |
| | | 2.80±0.30 | ±20% | | | C4532X5R1E156M280KA | |
| 22 µF | 2012 | 0.85±0.15 | ±20% | | | | C2012X5R1C226M085AC |
| | | 1.25±0.20 | ±10% | | | | C2012X5R1C226K125AC |
| | | | ±20% | | C2012X5R1V226M125AC | C2012X5R1E226M125AC | C2012X5R1C226M125AC |
| | 3216 | 1.60±0.20 | ±20% | | C3216X5R1V226M160AC | C3216X5R1E226M160AB | C3216X5R1C226M160AB |
| | 3225 | 2.50±0.30 | ±10% | | | | C3225X5R1C226K250AA |
| | | | ±20% | | | | C3225X5R1C226M250AA |
| | 4532 | 2.00±0.20 | ±20% | | | | C4532X5R1C226M200KA |
| | | 2.30±0.20 | ±20% | | | | C4532X5R1C226M230KA |
| | | 2.50±0.30 | ±20% | | | C4532X5R1E226M250KA | |
| | 5750 | 2.30±0.20 | ±20% | | | C5750X5R1E226M230KA | |
| | | 2.50±0.30 | ±20% | | | C5750X5R1E226M250KA | |
| 33 µF | 3216 | 1.60±0.20 | ±20% | | | C3216X5R1E336M160AC | C3216X5R1C336M160AB |
| | 4532 | 2.50±0.30 | ±20% | | | | C4532X5R1C336M250KA |
| | 5750 | 2.00±0.20 | ±20% | | | | C5750X5R1C336M200KA |
| 47 µF | 3216 | 1.60±0.20 | ±20% | | | C3216X5R1E476M160AC | C3216X5R1C476M160AB |
| | 5750 | 2.30±0.20 | ±20% | | | | C5750X5R1C476M230KA |

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | |
|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 10V | Rated voltage Edc: 6.3V | Rated voltage Edc: 4V |
| 1 nF | 0402 | 0.20±0.02 | ±10% | C0402X5R1A102K020BC | C0402X5R0J102K020BC | C0402X5R0G102K020BC |
| | | | ±20% | C0402X5R1A102M020BC | C0402X5R0J102M020BC | C0402X5R0G102M020BC |
| 1.5 nF | 0402 | 0.20±0.02 | ±10% | C0402X5R1A152K020BC | C0402X5R0J152K020BC | C0402X5R0G152K020BC |
| | | | ±20% | C0402X5R1A152M020BC | C0402X5R0J152M020BC | C0402X5R0G152M020BC |
| 2.2 nF | 0402 | 0.20±0.02 | ±10% | C0402X5R1A222K020BC | C0402X5R0J222K020BC | C0402X5R0G222K020BC |
| | | | ±20% | C0402X5R1A222M020BC | C0402X5R0J222M020BC | C0402X5R0G222M020BC |
| 6.8 nF | 0603 | 0.30±0.03 | ±10% | C0603X5R1A682K030BA | | |
| | | | ±20% | C0603X5R1A682M030BA | | |
| 10 nF | 0603 | 0.30±0.03 | ±10% | C0603X5R1A103K030BA | | |
| | | | ±20% | C0603X5R1A103M030BA | | |
| 15 nF | 0603 | 0.30±0.03 | ±10% | C0603X5R1A153K030BC | C0603X5R0J153K030BA | |
| | | | ±20% | C0603X5R1A153M030BC | C0603X5R0J153M030BA | |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table

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

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | |
|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 10V | Rated voltage Edc: 6.3V | Rated voltage Edc: 4V |
| 47 nF | 1005 | 0.50±0.05 | ±10% | C1005X5R1A473K050BA | | |
| | | | ±20% | C1005X5R1A473M050BA | | |
| 68 nF | 1005 | 0.50±0.05 | ±10% | C1005X5R1A683K050BA | | |
| | | | ±20% | C1005X5R1A683M050BA | | |
| 100 nF | 0603 | 0.30±0.03 | ±10% | C0603X5R1A104K030BC | | |
| | | | ±20% | C0603X5R1A104M030BC | | |
| | 1005 | 0.50±0.05 | ±10% | C1005X5R1A104K050BA | C1005X5R0J104K050BA | |
| | | | ±20% | C1005X5R1A104M050BA | | |
| 150 nF | 0603 | 0.30±0.03 | ±10% | C0603X5R1A154K030BB | C0603X5R0J154K030BB | |
| | | | ±20% | C0603X5R1A154M030BB | C0603X5R0J154M030BB | |
| 220 nF | 0603 | 0.30±0.03 | ±10% | C0603X5R1A224K030BB | C0603X5R0J224K030BB | |
| | | | ±20% | C0603X5R1A224M030BB | C0603X5R0J224M030BB | |
| 330 nF | 0603 | 0.30±0.03 | ±20% | | C0603X5R0J334M030BC | |
| | | 0.30±0.05 | ±10% | C0603X5R1A334K030BC | | |
| | | | ±20% | C0603X5R1A334M030BC | | |
| 470 nF | 0603 | 0.30±0.03 | ±20% | | C0603X5R0J474M030BC | |
| | | 0.30±0.05 | ±20% | C0603X5R1A474M030BC | | |
| | 1608 | 0.80+0.15,-0.10 | ±10% | C1608X5R1A474K080AA | | |
| 680 nF | 1005 | 0.50±0.05 | ±10% | C1005X5R1A684K050BB | C1005X5R0J684K050BB | |
| | | | ±20% | C1005X5R1A684M050BB | C1005X5R0J684M050BB | |
| | 1608 | 0.80+0.15,-0.10 | ±10% | C1608X5R1A684K080AC | | |
| | | | ±20% | C1608X5R1A684M080AC | | |
| 1 µF | 1608 | 0.80+0.15,-0.10 | ±10% | C1608X5R1A105K080AC | | |
| | | | ±20% | C1608X5R1A105M080AC | | |
| 1.5 µF | 1005 | 0.50±0.05 | ±10% | C1005X5R1A155K050BC | C1005X5R0J155K050BB | |
| | | | ±20% | C1005X5R1A155M050BC | C1005X5R0J155M050BB | |
| 2.2 µF | 1005 | 0.50±0.05 | ±10% | C1005X5R1A225K050BC | C1005X5R0J225K050BC | C1005X5R0G225K050BB |
| | | | ±20% | C1005X5R1A225M050BC | C1005X5R0J225M050BC | C1005X5R0G225M050BB |
| | 2012 | 0.85±0.15 | ±10% | C2012X5R1A225K085AA | C2012X5R0J225K085AA | |
| | | | ±20% | C2012X5R1A225M085AA | C2012X5R0J225M085AA | |
| 3.3 µF | 1005 | 0.50±0.10 | ±10% | C1005X5R1A335K050BC | C1005X5R0J335K050BC | C1005X5R0G335K050BB |
| | | | ±20% | C1005X5R1A335M050BC | C1005X5R0J335M050BC | C1005X5R0G335M050BB |
| | 2012 | 1.25±0.20 | ±10% | C2012X5R1A335K125AA | | |
| | | | ±20% | C2012X5R1A335M125AA | | |
| 4.7 µF | 1005 | 0.50+0.15,-0.10 | ±10% | C1005X5R1A475K050BC | C1005X5R0J475K050BC | C1005X5R0G475K050BB |
| | | | ±20% | C1005X5R1A475M050BC | C1005X5R0J475M050BC | C1005X5R0G475M050BB |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table

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

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | |
|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 10V | Rated voltage Edc: 6.3V | Rated voltage Edc: 4V |
| 4.7 µF | 2012 | 0.60±0.15 | ±10% | C2012X5R1A475K060AB | | |
| | | | ±20% | C2012X5R1A475M060AB | | |
| | | 1.25±0.20 | ±10% | C2012X5R1A475K125AA | | |
| | | | ±20% | C2012X5R1A475M125AA | | |
| 6.8 µF | 1608 | 0.80±0.10 | ±10% | C1608X5R1A685K080AC | C1608X5R0J685K080AB | |
| | | | ±20% | C1608X5R1A685M080AC | C1608X5R0J685M080AB | |
| | 2012 | 0.60±0.15 | ±10% | C2012X5R1A685K060AC | | |
| | | | ±20% | C2012X5R1A685M060AC | | |
| | | 0.85±0.15 | ±10% | C2012X5R1A685K085AB | C2012X5R0J685K085AB | |
| | | | ±20% | C2012X5R1A685M085AB | C2012X5R0J685M085AB | |
| 10 µF | 1608 | 0.80±0.10 | ±10% | C1608X5R1A106K080AC | C1608X5R0J106K080AB | |
| | | | ±20% | C1608X5R1A106M080AC | C1608X5R0J106M080AB | |
| | 2012 | 0.85±0.15 | ±10% | C2012X5R1A106K085AB | C2012X5R0J106K085AB | |
| | | | ±20% | C2012X5R1A106M085AB | C2012X5R0J106M085AB | |
| 15 µF | 1608 | 0.80±0.20 | ±20% | C1608X5R1A156M080AC | C1608X5R0J156M080AC | C1608X5R0G156M080AA |
| | 2012 | 0.85±0.15 | ±20% | C2012X5R1A156M085AC | C2012X5R0J156M085AB | |
| | | 1.25±0.20 | ±20% | C2012X5R1A156M125AB | | |
| | 3225 | 2.30±0.20 | ±20% | C3225X5R1A156M230AA | | |
| 22 µF | 1608 | 0.80±0.20 | ±20% | C1608X5R1A226M080AC | C1608X5R0J226M080AC | C1608X5R0G226M080AA |
| | 2012 | 0.85±0.15 | ±20% | C2012X5R1A226M085AC | C2012X5R0J226M085AB | |
| | | 1.25±0.20 | ±10% | C2012X5R1A226K125AB | C2012X5R0J226K125AB | |
| | | | ±20% | C2012X5R1A226M125AB | | |
| | 3225 | 2.00±0.20 | ±10% | | C3225X5R0J226K200AA | |
| | | | ±20% | | C3225X5R0J226M200AA | |
| | | 2.30±0.20 | ±20% | C3225X5R1A226M230AA | | |
| | 4532 | 2.30±0.20 | ±20% | C4532X5R1A226M230KA | | |
| 33 µF | 2012 | 1.25±0.20 | ±20% | C2012X5R1A336M125AC | C2012X5R0J336M125AC | |
| | 3216 | 1.60±0.20 | ±20% | C3216X5R1A336M160AB | | |
| | 3225 | 2.00±0.20 | ±20% | C3225X5R1A336M200AC | C3225X5R0J336M200AA | |
| | | 2.50±0.30 | ±20% | | C3225X5R0J336M250AA | |
| | 4532 | 2.30±0.20 | ±20% | C4532X5R1A336M230KA | | |
| 47 µF | 2012 | 1.25±0.20 | ±20% | C2012X5R1A476M125AC | C2012X5R0J476M125AC | C2012X5R0G476M125AB |
| | 3216 | 1.60±0.20 | ±20% | C3216X5R1A476M160AB | | |
| | 3225 | 2.50±0.30 | ±20% | C3225X5R1A476M250AC | C3225X5R0J476M250AA | |
| | 4532 | 2.50±0.30 | ±20% | | C4532X5R0J476M250KA | |
| | | 2.80±0.30 | ±20% | C4532X5R1A476M280KA | | |
| 68 µF | 3216 | 1.60+0.30,-0.10 | ±20% | C3216X5R1A686M160AC | C3216X5R0J686M160AB | |
| | 4532 | 2.80±0.30 | ±20% | | C4532X5R0J686M280KA | |
| | 5750 | 2.30±0.20 | ±20% | C5750X5R1A686M230KA | | |
| 100 µF | 3216 | 1.60+0.30,-0.10 | ±20% | C3216X5R1A107M160AC | C3216X5R0J107M160AB | C3216X5R0G107M160AB |
| | 3225 | 2.50+0.40,-0.30 | ±20% | C3225X5R1A107M250AC | C3225X5R0J107M250AB | |
| | 4532 | 2.80±0.30 | ±20% | C4532X5R1A107M280KC | C4532X5R0J107M280KA | |
| | 5750 | 2.80±0.30 | ±20% | C5750X5R1A107M280KC | C5750X5R0J107M280KA | |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table

## Temperature characteristic: X6S （-55 to +105°C,±22%）

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | | |
|---|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 50V | Rated voltage Edc: 35V | Rated voltage Edc: 25V | Rated voltage Edc: 16V |
| 2.2 nF | 0603 | 0.30±0.03 | ±10% | | | C0603X6S1E222K030BA | C0603X6S1C222K030BA |
| | | | ±20% | | | C0603X6S1E222M030BA | C0603X6S1C222M030BA |
| 4.7 nF | 0603 | 0.30±0.03 | ±10% | | | | C0603X6S1C472K030BA |
| | | | ±20% | | | | C0603X6S1C472M030BA |
| 10 nF | 1005 | 0.50±0.05 | ±10% | C1005X6S1H103K050BB | | | |
| | | | ±20% | C1005X6S1H103M050BB | | | |
| 15 nF | 1005 | 0.50±0.05 | ±10% | C1005X6S1H153K050BB | | | |
| | | | ±20% | C1005X6S1H153M050BB | | | |
| 22 nF | 0603 | 0.30±0.03 | ±10% | | | | C0603X6S1C223K030BC |
| | | | ±20% | | | | C0603X6S1C223M030BC |
| | 1005 | 0.50±0.05 | ±10% | C1005X6S1H223K050BB | | | |
| | | | ±20% | C1005X6S1H223M050BB | | | |
| 33 nF | 1005 | 0.50±0.05 | ±10% | C1005X6S1H333K050BB | | | |
| | | | ±20% | C1005X6S1H333M050BB | | | |
| 47 nF | 0603 | 0.30±0.03 | ±10% | | | | C0603X6S1C473K030BC |
| | | | ±20% | | | | C0603X6S1C473M030BC |
| | 1005 | 0.50±0.05 | ±10% | C1005X6S1H473K050BB | | | |
| | | | ±20% | C1005X6S1H473M050BB | | | |
| 68 nF | 1005 | 0.50±0.05 | ±10% | C1005X6S1H683K050BB | C1005X6S1V683K050BB | C1005X6S1E683K050BC | |
| | | | ±20% | C1005X6S1H683M050BB | C1005X6S1V683M050BB | C1005X6S1E683M050BC | |
| 100 nF | 0603 | 0.30±0.03 | ±10% | | | | C0603X6S1C104K030BC |
| | | | ±20% | | | | C0603X6S1C104M030BC |
| | 1005 | 0.50±0.05 | ±10% | C1005X6S1H104K050BB | C1005X6S1V104K050BB | C1005X6S1E104K050BB | |
| | | | ±20% | C1005X6S1H104M050BB | C1005X6S1V104M050BB | C1005X6S1E104M050BB | |
| 150 nF | 1005 | 0.50±0.05 | ±10% | | | C1005X6S1E154K050BC | C1005X6S1C154K050BB |
| | | | ±20% | | | C1005X6S1E154M050BC | C1005X6S1C154M050BB |
| | 1608 | 0.80±0.10 | ±10% | C1608X6S1H154K080AB | C1608X6S1V154K080AB | | |
| | | | ±20% | C1608X6S1H154M080AB | C1608X6S1V154M080AB | | |
| 220 nF | 1005 | 0.50±0.05 | ±10% | | | C1005X6S1E224K050BC | C1005X6S1C224K050BB |
| | | | ±20% | | | C1005X6S1E224M050BC | C1005X6S1C224M050BB |
| | 1608 | 0.80±0.10 | ±10% | C1608X6S1H224K080AB | C1608X6S1V224K080AB | | |
| | | | ±20% | C1608X6S1H224M080AB | C1608X6S1V224M080AB | | |
| 330 nF | 1005 | 0.50±0.05 | ±10% | | | | C1005X6S1C334K050BC |
| | | | ±20% | | | | C1005X6S1C334M050BC |
| | 1608 | 0.80±0.10 | ±10% | C1608X6S1H334K080AB | C1608X6S1V334K080AB | C1608X6S1E334K080AB | |
| | | | ±20% | C1608X6S1H334M080AB | C1608X6S1V334M080AB | C1608X6S1E334M080AB | |
| 470 nF | 1005 | 0.50±0.05 | ±10% | | | | C1005X6S1C474K050BC |
| | | | ±20% | | | | C1005X6S1C474M050BC |
| | 1608 | 0.80±0.10 | ±10% | C1608X6S1H474K080AB | C1608X6S1V474K080AB | C1608X6S1E474K080AB | |
| | | | ±20% | C1608X6S1H474M080AB | C1608X6S1V474M080AB | C1608X6S1E474M080AB | |
| | 2012 | 1.25±0.20 | ±10% | C2012X6S1H474K125AB | | | |
| | | | ±20% | C2012X6S1H474M125AB | | | |
| 680 nF | 1005 | 0.50±0.05 | ±10% | | | | C1005X6S1C684K050BC |
| | | | ±20% | | | | C1005X6S1C684M050BC |
| | 1608 | 0.80±0.10 | ±10% | C1608X6S1H684K080AC | C1608X6S1V684K080AB | C1608X6S1E684K080AB | C1608X6S1C684K080AC |
| | | | ±20% | C1608X6S1H684M080AC | C1608X6S1V684M080AB | C1608X6S1E684M080AB | C1608X6S1C684M080AC |
| | 2012 | 1.25±0.20 | ±10% | C2012X6S1H684K125AB | | | |
| | | | ±20% | C2012X6S1H684M125AB | | | |
| 1 µF | 1005 | 0.50±0.05 | ±10% | | | | C1005X6S1C105K050BC |
| | | | ±20% | | | | C1005X6S1C105M050BC |
| | 1608 | 0.80±0.10 | ±10% | C1608X6S1H105K080AC | C1608X6S1V105K080AB | C1608X6S1E105K080AB | C1608X6S1C105K080AC |
| | | | ±20% | C1608X6S1H105M080AC | C1608X6S1V105M080AB | C1608X6S1E105M080AB | C1608X6S1C105M080AC |
| | 2012 | 0.85±0.15 | ±10% | C2012X6S1H105K085AB | C2012X6S1V105K085AB | C2012X6S1E105K085AB | |
| | | | ±20% | C2012X6S1H105M085AB | C2012X6S1V105M085AB | C2012X6S1E105M085AB | |
| | | 1.25±0.20 | ±10% | C2012X6S1H105K125AB | | | |
| | | | ±20% | C2012X6S1H105M125AB | | | |
| 1.5 µF | 1005 | 0.50+0.15,-0.10 | ±10% | | | | C1005X6S1C155K050BC |
| | | | ±20% | | | | C1005X6S1C155M050BC |
| | 1608 | 0.80±0.10 | ±10% | | | | C1608X6S1C155K080AC |
| | | | ±20% | | | | C1608X6S1C155M080AC |
| | 2012 | 1.25±0.20 | ±10% | C2012X6S1H155K125AB | C2012X6S1V155K125AB | C2012X6S1E155K125AB | |
| | | | ±20% | C2012X6S1H155M125AB | C2012X6S1V155M125AB | C2012X6S1E155M125AB | |
| | 3216 | 1.60±0.20 | ±10% | C3216X6S1H155K160AB | C3216X6S1V155K160AB | | |
| | | | ±20% | C3216X6S1H155M160AB | C3216X6S1V155M160AB | | |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table — Temperature characteristic: X6S (−55 to +105°C,±22%)

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | | |
|---|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 50V | Rated voltage Edc: 35V | Rated voltage Edc: 25V | Rated voltage Edc: 16V |
| 2.2 µF | 1005 | 0.50+0.15,-0.10 | ±10% | | | | C1005X6S1C225K050BC |
| | | | ±20% | | | | C1005X6S1C225M050BC |
| | 1608 | 0.80±0.10 | ±10% | | | | C1608X6S1C225K080AC |
| | | | ±20% | | | | C1608X6S1C225M080AC |
| | 2012 | 0.85±0.15 | ±10% | C2012X6S1H225K085AC | C2012X6S1V225K085AB | C2012X6S1E225K085AB | C2012X6S1C225K085AB |
| | | | ±20% | C2012X6S1H225M085AC | C2012X6S1V225M085AB | C2012X6S1E225M085AB | C2012X6S1C225M085AB |
| | | 1.25±0.20 | ±10% | C2012X6S1H225K125AB | C2012X6S1V225K125AB | C2012X6S1E225K125AC | |
| | | | ±20% | C2012X6S1H225M125AB | C2012X6S1V225M125AB | C2012X6S1E225M125AC | |
| | 3216 | 1.60±0.20 | ±10% | C3216X6S1H225K160AB | C3216X6S1V225K160AB | | |
| | | | ±20% | C3216X6S1H225M160AB | C3216X6S1V225M160AB | | |
| 3.3 µF | 1608 | 0.80±0.20 | ±10% | | | | C1608X6S1C335K080AC |
| | | | ±20% | | | | C1608X6S1C335M080AC |
| | 2012 | 1.25±0.20 | ±10% | C2012X6S1H335K125AC | C2012X6S1V335K125AB | C2012X6S1E335K125AC | C2012X6S1C335K125AC |
| | | | ±20% | C2012X6S1H335M125AC | C2012X6S1V335M125AB | C2012X6S1E335M125AC | C2012X6S1C335M125AC |
| | 3216 | 1.60±0.20 | ±10% | C3216X6S1H335K160AB | C3216X6S1V335K160AB | | |
| | | | ±20% | C3216X6S1H335M160AB | C3216X6S1V335M160AB | | |
| 4.7 µF | 1608 | 0.80±0.20 | ±10% | | | | C1608X6S1C475K080AC |
| | | | ±20% | | | | C1608X6S1C475M080AC |
| | 2012 | 0.85±0.15 | ±10% | | | | C2012X6S1C475K085AC |
| | | | ±20% | | | | C2012X6S1C475M085AC |
| | | 1.25±0.20 | ±10% | C2012X6S1H475K125AC | C2012X6S1V475K125AB | C2012X6S1E475K125AC | C2012X6S1C475K125AC |
| | | | ±20% | C2012X6S1H475M125AC | C2012X6S1V475M125AB | C2012X6S1E475M125AC | C2012X6S1C475M125AC |
| | 3216 | 0.85±0.15 | ±10% | | C3216X6S1V475K085AC | C3216X6S1E475K085AB | |
| | | | ±20% | | C3216X6S1V475M085AC | C3216X6S1E475M085AB | |
| | | 1.60±0.20 | ±10% | C3216X6S1H475K160AB | C3216X6S1V475K160AB | C3216X6S1E475K160AB | |
| | | | ±20% | C3216X6S1H475M160AB | C3216X6S1V475M160AB | C3216X6S1E475M160AB | |
| | 3225 | 2.50±0.30 | ±10% | C3225X6S1H475K250AB | | | |
| | | | ±20% | C3225X6S1H475M250AB | | | |
| 6.8 µF | 2012 | 1.25±0.20 | ±10% | | | | C2012X6S1C685K125AC |
| | | | ±20% | | | | C2012X6S1C685M125AC |
| | 3216 | 1.60±0.20 | ±10% | | C3216X6S1V685K160AC | C3216X6S1E685K160AB | C3216X6S1C685K160AC |
| | | | ±20% | | C3216X6S1V685M160AC | C3216X6S1E685M160AB | C3216X6S1C685M160AC |
| | 3225 | 2.50±0.30 | ±10% | C3225X6S1H685K250AC | C3225X6S1V685K250AC | C3225X6S1E685K250AB | |
| | | | ±20% | C3225X6S1H685M250AC | C3225X6S1V685M250AC | C3225X6S1E685M250AB | |
| 10 µF | 2012 | 0.85±0.15 | ±10% | | | | C2012X6S1C106K085AC |
| | | | ±20% | | | | C2012X6S1C106M085AC |
| | | 1.25±0.20 | ±10% | | | | C2012X6S1C106K125AC |
| | | | ±20% | | | | C2012X6S1C106M125AC |
| | 3216 | 0.85±0.15 | ±10% | | | | C3216X6S1C106K085AC |
| | | | ±20% | | | | C3216X6S1C106M085AC |
| | | 1.60±0.20 | ±10% | | C3216X6S1V106K160AC | C3216X6S1E106K160AB | C3216X6S1C106K160AB |
| | | | ±20% | | C3216X6S1V106M160AC | C3216X6S1E106M160AB | C3216X6S1C106M160AB |
| | 3225 | 2.50±0.30 | ±10% | C3225X6S1H106K250AC | C3225X6S1V106K250AC | C3225X6S1E106K250AC | |
| | | | ±20% | C3225X6S1H106M250AC | C3225X6S1V106M250AC | C3225X6S1E106M250AC | |
| 15 µF | 2012 | 1.25±0.20 | ±20% | | | | C2012X6S1C156M125AC |
| | 3216 | 1.60±0.20 | ±20% | | | | C3216X6S1C156M160AC |
| 22 µF | 2012 | 1.25±0.20 | ±20% | | | | C2012X6S1C226M125AC |
| | 3216 | 1.60±0.20 | ±20% | | | | C3216X6S1C226M160AC |
| | | 1.60+0.30,-0.10 | ±20% | | | C3216X6S1E226M160AC | |
| | 3225 | 2.50±0.30 | ±20% | | | | C3225X6S1C226M250AC |

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | |
|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 10V | Rated voltage Edc: 6.3V | Rated voltage Edc: 4V |
| 100 pF | 0402 | 0.20±0.02 | ±10% | C0402X6S1A101K020BC | C0402X6S0J101K020BC | C0402X6S0G101K020BC |
| | | | ±20% | C0402X6S1A101M020BC | C0402X6S0J101M020BC | C0402X6S0G101M020BC |
| 150 pF | 0402 | 0.20±0.02 | ±10% | C0402X6S1A151K020BC | C0402X6S0J151K020BC | C0402X6S0G151K020BC |
| | | | ±20% | C0402X6S1A151M020BC | C0402X6S0J151M020BC | C0402X6S0G151M020BC |
| 220 pF | 0402 | 0.20±0.02 | ±10% | C0402X6S1A221K020BC | C0402X6S0J221K020BC | C0402X6S0G221K020BC |
| | | | ±20% | C0402X6S1A221M020BC | C0402X6S0J221M020BC | C0402X6S0G221M020BC |
| 330 pF | 0402 | 0.20±0.02 | ±10% | C0402X6S1A331K020BC | C0402X6S0J331K020BC | C0402X6S0G331K020BC |
| | | | ±20% | C0402X6S1A331M020BC | C0402X6S0J331M020BC | C0402X6S0G331M020BC |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table — Temperature characteristic: X6S (−55 to +105°C,±22%)

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | |
|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 10V | Rated voltage Edc: 6.3V | Rated voltage Edc: 4V |
| 470 pF | 0402 | 0.20±0.02 | ±10% | C0402X6S1A471K020BC | C0402X6S0J471K020BC | C0402X6S0G471K020BC |
| | | | ±20% | C0402X6S1A471M020BC | C0402X6S0J471M020BC | C0402X6S0G471M020BC |
| 680 pF | 0402 | 0.20±0.02 | ±10% | C0402X6S1A681K020BC | C0402X6S0J681K020BC | C0402X6S0G681K020BC |
| | | | ±20% | C0402X6S1A681M020BC | C0402X6S0J681M020BC | C0402X6S0G681M020BC |
| 2.2 nF | 0603 | 0.30±0.03 | ±10% | C0603X6S1A222K030BA | C0603X6S0J222K030BA | |
| | | | ±20% | C0603X6S1A222M030BA | C0603X6S0J222M030BA | |
| 4.7 nF | 0603 | 0.30±0.03 | ±10% | C0603X6S1A472K030BA | C0603X6S0J472K030BA | |
| | | | ±20% | C0603X6S1A472M030BA | C0603X6S0J472M030BA | |
| 10 nF | 0603 | 0.30±0.03 | ±10% | C0603X6S1A103K030BA | C0603X6S0J103K030BA | |
| | | | ±20% | C0603X6S1A103M030BA | C0603X6S0J103M030BA | |
| 22 nF | 0603 | 0.30±0.03 | ±10% | C0603X6S1A223K030BB | | |
| | | | ±20% | C0603X6S1A223M030BB | | |
| 47 nF | 0603 | 0.30±0.03 | ±10% | C0603X6S1A473K030BB | | |
| | | | ±20% | C0603X6S1A473M030BB | | |
| 100 nF | 0603 | 0.30±0.03 | ±10% | | C0603X6S0J104K030BC | |
| | | | ±20% | | C0603X6S0J104M030BC | |
| | 1005 | 0.50±0.05 | ±10% | | C1005X6S0J104K050BA | C1005X6S0G104K050BA |
| | | | ±20% | | C1005X6S0J104M050BA | C1005X6S0G104M050BA |
| 150 nF | 0603 | 0.30±0.03 | ±10% | | C0603X6S0J154K030BC | C0603X6S0G154K030BB |
| | | | ±20% | | C0603X6S0J154M030BC | C0603X6S0G154M030BB |
| | | 0.30±0.05 | ±10% | C0603X6S1A154K030BC | | |
| | | | ±20% | C0603X6S1A154M030BC | | |
| 220 nF | 0603 | 0.30±0.03 | ±10% | | C0603X6S0J224K030BC | C0603X6S0G224K030BB |
| | | | ±20% | | C0603X6S0J224M030BC | C0603X6S0G224M030BB |
| | | 0.30±0.05 | ±10% | C0603X6S1A224K030BC | | |
| | | | ±20% | C0603X6S1A224M030BC | | |
| 330 nF | 0603 | 0.30±0.05 | ±10% | | | C0603X6S0G334K030BC |
| | | | ±20% | | | C0603X6S0G334M030BC |
| | 1005 | 0.50±0.05 | ±10% | C1005X6S1A334K050BC | C1005X6S0J334K050BC | C1005X6S0G334K050BB |
| | | | ±20% | C1005X6S1A334M050BC | C1005X6S0J334M050BC | C1005X6S0G334M050BB |
| 470 nF | 0603 | 0.30±0.05 | ±20% | | | C0603X6S0G474M030BC |
| | 1005 | 0.50±0.05 | ±10% | C1005X6S1A474K050BC | | C1005X6S0G474K050BB |
| | | | ±20% | C1005X6S1A474M050BC | | C1005X6S0G474M050BB |
| 680 nF | 1005 | 0.50±0.05 | ±10% | C1005X6S1A684K050BC | | C1005X6S0G684K050BB |
| | | | ±20% | C1005X6S1A684M050BC | | C1005X6S0G684M050BB |
| 1 µF | 1005 | 0.50±0.05 | ±10% | C1005X6S1A105K050BC | | |
| | | | ±20% | C1005X6S1A105M050BC | | |
| | 1608 | 0.80+0.15,-0.10 | ±10% | C1608X6S1A105K080AC | C1608X6S0J105K080AC | |
| | | | ±20% | C1608X6S1A105M080AC | C1608X6S0J105M080AC | |
| 1.5 µF | 1005 | 0.50±0.05 | ±10% | | C1005X6S0J155K050BC | C1005X6S0G155K050BC |
| | | | ±20% | | C1005X6S0J155M050BC | C1005X6S0G155M050BC |
| | | 0.50±0.10 | ±10% | C1005X6S1A155K050BC | | |
| | | | ±20% | C1005X6S1A155M050BC | | |
| | 1608 | 0.80±0.10 | ±10% | C1608X6S1A155K080AB | C1608X6S0J155K080AB | |
| | | | ±20% | C1608X6S1A155M080AB | C1608X6S0J155M080AB | |
| 2.2 µF | 1005 | 0.50±0.05 | ±10% | | C1005X6S0J225K050BC | C1005X6S0G225K050BC |
| | | | ±20% | | C1005X6S0J225M050BC | C1005X6S0G225M050BC |
| | | 0.50±0.10 | ±10% | C1005X6S1A225K050BC | | |
| | | | ±20% | C1005X6S1A225M050BC | | |
| | 1608 | 0.80±0.10 | ±10% | C1608X6S1A225K080AB | C1608X6S0J225K080AB | |
| | | | ±20% | C1608X6S1A225M080AB | C1608X6S0J225M080AB | |
| 3.3 µF | 1005 | 0.50±0.10 | ±10% | | | C1005X6S0G335K050BC |
| | | | ±20% | | | C1005X6S0G335M050BC |
| | 1608 | 0.80±0.10 | ±10% | C1608X6S1A335K080AC | C1608X6S0J335K080AB | |
| | | | ±20% | C1608X6S1A335M080AC | C1608X6S0J335M080AB | |
| 4.7 µF | 1005 | 0.50+0.15,-0.10 | ±20% | | | C1005X6S0G475M050BC |
| | 1608 | 0.80±0.10 | ±10% | C1608X6S1A475K080AC | C1608X6S0J475K080AB | |
| | | | ±20% | C1608X6S1A475M080AC | C1608X6S0J475M080AB | |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table — Temperature characteristic: X6S (−55 to +105°C,±22%)

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | |
|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 10V | Rated voltage Edc: 6.3V | Rated voltage Edc: 4V |
| 4.7 µF | 2012 | 0.85±0.15 | ±10% | C2012X6S1A475K085AB | | |
| | | | ±20% | C2012X6S1A475M085AB | | |
| | | 1.25±0.20 | ±10% | | C2012X6S0J475K125AB | |
| | | | ±20% | | C2012X6S0J475M125AB | |
| 6.8 µF | 1608 | 0.80±0.10 | ±10% | | | C1608X6S0G685K080AC |
| | | | ±20% | | | C1608X6S0G685M080AC |
| | | 0.80±0.20 | ±10% | C1608X6S1A685K080AC | C1608X6S0J685K080AB | |
| | | | ±20% | C1608X6S1A685M080AC | C1608X6S0J685M080AB | |
| | 2012 | 0.85±0.15 | ±10% | C2012X6S1A685K085AC | C2012X6S0J685K085AB | |
| | | | ±20% | C2012X6S1A685M085AC | C2012X6S0J685M085AB | |
| | | 1.25±0.20 | ±10% | C2012X6S1A685K125AB | | |
| | | | ±20% | C2012X6S1A685M125AB | | |
| | 3216 | 0.85±0.15 | ±10% | C3216X6S1A685K085AB | | |
| | | | ±20% | C3216X6S1A685M085AB | | |
| 10 µF | 1608 | 0.80±0.10 | ±10% | | | C1608X6S0G106K080AB |
| | | | ±20% | | | C1608X6S0G106M080AC |
| | | 0.80±0.20 | ±20% | C1608X6S1A106M080AC | C1608X6S0J106M080AC | |
| | 2012 | 0.85±0.15 | ±10% | C2012X6S1A106K085AC | C2012X6S0J106K085AC | |
| | | | ±20% | C2012X6S1A106M085AC | C2012X6S0J106M085AC | |
| | | 1.25±0.20 | ±10% | C2012X6S1A106K125AB | C2012X6S0J106K125AB | |
| | | | ±20% | C2012X6S1A106M125AB | C2012X6S0J106M125AB | |
| | 3216 | 0.85±0.15 | ±10% | C3216X6S1A106K085AB | | |
| | | | ±20% | C3216X6S1A106M085AB | | |
| | | 1.60±0.20 | ±10% | | C3216X6S0J106K160AC | |
| | | | ±20% | | C3216X6S0J106M160AC | |
| 15 µF | 2012 | 0.85±0.15 | ±20% | | | C2012X6S0G156M085AC |
| | | 1.25±0.20 | ±20% | C2012X6S1A156M125AC | C2012X6S0J156M125AB | |
| | 3216 | 1.60±0.20 | ±20% | C3216X6S1A156M160AB | C3216X6S0J156M160AB | |
| 22 µF | 1608 | 0.80±0.20 | ±20% | | | C1608X6S0G226M080AC |
| | 2012 | 0.85±0.15 | ±20% | | C2012X6S0J226M085AC | C2012X6S0G226M085AC |
| | | 1.25±0.20 | ±20% | C2012X6S1A226M125AC | C2012X6S0J226M125AB | |
| | 3216 | 1.60±0.20 | ±20% | C3216X6S1A226M160AB | C3216X6S0J226M160AB | |
| 33 µF | 2012 | 1.25±0.20 | ±20% | | | C2012X6S0G336M125AC |
| | 3216 | 1.60±0.20 | ±20% | C3216X6S1A336M160AC | C3216X6S0J336M160AB | |
| 47 µF | 2012 | 1.25±0.20 | ±20% | | | C2012X6S0G476M125AC |
| | 3216 | 1.60±0.20 | ±20% | C3216X6S1A476M160AC | C3216X6S0J476M160AB | |
| | 3225 | 2.50±0.30 | ±20% | | C3225X6S0J476M250AC | |
| 68 µF | 3216 | 1.60+0.30,-0.10 | ±20% | | | C3216X6S0G686M160AC |
| 100 µF | 3216 | 1.60+0.30,-0.10 | ±20% | | | C3216X6S0G107M160AC |
| | 3225 | 2.50+0.40,-0.30 | ±20% | C3225X6S1A107M250AC | C3225X6S0J107M250AB | |
| | 4532 | 2.80±0.30 | ±20% | | C4532X6S0J107M280KC | |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table — Temperature characteristic: X7R (−55 to +125°C,±15%)

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | |
|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 50V | Rated voltage Edc: 25V |
| 100 pF | 0603 | 0.30±0.03 | ±10% | | C0603X7R1E101K030BA |
| | | | ±20% | | C0603X7R1E101M030BA |
| 150 pF | 0603 | 0.30±0.03 | ±10% | | C0603X7R1E151K030BA |
| | | | ±20% | | C0603X7R1E151M030BA |
| 220 pF | 0603 | 0.30±0.03 | ±10% | | C0603X7R1E221K030BA |
| | | | ±20% | | C0603X7R1E221M030BA |
| | 1005 | 0.50±0.05 | ±10% | C1005X7R1H221K050BA | |
| | | | ±20% | C1005X7R1H221M050BA | |
| 330 pF | 0603 | 0.30±0.03 | ±10% | | C0603X7R1E331K030BA |
| | | | ±20% | | C0603X7R1E331M030BA |
| | 1005 | 0.50±0.05 | ±10% | C1005X7R1H331K050BA | |
| | | | ±20% | C1005X7R1H331M050BA | |
| 470 pF | 0603 | 0.30±0.03 | ±10% | | C0603X7R1E471K030BA |
| | | | ±20% | | C0603X7R1E471M030BA |
| | 1005 | 0.50±0.05 | ±10% | C1005X7R1H471K050BA | |
| | | | ±20% | C1005X7R1H471M050BA | |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table

## Temperature characteristic: X7R （–55 to +125°C,±15%）

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | | |
|---|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 50V | Rated voltage Edc: 35V | Rated voltage Edc: 25V | Rated voltage Edc: 16V |
| 680 pF | 0603 | 0.30±0.03 | ±10% | | | C0603X7R1E681K030BA | |
| | | | ±20% | | | C0603X7R1E681M030BA | |
| | 1005 | 0.50±0.05 | ±10% | C1005X7R1H681K050BA | | | |
| | | | ±20% | C1005X7R1H681M050BA | | | |
| 1 nF | 0603 | 0.30±0.03 | ±10% | | | C0603X7R1E102K030BA | |
| | | | ±20% | | | C0603X7R1E102M030BA | |
| | 1005 | 0.50±0.05 | ±10% | C1005X7R1H102K050BA | | C1005X7R1E102K050BA | |
| | | | ±20% | C1005X7R1H102M050BA | | | |
| | 1608 | 0.80±0.10 | ±10% | C1608X7R1H102K080AA | | | |
| 1.5 nF | 0603 | 0.30±0.03 | ±10% | | | C0603X7R1E152K030BA | |
| | | | ±20% | | | C0603X7R1E152M030BA | |
| | 1005 | 0.50±0.05 | ±10% | C1005X7R1H152K050BA | | | |
| | | | ±20% | C1005X7R1H152M050BA | | | |
| 2.2 nF | 0603 | 0.30±0.03 | ±10% | | | C0603X7R1E222K030BA | C0603X7R1C222K030BA |
| | | | ±20% | | | C0603X7R1E222M030BA | C0603X7R1C222M030BA |
| | 1005 | 0.50±0.05 | ±10% | C1005X7R1H222K050BA | | | |
| | | | ±20% | C1005X7R1H222M050BA | | | |
| | 1608 | 0.80±0.10 | ±10% | C1608X7R1H222K080AA | | | |
| 3.3 nF | 0603 | 0.30±0.03 | ±10% | | | C0603X7R1E332K030BA | |
| | | | ±20% | | | C0603X7R1E332M030BA | |
| | 1005 | 0.50±0.05 | ±10% | C1005X7R1H332K050BA | | | |
| | | | ±20% | C1005X7R1H332M050BA | | | |
| 4.7 nF | 0603 | 0.30±0.03 | ±10% | | | | C0603X7R1C472K030BA |
| | | | ±20% | | | | C0603X7R1C472M030BA |
| | 1005 | 0.50±0.05 | ±10% | C1005X7R1H472K050BA | | | |
| | | | ±20% | C1005X7R1H472M050BA | | | |
| | 1608 | 0.80±0.10 | ±10% | C1608X7R1H472K080AA | | | |
| 6.8 nF | 1005 | 0.50±0.05 | ±10% | C1005X7R1H682K050BA | | | |
| | | | ±20% | C1005X7R1H682M050BA | | | |
| 10 nF | 1005 | 0.50±0.05 | ±10% | C1005X7R1H103K050BB | C1005X7R1V103K050BB | C1005X7R1E103K050BB | C1005X7R1C103K050BA |
| | | | ±20% | C1005X7R1H103M050BB | C1005X7R1V103M050BB | C1005X7R1E103M050BB | |
| | 1608 | 0.80±0.10 | ±10% | C1608X7R1H103K080AA | | C1608X7R1E103K080AA | |
| | | | ±20% | C1608X7R1H103M080AA | | | |
| 15 nF | 1005 | 0.50±0.05 | ±10% | C1005X7R1H153K050BB | C1005X7R1V153K050BB | | |
| | | | ±20% | C1005X7R1H153M050BB | C1005X7R1V153M050BB | | |
| | 1608 | 0.80±0.10 | ±10% | C1608X7R1H153K080AA | | | |
| | | | ±20% | C1608X7R1H153M080AA | | | |
| 22 nF | 1005 | 0.50±0.05 | ±10% | C1005X7R1H223K050BB | C1005X7R1V223K050BB | C1005X7R1E223K050BB | |
| | | | ±20% | C1005X7R1H223M050BB | C1005X7R1V223M050BB | C1005X7R1E223M050BB | |
| | 1608 | 0.80±0.10 | ±10% | C1608X7R1H223K080AA | | | |
| | | | ±20% | C1608X7R1H223M080AA | | | |
| 33 nF | 1005 | 0.50±0.05 | ±10% | C1005X7R1H333K050BB | C1005X7R1V333K050BB | | |
| | | | ±20% | C1005X7R1H333M050BB | C1005X7R1V333M050BB | | |
| | 1608 | 0.80±0.10 | ±10% | C1608X7R1H333K080AA | | | |
| | | | ±20% | C1608X7R1H333M080AA | | | |
| 47 nF | 1005 | 0.50±0.05 | ±10% | C1005X7R1H473K050BB | C1005X7R1V473K050BB | C1005X7R1E473K050BC | C1005X7R1C473K050BC |
| | | | ±20% | C1005X7R1H473M050BB | C1005X7R1V473M050BB | C1005X7R1E473M050BC | C1005X7R1C473M050BC |
| | 1608 | 0.80±0.10 | ±10% | C1608X7R1H473K080AA | | | |
| | | | ±20% | C1608X7R1H473M080AA | | | |
| 68 nF | 1005 | 0.50±0.05 | ±10% | C1005X7R1H683K050BB | C1005X7R1V683K050BB | C1005X7R1E683K050BB | C1005X7R1C683K050BC |
| | | | ±20% | C1005X7R1H683M050BB | C1005X7R1V683M050BB | C1005X7R1E683M050BB | C1005X7R1C683M050BC |
| | 1608 | 0.80±0.10 | ±10% | C1608X7R1H683K080AA | | | |
| | | | ±20% | C1608X7R1H683M080AA | | | |
| 100 nF | 1005 | 0.50±0.05 | ±10% | C1005X7R1H104K050BB | C1005X7R1V104K050BB | C1005X7R1E104K050BB | C1005X7R1C104K050BC |
| | | | ±20% | C1005X7R1H104M050BB | C1005X7R1V104M050BB | C1005X7R1E104M050BB | C1005X7R1C104M050BC |
| | 1608 | 0.80±0.10 | ±10% | C1608X7R1H104K080AA | | C1608X7R1E104K080AA | |
| | | | ±20% | C1608X7R1H104M080AA | | C1608X7R1E104M080AA | |
| 150 nF | 1005 | 0.50±0.05 | ±10% | | C1005X7R1V154K050BC | C1005X7R1E154K050BB | C1005X7R1C154K050BC |
| | | | ±20% | | C1005X7R1V154M050BC | C1005X7R1E154M050BB | C1005X7R1C154M050BC |
| | 1608 | 0.80±0.10 | ±10% | C1608X7R1H154K080AB | C1608X7R1V154K080AB | C1608X7R1E154K080AA | |
| | | | ±20% | C1608X7R1H154M080AB | C1608X7R1V154M080AB | C1608X7R1E154M080AA | |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table

## Temperature characteristic: X7R （–55 to +125°C,±15%）

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | | |
|---|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 50V | Rated voltage Edc: 35V | Rated voltage Edc: 25V | Rated voltage Edc: 16V |
| 220 nF | 1005 | 0.50±0.05 | ±10% | | C1005X7R1V224K050BC | C1005X7R1E224K050BB | C1005X7R1C224K050BC |
| | | | ±20% | | C1005X7R1V224M050BC | C1005X7R1E224M050BB | C1005X7R1C224M050BC |
| | 1608 | 0.80±0.10 | ±10% | C1608X7R1H224K080AB | C1608X7R1V224K080AB | C1608X7R1E224K080AC | C1608X7R1C224K080AC |
| | | | ±20% | C1608X7R1H224M080AB | C1608X7R1V224M080AB | C1608X7R1E224M080AC | C1608X7R1C224M080AC |
| | 2012 | 1.25±0.20 | ±10% | C2012X7R1H224K125AA | | | |
| | | | ±20% | C2012X7R1H224M125AA | | | |
| | 3216 | 1.15±0.15 | ±10% | C3216X7R1H224K115AA | | | |
| | | | ±20% | C3216X7R1H224M115AA | | | |
| 330 nF | 1608 | 0.80±0.10 | ±10% | C1608X7R1H334K080AC | C1608X7R1V334K080AB | C1608X7R1E334K080AC | C1608X7R1C334K080AC |
| | | | ±20% | C1608X7R1H334M080AC | C1608X7R1V334M080AB | C1608X7R1E334M080AC | C1608X7R1C334M080AC |
| | 2012 | 1.25±0.20 | ±10% | C2012X7R1H334K125AA | | | |
| | | | ±20% | C2012X7R1H334M125AA | | | |
| | 3216 | 1.60±0.20 | ±10% | C3216X7R1H334K160AA | | | |
| | | | ±20% | C3216X7R1H334M160AA | | | |
| 470 nF | 1608 | 0.80±0.10 | ±10% | C1608X7R1H474K080AC | C1608X7R1V474K080AB | C1608X7R1E474K080AB | C1608X7R1C474K080AC |
| | | | ±20% | C1608X7R1H474M080AC | C1608X7R1V474M080AB | C1608X7R1E474M080AB | C1608X7R1C474M080AC |
| | 2012 | 1.25±0.20 | ±10% | C2012X7R1H474K125AB | C2012X7R1V474K125AB | C2012X7R1E474K125AA | |
| | | | ±20% | C2012X7R1H474M125AB | C2012X7R1V474M125AB | C2012X7R1E474M125AA | |
| | 3216 | 1.60±0.20 | ±10% | C3216X7R1H474K160AA | | | |
| | | | ±20% | C3216X7R1H474M160AA | | | |
| 680 nF | 1608 | 0.80±0.10 | ±10% | | C1608X7R1V684K080AC | C1608X7R1E684K080AB | C1608X7R1C684K080AC |
| | | | ±20% | | C1608X7R1V684M080AC | C1608X7R1E684M080AB | C1608X7R1C684M080AC |
| | 2012 | 1.25±0.20 | ±10% | C2012X7R1H684K125AB | C2012X7R1V684K125AB | C2012X7R1E684K125AB | C2012X7R1C684K125AA |
| | | | ±20% | C2012X7R1H684M125AB | C2012X7R1V684M125AB | C2012X7R1E684M125AB | C2012X7R1C684M125AA |
| | 3216 | 1.60±0.20 | ±10% | C3216X7R1H684K160AA | | | |
| | | | ±20% | C3216X7R1H684M160AA | | | |
| 1 µF | 1608 | 0.80±0.10 | ±10% | | C1608X7R1V105K080AC | C1608X7R1E105K080AB | C1608X7R1C105K080AC |
| | | | ±20% | | C1608X7R1V105M080AC | C1608X7R1E105M080AB | C1608X7R1C105M080AC |
| | | 0.80+0.20,-0.10 | ±10% | C1608X7R1H105K080AB | | | |
| | 2012 | 0.85±0.15 | ±10% | C2012X7R1H105K085AC | C2012X7R1V105K085AB | C2012X7R1E105K085AB | C2012X7R1C105K085AC |
| | | | ±20% | C2012X7R1H105M085AC | C2012X7R1V105M085AB | C2012X7R1E105M085AB | C2012X7R1C105M085AC |
| | | 1.25±0.20 | ±10% | C2012X7R1H105K125AB | C2012X7R1V105K125AB | C2012X7R1E105K125AB | C2012X7R1C105K125AA |
| | | | ±20% | C2012X7R1H105M125AB | C2012X7R1V105M125AB | C2012X7R1E105M125AB | C2012X7R1C105M125AA |
| | 3216 | 0.85±0.15 | ±10% | | | C3216X7R1E105K085AA | |
| | | | ±20% | | | C3216X7R1E105M085AA | |
| | | 1.60±0.20 | ±10% | C3216X7R1H105K160AB | | C3216X7R1E105K160AA | |
| | | | ±20% | C3216X7R1H105M160AB | | C3216X7R1E105M160AA | |
| | 3225 | 1.60±0.20 | ±10% | C3225X7R1H105K160AA | | | |
| | | | ±20% | C3225X7R1H105M160AA | | | |
| | 4532 | 1.60±0.20 | ±10% | C4532X7R1H105K160KA | | | |
| | | | ±20% | C4532X7R1H105M160KA | | | |
| 1.5 µF | 2012 | 1.25±0.20 | ±10% | C2012X7R1H155K125AC | C2012X7R1V155K125AB | C2012X7R1E155K125AC | C2012X7R1C155K125AB |
| | | | ±20% | C2012X7R1H155M125AC | C2012X7R1V155M125AB | C2012X7R1E155M125AC | C2012X7R1C155M125AB |
| | 3216 | 1.60±0.20 | ±10% | C3216X7R1H155K160AB | C3216X7R1V155K160AB | C3216X7R1E155K160AA | |
| | | | ±20% | C3216X7R1H155M160AB | C3216X7R1V155M160AB | C3216X7R1E155M160AA | |
| | 3225 | 2.00±0.20 | ±10% | C3225X7R1H155K200AA | | | |
| | | | ±20% | C3225X7R1H155M200AA | | | |
| 2.2 µF | 2012 | 0.85±0.15 | ±10% | | C2012X7R1V225K085AC | C2012X7R1E225K085AB | C2012X7R1C225K085AB |
| | | | ±20% | | C2012X7R1V225M085AC | C2012X7R1E225M085AB | C2012X7R1C225M085AB |
| | | 1.25±0.20 | ±10% | C2012X7R1H225K125AC | C2012X7R1V225K125AB | C2012X7R1E225K125AB | C2012X7R1C225K125AB |
| | | | ±20% | C2012X7R1H225M125AC | C2012X7R1V225M125AB | C2012X7R1E225M125AB | C2012X7R1C225M125AB |
| | 3216 | 1.60±0.20 | ±10% | C3216X7R1H225K160AB | C3216X7R1V225K160AB | C3216X7R1E225K160AA | |
| | | | ±20% | C3216X7R1H225M160AB | C3216X7R1V225M160AB | C3216X7R1E225M160AA | |
| | 3225 | 2.00±0.20 | ±10% | C3225X7R1H225K200AB | | | |
| | | | ±20% | C3225X7R1H225M200AB | | | |
| | | 2.50±0.30 | ±10% | C3225X7R1H225K250AB | | | |
| | 4532 | 1.60±0.20 | ±10% | C4532X7R1H225K160KA | | | |
| | | | ±20% | C4532X7R1H225M160KA | | | |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table

## Temperature characteristic: X7R （–55 to +125°C,±15%）

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 75V | Rated voltage Edc: 50V | Rated voltage Edc: 35V | Rated voltage Edc: 25V | Rated voltage Edc: 16V |
| 3.3 µF | 2012 | 1.25±0.20 | ±10% | | | C2012X7R1V335K125AC | C2012X7R1E335K125AB | C2012X7R1C335K125AB |
| | | | ±20% | | | C2012X7R1V335M125AC | C2012X7R1E335M125AB | C2012X7R1C335M125AB |
| | 3216 | 1.60±0.20 | ±10% | | C3216X7R1H335K160AC | C3216X7R1V335K160AB | C3216X7R1E335K160AC | |
| | | | ±20% | | C3216X7R1H335M160AC | C3216X7R1V335M160AB | C3216X7R1E335M160AC | |
| | 3225 | 1.60±0.20 | ±10% | | | | C3225X7R1E335K160AA | |
| | | | ±20% | | | | C3225X7R1E335M160AA | |
| | | 2.50±0.30 | ±10% | | C3225X7R1H335K250AB | | | |
| | | | ±20% | | C3225X7R1H335M250AB | | | |
| | 4532 | 2.00±0.20 | ±10% | | C4532X7R1H335K200KA | | | |
| | | | ±20% | | C4532X7R1H335M200KA | | | |
| 4.7 µF | 2012 | 1.25±0.20 | ±10% | | C2012X7R1H475K125AC | C2012X7R1V475K125AC | C2012X7R1E475K125AB | C2012X7R1C475K125AB |
| | | | ±20% | | | C2012X7R1V475M125AC | C2012X7R1E475M125AB | C2012X7R1C475M125AB |
| | 3216 | 0.85±0.15 | ±10% | | | C3216X7R1V475K085AC | C3216X7R1E475K085AB | C3216X7R1C475K085AB |
| | | | ±20% | | | C3216X7R1V475M085AC | C3216X7R1E475M085AB | C3216X7R1C475M085AB |
| | | 1.60±0.20 | ±10% | | C3216X7R1H475K160AC | C3216X7R1V475K160AB | C3216X7R1E475K160AC | C3216X7R1C475K160AB |
| | | | ±20% | | C3216X7R1H475M160AC | C3216X7R1V475M160AB | C3216X7R1E475M160AC | C3216X7R1C475M160AB |
| | 3225 | 2.00±0.20 | ±10% | | | | C3225X7R1E475K200AA | |
| | | | ±20% | | | | C3225X7R1E475M200AA | |
| | | 2.50±0.30 | ±10% | | C3225X7R1H475K250AB | | | |
| | | | ±20% | | C3225X7R1H475M250AB | | | |
| | 4532 | 2.00±0.20 | ±10% | | C4532X7R1H475K200KB | | | |
| | | | ±20% | | C4532X7R1H475M200KB | | C4532X7R1E475M200KA | |
| | 5750 | 2.00±0.20 | ±10% | | C5750X7R1H475K200KA | | | |
| | | | ±20% | | C5750X7R1H475M200KA | | | |
| | | 2.80±0.30 | ±20% | | C5750X7R1H475M280KA | | | |
| 6.8 µF | 3216 | 1.60±0.20 | ±10% | | | C3216X7R1V685K160AC | C3216X7R1E685K160AB | C3216X7R1C685K160AC |
| | | | ±20% | | | C3216X7R1V685M160AC | C3216X7R1E685M160AB | C3216X7R1C685M160AC |
| | 3225 | 2.50±0.30 | ±10% | | | | C3225X7R1E685K250AB | |
| | | | ±20% | | | | C3225X7R1E685M250AB | |
| | 4532 | 2.50±0.30 | ±10% | | C4532X7R1H685K250KB | | | |
| | | | ±20% | | C4532X7R1H685M250KB | | | |
| | 5750 | 2.50±0.30 | ±10% | | C5750X7R1H685K250KA | | | |
| | | | ±20% | | C5750X7R1H685M250KA | | | |
| 10 µF | 3216 | 1.60±0.20 | ±10% | | C3216X7R1H106K160AC | C3216X7R1V106K160AC | C3216X7R1E106K160AB | C3216X7R1C106K160AC |
| | | | ±20% | | | C3216X7R1V106M160AC | C3216X7R1E106M160AB | C3216X7R1C106M160AC |
| | 3225 | 2.00±0.20 | ±10% | | | | | C3225X7R1C106K200AB |
| | | | ±20% | | | | | C3225X7R1C106M200AB |
| | | 2.50±0.30 | ±10% | C3225X7R1N106K250AC | C3225X7R1H106K250AC | | C3225X7R1E106K250AC | |
| | | | ±20% | C3225X7R1N106M250AC | C3225X7R1H106M250AC | | C3225X7R1E106M250AC | |
| | 4532 | 2.30±0.20 | ±10% | | | | | C4532X7R1C106K230KA |
| | | | ±20% | | | | | C4532X7R1C106M230KA |
| | | 2.50±0.30 | ±10% | | | | C4532X7R1E106K250KA | |
| | | | ±20% | | | | C4532X7R1E106M250KA | |
| | 5750 | 2.00±0.20 | ±20% | | | | C5750X7R1E106M200KA | |
| | | 2.30±0.20 | ±10% | | C5750X7R1H106K230KB | | | |
| | | | ±20% | | C5750X7R1H106M230KB | | | |
| 15 µF | 3225 | 2.50±0.30 | ±20% | | | | | C3225X7R1C156M250AB |
| | 4532 | 2.50±0.30 | ±20% | | | | C4532X7R1E156M250KC | |
| | | 2.80±0.30 | ±20% | | | | C4532X7R1E156M280KB | |
| | 5750 | 2.30±0.20 | ±20% | | | | C5750X7R1E156M230KA | |
| 22 µF | 3225 | 2.50±0.30 | ±10% | | | | | C3225X7R1C226K250AC |
| | | | ±20% | | | | C3225X7R1E226M250AB | C3225X7R1C226M250AC |
| | 4532 | 2.00±0.20 | ±20% | | | | | C4532X7R1C226M200KC |
| | | 2.30±0.20 | ±20% | | | | | C4532X7R1C226M230KB |
| | | 2.50±0.30 | ±20% | | | | C4532X7R1E226M250KC | |
| | 5750 | 2.50±0.30 | ±20% | | C5750X7R1H226M250KB | | C5750X7R1E226M250KA | |
| | | 2.80±0.30 | ±20% | | | | | C5750X7R1C226M280KA |
| 33 µF | 4532 | 2.50±0.30 | ±20% | | | | | C4532X7R1C336M250KC |
| | 5750 | 2.00±0.20 | ±20% | | | | | C5750X7R1C336M200KB |
| 47 µF | 5750 | 2.30±0.20 | ±20% | | | C5750X7R1V476M230KC | C5750X7R1E476M230KB | C5750X7R1C476M230KB |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table

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

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | |
|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 10V | Rated voltage Edc: 6.3V | Rated voltage Edc: 4V |
| 100 pF | 0402 | 0.20±0.02 | ±10% | C0402X7R1A101K020BC | C0402X7R0J101K020BC | C0402X7R0G101K020BC |
| | | | ±20% | C0402X7R1A101M020BC | C0402X7R0J101M020BC | C0402X7R0G101M020BC |
| 150 pF | 0402 | 0.20±0.02 | ±10% | C0402X7R1A151K020BC | C0402X7R0J151K020BC | C0402X7R0G151K020BC |
| | | | ±20% | C0402X7R1A151M020BC | C0402X7R0J151M020BC | C0402X7R0G151M020BC |
| 220 pF | 0402 | 0.20±0.02 | ±10% | C0402X7R1A221K020BC | C0402X7R0J221K020BC | C0402X7R0G221K020BC |
| | | | ±20% | C0402X7R1A221M020BC | C0402X7R0J221M020BC | C0402X7R0G221M020BC |
| 330 pF | 0402 | 0.20±0.02 | ±10% | C0402X7R1A331K020BC | C0402X7R0J331K020BC | C0402X7R0G331K020BC |
| | | | ±20% | C0402X7R1A331M020BC | C0402X7R0J331M020BC | C0402X7R0G331M020BC |
| 470 pF | 0402 | 0.20±0.02 | ±10% | C0402X7R1A471K020BC | C0402X7R0J471K020BC | C0402X7R0G471K020BC |
| | | | ±20% | C0402X7R1A471M020BC | C0402X7R0J471M020BC | C0402X7R0G471M020BC |
| 680 pF | 0402 | 0.20±0.02 | ±10% | C0402X7R1A681K020BC | C0402X7R0J681K020BC | C0402X7R0G681K020BC |
| | | | ±20% | C0402X7R1A681M020BC | C0402X7R0J681M020BC | C0402X7R0G681M020BC |
| 1 nF | 0402 | 0.20±0.02 | ±10% | C0402X7R1A102K020BC | | |
| | | | ±20% | C0402X7R1A102M020BC | | |
| 1.5 nF | 0402 | 0.20±0.02 | ±10% | C0402X7R1A152K020BC | | |
| | | | ±20% | C0402X7R1A152M020BC | | |
| 2.2 nF | 0603 | 0.30±0.03 | ±10% | C0603X7R1A222K030BA | C0603X7R0J222K030BA | |
| | | | ±20% | C0603X7R1A222M030BA | C0603X7R0J222M030BA | |
| 4.7 nF | 0603 | 0.30±0.03 | ±10% | C0603X7R1A472K030BA | C0603X7R0J472K030BA | |
| | | | ±20% | C0603X7R1A472M030BA | C0603X7R0J472M030BA | |
| 10 nF | 0603 | 0.30±0.03 | ±10% | C0603X7R1A103K030BA | C0603X7R0J103K030BA | |
| | | | ±20% | C0603X7R1A103M030BA | C0603X7R0J103M030BC | |
| 100 nF | 1005 | 0.50±0.05 | ±10% | C1005X7R1A104K050BB | | |
| 150 nF | 1005 | 0.50±0.05 | ±10% | C1005X7R1A154K050BB | | |
| | | | ±20% | C1005X7R1A154M050BB | | |
| 220 nF | 1005 | 0.50±0.05 | ±10% | C1005X7R1A224K050BB | | |
| | | | ±20% | C1005X7R1A224M050BB | | |
| 680 nF | 1608 | 0.80+0.15,-0.10 | ±10% | C1608X7R1A684K080AC | | |
| | | | ±20% | C1608X7R1A684M080AC | | |
| 1 µF | 1608 | 0.80+0.15,-0.10 | ±10% | C1608X7R1A105K080AC | | |
| | | | ±20% | C1608X7R1A105M080AC | | |
| 1.5 µF | 1608 | 0.80±0.10 | ±10% | C1608X7R1A155K080AC | C1608X7R0J155K080AB | |
| | | | ±20% | C1608X7R1A155M080AC | C1608X7R0J155M080AB | |
| 2.2 µF | 1608 | 0.80±0.10 | ±10% | C1608X7R1A225K080AC | C1608X7R0J225K080AB | |
| | | | ±20% | C1608X7R1A225M080AC | C1608X7R0J225M080AB | |
| 3.3 µF | 2012 | 1.25±0.20 | ±10% | C2012X7R1A335K125AC | | |
| | | | ±20% | C2012X7R1A335M125AC | | |
| 4.7 µF | 2012 | 0.85±0.15 | ±10% | C2012X7R1A475K085AC | C2012X7R0J475K085AB | |
| | | | ±20% | C2012X7R1A475M085AC | C2012X7R0J475M085AB | |
| | | 1.25±0.20 | ±10% | C2012X7R1A475K125AC | | |
| | | | ±20% | C2012X7R1A475M125AC | | |
| 6.8 µF | 2012 | 1.25±0.20 | ±10% | C2012X7R1A685K125AC | C2012X7R0J685K125AB | |
| | | | ±20% | C2012X7R1A685M125AC | C2012X7R0J685M125AB | |
| 10 µF | 1608 | 0.80+0.30,-0.10 | ±20% | C1608X7R1A106M080AT | | |
| | 2012 | 1.25±0.20 | ±10% | C2012X7R1A106K125AC | C2012X7R0J106K125AB | |
| | | | ±20% | C2012X7R1A106M125AC | C2012X7R0J106M125AB | |
| | 3216 | 0.85±0.15 | ±10% | C3216X7R1A106K085AC | C3216X7R0J106K085AB | |
| | | | ±20% | C3216X7R1A106M085AC | C3216X7R0J106M085AB | |
| | | 1.60±0.20 | ±10% | C3216X7R1A106K160AC | | |
| | | | ±20% | C3216X7R1A106M160AC | | |
| 22 µF | 3225 | 2.30±0.20 | ±10% | C3225X7R1A226K230AC | | |
| | | | ±20% | C3225X7R1A226M230AC | | |

C1608X7R1A106M080AT is a product with special temperature characteristics and satisfies the capacitance change rate when 50% of the rated voltage is applied.

■Gray items: These products are not recommended for new designs.

Click the part numbers for details.

## Capacitance range table　　Temperature characteristic: X7S （–55 to +125°C,±22%）

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | |
|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 50V | Rated voltage Edc: 25V | Rated voltage Edc: 16V |
| 330 nF | 1005 | 0.50±0.05 | ±10% | | | C1005X7S1C334K050BC |
| | | | ±20% | | | C1005X7S1C334M050BC |
| 470 nF | 1005 | 0.50±0.05 | ±10% | | | C1005X7S1C474K050BC |
| | | | ±20% | | | C1005X7S1C474M050BC |
| 1.5 µF | 1608 | 0.80±0.10 | ±10% | | | C1608X7S1C155K080AC |
| | | | ±20% | | | C1608X7S1C155M080AC |
| 2.2 µF | 1608 | 0.80±0.10 | ±10% | | | C1608X7S1C225K080AC |
| | | | ±20% | | | C1608X7S1C225M080AC |
| 6.8 µF | 2012 | 1.25±0.20 | ±10% | | | C2012X7S1C685K125AC |
| | | | ±20% | | | C2012X7S1C685M125AC |
| | 3225 | 2.50±0.30 | ±10% | C3225X7S1H685K250AB | | |
| | | | ±20% | C3225X7S1H685M250AB | | |
| 10 µF | 2012 | 1.25±0.20 | ±10% | | C2012X7S1E106K125AC | C2012X7S1C106K125AC |
| | | | ±20% | | | C2012X7S1C106M125AC |
| | 3225 | 2.50±0.30 | ±10% | C3225X7S1H106K250AB | | |
| | | | ±20% | C3225X7S1H106M250AB | | |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table — Temperature characteristic: X7S （-55 to +125°C,±22%）

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | |
|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 10V | Rated voltage Edc: 6.3V | Rated voltage Edc: 4V |
| 22 nF | 0603 | 0.30±0.03 | ±10% | C0603X7S1A223K030BC | C0603X7S0J223K030BB | |
| | | | ±20% | C0603X7S1A223M030BC | C0603X7S0J223M030BB | |
| 47 nF | 0603 | 0.30±0.03 | ±10% | C0603X7S1A473K030BC | C0603X7S0J473K030BB | |
| | | | ±20% | C0603X7S1A473M030BC | C0603X7S0J473M030BB | |
| 100 nF | 0603 | 0.30±0.03 | ±10% | C0603X7S1A104K030BC | | C0603X7S0G104K030BC |
| | | | ±20% | C0603X7S1A104M030BC | | C0603X7S0G104M030BC |
| 150 nF | 0603 | 0.30±0.05 | ±10% | | C0603X7S0J154K030BC | |
| | | | ±20% | | C0603X7S0J154M030BC | |
| 220 nF | 0603 | 0.30±0.03 | ±10% | | | C0603X7S0G224K030BC |
| | | | ±20% | | | C0603X7S0G224M030BC |
| | | 0.30±0.05 | ±10% | | C0603X7S0J224K030BC | |
| | | | ±20% | | C0603X7S0J224M030BC | |
| 330 nF | 1005 | 0.50±0.05 | ±10% | C1005X7S1A334K050BC | C1005X7S0J334K050BC | |
| | | | ±20% | C1005X7S1A334M050BC | C1005X7S0J334M050BC | |
| 470 nF | 1005 | 0.50±0.05 | ±10% | C1005X7S1A474K050BC | C1005X7S0J474K050BB | |
| | | | ±20% | C1005X7S1A474M050BC | C1005X7S0J474M050BB | |
| 680 nF | 1005 | 0.50±0.05 | ±10% | C1005X7S1A684K050BC | C1005X7S0J684K050BC | C1005X7S0G684K050BC |
| | | | ±20% | C1005X7S1A684M050BC | C1005X7S0J684M050BC | C1005X7S0G684M050BC |
| 1 µF | 1005 | 0.50±0.05 | ±10% | C1005X7S1A105K050BC | C1005X7S0J105K050BC | C1005X7S0G105K050BC |
| | | | ±20% | C1005X7S1A105M050BC | C1005X7S0J105M050BC | C1005X7S0G105M050BC |
| 1.5 µF | 1005 | 0.50±0.05 | ±10% | | | C1005X7S0G155K050BC |
| | | | ±20% | | | C1005X7S0G155M050BC |
| | | 0.50±0.10 | ±10% | | C1005X7S0J155K050BC | |
| | | | ±20% | | C1005X7S0J155M050BC | |
| | | 0.50+0.15,-0.10 | ±10% | C1005X7S1A155K050BC | | |
| | | | ±20% | C1005X7S1A155M050BC | | |
| 2.2 µF | 1005 | 0.50±0.05 | ±10% | | | C1005X7S0G225K050BC |
| | | | ±20% | | | C1005X7S0G225M050BC |
| | | 0.50±0.10 | ±10% | | C1005X7S0J225K050BC | |
| | | | ±20% | | C1005X7S0J225M050BC | |
| | | 0.50+0.15,-0.10 | ±10% | C1005X7S1A225K050BC | | |
| | | | ±20% | C1005X7S1A225M050BC | | |
| | 1608 | 0.80±0.10 | ±10% | C1608X7S1A225K080AC | C1608X7S0J225K080AB | |
| | | | ±20% | C1608X7S1A225M080AC | C1608X7S0J225M080AB | |
| 3.3 µF | 1608 | 0.80±0.10 | ±10% | | C1608X7S0J335K080AC | C1608X7S0G335K080AC |
| | | | ±20% | | C1608X7S0J335M080AC | C1608X7S0G335M080AC |
| | | 0.80±0.20 | ±10% | C1608X7S1A335K080AC | | |
| | | | ±20% | C1608X7S1A335M080AC | | |
| 4.7 µF | 1608 | 0.80±0.10 | ±10% | | C1608X7S0J475K080AC | C1608X7S0G475K080AC |
| | | | ±20% | | C1608X7S0J475M080AC | C1608X7S0G475M080AC |
| | | 0.80±0.20 | ±10% | C1608X7S1A475K080AC | | |
| | | | ±20% | C1608X7S1A475M080AC | | |
| 6.8 µF | 1608 | 0.80±0.20 | ±10% | | C1608X7S0J685K080AC | C1608X7S0G685K080AB |
| | | | ±20% | | C1608X7S0J685M080AC | C1608X7S0G685M080AB |
| 10 µF | 1608 | 0.80±0.20 | ±20% | | C1608X7S0J106M080AC | C1608X7S0G106M080AB |
| | 2012 | 0.85±0.15 | ±10% | | C2012X7S0J106K085AC | C2012X7S0G106K085AC |
| | | | ±20% | | C2012X7S0J106M085AC | C2012X7S0G106M085AC |
| 15 µF | 2012 | 1.25±0.20 | ±20% | C2012X7S1A156M125AC | C2012X7S0J156M125AC | C2012X7S0G156M125AC |
| | 3216 | 1.60±0.20 | ±20% | C3216X7S1A156M160AC | C3216X7S0J156M160AB | |
| 22 µF | 2012 | 1.25±0.20 | ±20% | C2012X7S1A226M125AC | C2012X7S0J226M125AC | C2012X7S0G226M125AC |
| | 3216 | 1.60±0.20 | ±20% | C3216X7S1A226M160AC | C3216X7S0J226M160AB | |
| 33 µF | 3216 | 1.60±0.20 | ±20% | | C3216X7S0J336M160AC | C3216X7S0G336M160AB |
| 47 µF | 3216 | 1.60±0.20 | ±20% | | C3216X7S0J476M160AC | C3216X7S0G476M160AB |
| | 3225 | 2.50±0.30 | ±20% | C3225X7S1A476M250AC | C3225X7S0J476M250AC | |

■Gray items: These products are not recommended for new designs.
Click the part numbers for details.

## Capacitance range table — Temperature characteristic: X7T （-55 to +125°C,+22,-33%）

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | |
|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 10V | Rated voltage Edc: 6.3V |
| 10µF | 1608 | 0.80+0.30,-0.10 | ±20% | C1608X7T1A106M080AC | |
| 100µF | 3225 | 2.50+0.40,-0.30 | ±20% | C3225X7T1A107M250AC | C3225X7T0J107M250AB |

Click the part numbers for details.

## Looking for pricing, stock, or lifecycle information?

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