March 2021

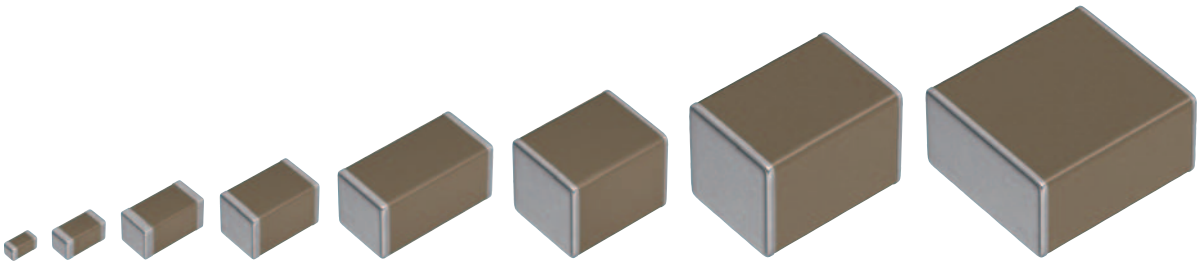
# MULTILAYER CERAMIC CHIP CAPACITORS

## Automotive grade, general (Up to 75V)

# CGA series

| | |
|---|---|
| **CGA1** | **0603 [0201 inch]** |
| **CGA2** | **1005 [0402 inch]** |
| **CGA3** | **1608 [0603 inch]** |
| **CGA4** | **2012 [0805 inch]** |
| **CGA5** | **3216 [1206 inch]** |
| **CGA6** | **3225 [1210 inch]** |
| **CGA8** | **4532 [1812 inch]** |
| **CGA9** | **5750 [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 in this specification are intended for use in automotive applications under normal operation and usage conditions.
   The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality requires a more stringent level of safety or reliability, or whose failure, malfunction or defect could cause serious damage to society, person or property.
   Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below or for any other use exceeding the range or conditions set forth in this specification sheet. 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 this specification, please contact us.

   (1) Aerospace/aviation equipment
   (2) Transportation equipment (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.

   In addition, although the products listed in this specification are intended for use in automotive applications as described above, they are not prohibited to use in general electronic equipment, whose performance and/or quality doesn't require a more stringent level of safety or reliability, or whose failure, malfunction or defect could not cause serious damage to society, person or property. Therefore, the description of this caution will be applied, when the products are used in general electronic equipment under a normal operation and usage conditions.
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 |

# CGA series

## General (Up to 75V)

RoHS REACH SVHC-Free Halogen Free Lead Free

Type: CGA1/0603 [0201 inch], CGA2/1005 [0402 inch], CGA3/1608 [0603 inch], CGA4/2012 [0805 inch], CGA5/3216 [1206 inch], CGA6/3225 [1210 inch], CGA8/4532 [1812 inch], CGA9/5750 [2220 inch]

### SERIES OVERVIEW

General type CGA series, automotive grade of TDK's multilayer ceramic chip capacitor, 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.

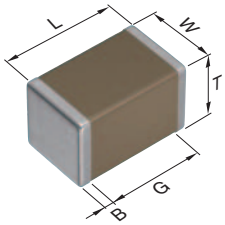
### FEATURES

- 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
- AEC-Q200 compliant

### APPLICATIONS

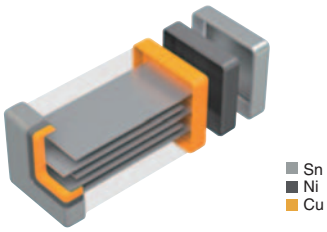
- Smoothing and decoupling use in power lines for automotive applications such as ADAS, autonomous driving system ECU
- LC resonance circuit (C0G type)
- Applications requiring high reliability

### SHAPE & DIMENSIONS




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

### 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.

Dimensions in mm

| Type | L | W | T | B | G |
|---|---|---|---|---|---|
| **CGA1** | 0.60±0.03 | 0.30±0.03 | 0.30±0.03 | 0.10 min. | 0.20 min. |
| **CGA2** | 1.00±0.05 | 0.50±0.05 | 0.50±0.05 | 0.10 min. | 0.30 min. |
| **CGA3** | 1.60±0.10 | 0.80±0.10 | 0.80±0.10 | 0.20 min. | 0.30 min. |
| **CGA4** | 2.00±0.20 | 1.25±0.20 | 1.25±0.20 | 0.20 min. | 0.50 min. |
| **CGA5** | 3.20±0.20 | 1.60±0.20 | 1.60±0.20 | 0.20 min. | 1.00 min. |
| **CGA6** | 3.20±0.40 | 2.50±0.30 | 2.50±0.30 | 0.20 min. | — |
| **CGA8** | 4.50±0.40 | 3.20±0.40 | 2.50±0.30 | 0.20 min. | — |
| **CGA9** | 5.70±0.40 | 5.00±0.40 | 2.50±0.30 | 0.20 min. | — |

∗Dimensional tolerances are typical values.

⚠ Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use.
Please note that the contents may change without any prior notice due to reasons such as upgrading.

## CATALOG NUMBER CONSTRUCTION

| CGA | 6 | P | 1 | X7T | 0G | 107 | M | 250 | A | C |
|---|---|---|---|---|---|---|---|---|---|---|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) |

(1) Series

(2) Dimensions L x W (mm)

| Code | EIA | Length | Width | Terminal width |
|---|---|---|---|---|
| 1 | CC0201 | 0.60 | 0.30 | 0.10 |
| 2 | CC0402 | 1.00 | 0.50 | 0.10 |
| 3 | CC0603 | 1.60 | 0.80 | 0.20 |
| 4 | CC0805 | 2.00 | 1.25 | 0.20 |
| 5 | CC1206 | 3.20 | 1.60 | 0.20 |
| 6 | CC1210 | 3.20 | 2.50 | 0.20 |
| 8 | CC1812 | 4.50 | 3.20 | 0.20 |
| 9 | CC2220 | 5.70 | 5.00 | 0.20 |

(3) Thickness code

| Code | Thickness |
|---|---|
| A | 0.30 mm |
| B | 0.50 mm |
| C | 0.60 mm |
| E | 0.80 mm |
| F | 0.85 mm |
| H | 1.15 mm |
| J | 1.25 mm |
| L | 1.60 mm |
| M | 2.00 mm |
| N | 2.30 mm |
| P | 2.50 mm |
| Q | 2.80 mm |
| R | 3.20 mm |

(4) Voltage condition for life test

| Symbol | Condition |
|---|---|
| 1 | 1 × R.V. |
| 2 | 2 × R.V. |
| 3 | 1.5 × R.V. |

(5) 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 |
| X7R | ±15% | –55 to +125°C |
| X7S | ±22% | –55 to +125°C |
| X7T | +22,-33% | –55 to +125℃ |

(6) Rated voltage (DC)

| Code | Voltage (DC) |
|---|---|
| 0E | 2.5V |
| 0G | 4V |
| 0J | 6.3V |
| 1A | 10V |
| 1C | 16V |
| 1E | 25V |
| 1V | 35V |
| 1H | 50V |
| 1N | 75V |

(7) 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

(8) Capacitance tolerance

| Code | Tolerance |
|---|---|
| C | ±0.25pF |
| D | ±0.50pF |
| J | ±5% |
| K | ±10% |
| M | ±20% |

(9) Thickness

| Code | Thickness |
|---|---|
| 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 |

(10) Packaging style

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

(11) Special reserved code

| Code | Description |
|---|---|
| A,B,C | TDK internal code |

⚠ Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use.
Please note that the contents may change without any prior notice due to reasons such as upgrading.

## Capacitance range chart

## CGA1/0603 [0201 inch]

| Capacitance | | C0G | | X7R | | | | | X7T |
|---|---|---|---|---|---|---|---|---|---|
| (pF) | Code | 1H (50V) | 1E (25V) | 1H (50V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 0G (4V) |
| 1 | 010 | ■ | ■ | | | | | | |
| 1.5 | 1R5 | ■ | ■ | | | | | | |
| 2 | 020 | ■ | ■ | | | | | | |
| 2.2 | 2R2 | ■ | ■ | | | | | | |
| 3 | 030 | ■ | ■ | | | | | | |
| 3.3 | 3R3 | ■ | ■ | | | | | | |
| 4 | 040 | ■ | ■ | | | | | | |
| 4.7 | 4R7 | ■ | ■ | | | | | | |
| 5 | 050 | ■ | ■ | | | | | | |
| 6 | 060 | ■ | ■ | | | | | | |
| 6.8 | 6R8 | ■ | ■ | | | | | | |
| 7 | 070 | ■ | ■ | | | | | | |
| 8 | 080 | ■ | ■ | | | | | | |
| 9 | 090 | ■ | ■ | | | | | | |
| 10 | 100 | ■ | ■ | | | | | | |
| 12 | 120 | ■ | ■ | | | | | | |
| 15 | 150 | ■ | ■ | | | | | | |
| 18 | 180 | ■ | ■ | | | | | | |
| 22 | 220 | ■ | ■ | | | | | | |
| 27 | 270 | ■ | ■ | | | | | | |
| 33 | 330 | ■ | ■ | | | | | | |
| 39 | 390 | ■ | ■ | | | | | | |
| 47 | 470 | ■ | ■ | | | | | | |
| 56 | 560 | ■ | ■ | | | | | | |
| 68 | 680 | ■ | ■ | | | | | | |
| 82 | 820 | ■ | ■ | | | | | | |
| 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 | | | | | | ■ | ■ | |
| 100,000 | 104 | | | | | | | | ■ |

Standard thickness ■ 0.30mm

■ For details such as the catalog numbers, please refer to the capacitance range table on page 12 and after.

⚠ Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use.
Please note that the contents may change without any prior notice due to reasons such as upgrading.

## Capacitance range chart

## CGA2/1005 [0402 inch]

| Capacitance | | C0G | X5R | | | | | X7R | | | | | | X7S | | X7T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (pF) | Code | 1H (50V) | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 1C (16V) | 1A (10V) | 0G (4V) |
| 1 | 010 | | | | | | | | | | | | | | | |
| 1.5 | 1R5 | | | | | | | | | | | | | | | |
| 2 | 020 | | | | | | | | | | | | | | | |
| 2.2 | 2R2 | | | | | | | | | | | | | | | |
| 3 | 030 | | | | | | | | | | | | | | | |
| 3.3 | 3R3 | | | | | | | | | | | | | | | |
| 4 | 040 | | | | | | | | | | | | | | | |
| 4.7 | 4R7 | | | | | | | | | | | | | | | |
| 5 | 050 | | | | | | | | | | | | | | | |
| 6 | 060 | | | | | | | | | | | | | | | |
| 6.8 | 6R8 | | | | | | | | | | | | | | | |
| 7 | 070 | | | | | | | | | | | | | | | |
| 8 | 080 | | | | | | | | | | | | | | | |
| 9 | 090 | | | | | | | | | | | | | | | |
| 10 | 100 | | | | | | | | | | | | | | | |
| 12 | 120 | | | | | | | | | | | | | | | |
| 15 | 150 | | | | | | | | | | | | | | | |
| 18 | 180 | | | | | | | | | | | | | | | |
| 22 | 220 | | | | | | | | | | | | | | | |
| 27 | 270 | | | | | | | | | | | | | | | |
| 33 | 330 | | | | | | | | | | | | | | | |
| 39 | 390 | | | | | | | | | | | | | | | |
| 47 | 470 | | | | | | | | | | | | | | | |
| 56 | 560 | | | | | | | | | | | | | | | |
| 68 | 680 | | | | | | | | | | | | | | | |
| 82 | 820 | | | | | | | | | | | | | | | |
| 100 | 101 | | | | | | | | | | | | | | | |
| 120 | 121 | | | | | | | | | | | | | | | |
| 150 | 151 | | | | | | | | | | | | | | | |
| 180 | 181 | | | | | | | | | | | | | | | |
| 220 | 221 | | | | | | | | | | | | | | | |
| 270 | 271 | | | | | | | | | | | | | | | |
| 330 | 331 | | | | | | | | | | | | | | | |
| 390 | 391 | | | | | | | | | | | | | | | |
| 470 | 471 | | | | | | | | | | | | | | | |
| 560 | 561 | | | | | | | | | | | | | | | |
| 680 | 681 | | | | | | | | | | | | | | | |
| 820 | 821 | | | | | | | | | | | | | | | |
| 1,000 | 102 | | | | | | | | | | | | | | | |
| 1,500 | 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 | | | | | | | | | | | | | | | |
| 1,000,000 | 105 | | | | | | | | | | | | | | | |

Standard thickness 0.50mm

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

■ For details such as the catalog numbers, please refer to the capacitance range table on page 12 and after.

⚠ Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use.
Please note that the contents may change without any prior notice due to reasons such as upgrading.

## Capacitance range chart

## CGA3/1608 [0603 inch]

| Capacitance | | C0G | X5R | X7R |
|---|---|---|---|---|
| (pF) | Code | 1H (50V) | 1H (50V) | 1H (50V) |
| 1 | 010 | | | |
| 1.5 | 1R5 | | | |
| 2 | 020 | | | |
| 2.2 | 2R2 | | | |
| 3 | 030 | | | |
| 3.3 | 3R3 | | | |
| 4 | 040 | | | |
| 4.7 | 4R7 | | | |
| 5 | 050 | | | |
| 6 | 060 | | | |
| 6.8 | 6R8 | | | |
| 7 | 070 | | | |
| 8 | 080 | | | |
| 9 | 090 | | | |
| 10 | 100 | | | |
| 12 | 120 | | | |
| 15 | 150 | | | |
| 18 | 180 | | | |
| 22 | 220 | | | |
| 27 | 270 | | | |
| 33 | 330 | | | |
| 39 | 390 | | | |
| 47 | 470 | | | |
| 56 | 560 | | | |
| 68 | 680 | | | |
| 82 | 820 | | | |
| 100 | 101 | | | |
| 120 | 121 | | | |
| 150 | 151 | | | |
| 180 | 181 | | | |
| 220 | 221 | | | |
| 270 | 271 | | | |
| 330 | 331 | | | |
| 390 | 391 | | | |
| 470 | 471 | | | |
| 560 | 561 | | | |
| 680 | 681 | | | |
| 820 | 821 | | | |
| 1,000 | 102 | | | |
| 1,200 | 122 | | | |
| 1,500 | 152 | | | |
| 1,800 | 182 | | | |
| 2,200 | 222 | | | |
| 2,700 | 272 | | | |
| 3,300 | 332 | | | |
| 3,900 | 392 | | | |
| 4,700 | 472 | | | |
| 5,600 | 562 | | | |
| 6,800 | 682 | | | |
| 8,200 | 822 | | | |
| 10,000 | 103 | | | |
| 15,000 | 153 | | | |
| 22,000 | 223 | | | |
| 33,000 | 333 | | | |
| 47,000 | 473 | | | |
| 68,000 | 683 | | | |

Standard thickness 0.80mm

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

■ For details such as the catalog numbers, please refer to the capacitance range table on page 12 and after.

⚠ Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use.
Please note that the contents may change without any prior notice due to reasons such as upgrading.

## Capacitance range chart

## CGA3/1608 [0603 inch]

| Capacitance | | X5R | | | | | | X7R | | | | | X7S | | | X7T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (pF) | Code | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 0J (6.3V) | 1C (16V) | 1A (10V) | 0G (4V) | 0G (4V) |
| **100,000** | **104** | | | | | | | | | | | | | | | |
| **150,000** | **154** | | | | | | | | | | | | | | | |
| **220,000** | **224** | | | | | | | | | | | | | | | |
| **330,000** | **334** | | | | | | | | | | | | | | | |
| **470,000** | **474** | | | | | | | | | | | | | | | |
| **680,000** | **684** | | | | | | | | | | | | | | | |
| **1,000,000** | **105** | | | | | | | | | | | | | | | |
| **1,500,000** | **155** | | | | | | | | | | | | | | | |
| **2,200,000** | **225** | | | | | | | | | | | | | | | |
| **3,300,000** | **335** | | | | | | | | | | | | | | | |
| **4,700,000** | **475** | | | | | | | | | | | | | | | |
| **10,000,000** | **106** | | | | | | | | | | | | | | | |

Standard thickness 0.80mm

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

■ For details such as the catalog numbers, please refer to the capacitance range table on page 12 and after.

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Please note that the contents may change without any prior notice due to reasons such as upgrading.

## Capacitance range chart

## CGA4/2012 [0805 inch]

| Capacitance | | C0G | X5R | | | | | X7R | | | | | | X7S | | | X7T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (pF) | Code | 1H (50V) | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) |
| 1,000 | 102 | | | | | | | | | | | | | | | | |
| 1,200 | 122 | | | | | | | | | | | | | | | | |
| 1,500 | 152 | | | | | | | | | | | | | | | | |
| 1,800 | 182 | | | | | | | | | | | | | | | | |
| 2,200 | 222 | | | | | | | | | | | | | | | | |
| 2,700 | 272 | | | | | | | | | | | | | | | | |
| 3,300 | 332 | | | | | | | | | | | | | | | | |
| 3,900 | 392 | | | | | | | | | | | | | | | | |
| 4,700 | 472 | | | | | | | | | | | | | | | | |
| 5,600 | 562 | | | | | | | | | | | | | | | | |
| 6,800 | 682 | | | | | | | | | | | | | | | | |
| 8,200 | 822 | | | | | | | | | | | | | | | | |
| 10,000 | 103 | | | | | | | | | | | | | | | | |
| 15,000 | 153 | | | | | | | | | | | | | | | | |
| 22,000 | 223 | | | | | | | | | | | | | | | | |
| 33,000 | 333 | | | | | | | | | | | | | | | | |
| 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 0.60 mm 0.85 mm 1.25 mm

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

■ For details such as the catalog numbers, please refer to the capacitance range table on page 12 and after.

⚠ Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use.
Please note that the contents may change without any prior notice due to reasons such as upgrading.

## Capacitance range chart

## CGA5/3216 [1206 inch]

| Capacitance | | C0G | X5R | | | | X7R | | | | | X7S | X7T |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| (pF) | Code | 1H (50V) | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 1H (50V) | 1V (35V) | 1E (25V) | 1C (16V) | 0J (6.3V) | 1A (10V) | 0G (4V) |
| 4,700 | 472 | | | | | | | | | | | | |
| 5,600 | 562 | | | | | | | | | | | | |
| 6,800 | 682 | | | | | | | | | | | | |
| 8,200 | 822 | | | | | | | | | | | | |
| 10,000 | 103 | | | | | | | | | | | | |
| 15,000 | 153 | | | | | | | | | | | | |
| 22,000 | 223 | | | | | | | | | | | | |
| 33,000 | 333 | | | | | | | | | | | | |
| 47,000 | 473 | | | | | | | | | | | | |
| 68,000 | 683 | | | | | | | | | | | | |
| 100,000 | 104 | | | | | | | | | | | | |
| 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 | | | | | | | | | | | | |
| 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.

■ For details such as the catalog numbers, please refer to the capacitance range table on page 12 and after.

## Capacitance range chart

## CGA6/3225 [1210 inch]

| Capacitance | | C0G | X7R | | | | X7S | | | X7T | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| (pF) | Code | 1H (50V) | 1N (75V) | 1H (50V) | 1E (25V) | 1C (16V) | 1H (50V) | 1A (10V) | 0J (6.3V) | 0G (4V) | 0E (2.5V) |
| 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 | | | | | | | | | | |
| 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.

■ For details such as the catalog numbers, please refer to the capacitance range table on page 12 and after.

⚠ Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use.
Please note that the contents may change without any prior notice due to reasons such as upgrading.

## Capacitance range chart

## CGA8/4532 [1812 inch]

| Capacitance | | C0G | X7R | | |
|---|---|---|---|---|---|
| (pF) | Code | 1H (50V) | 1H (50V) | 1E (25V) | 1C (16V) |
| 47,000 | 473 | | | | |
| 68,000 | 683 | | | | |
| 100,000 | 104 | | | | |
| 150,000 | 154 | | | | |
| 220,000 | 224 | | | | |
| 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 | | | | |

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.

■ For details such as the catalog numbers, please refer to the capacitance range table on page 12 and after.

## Capacitance range chart

## CGA9/5750 [2220 inch]

| Capacitance | | X7R | | |
|---|---|---|---|---|
| (pF) | Code | 1H (50V) | 1E (25V) | 1C (16V) |
| 4,700,000 | 475 | | | |
| 6,800,000 | 685 | | | |
| 10,000,000 | 106 | | | |
| 15,000,000 | 156 | | | |
| 22,000,000 | 226 | | | |
| 47,000,000 | 476 | | | |

Standard thickness 2.00 mm 2.30 mm 2.50 mm

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

■ For details such as the catalog numbers, please refer to the capacitance range table on page 12 and after.

⚠ Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use.
Please note that the contents may change without any prior notice due to reasons such as upgrading.

## Capacitance range table — Temperature characteristic: C0G (–55 to +125°C, 0±30ppm/°C)

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | |
|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 50V | Rated voltage Edc: 25V |
| 1pF | 0603 | 0.30±0.03 | ±0.25pF | CGA1A2C0G1H010C030BA | CGA1A2C0G1E010C030BA |
| | 1005 | 0.50±0.05 | ±0.25pF | CGA2B2C0G1H010C050BA | |
| | 1608 | 0.80±0.10 | ±0.25pF | CGA3E2C0G1H010C080AA | |
| 1.5pF | 0603 | 0.30±0.03 | ±0.25pF | CGA1A2C0G1H1R5C030BA | CGA1A2C0G1E1R5C030BA |
| | 1005 | 0.50±0.05 | ±0.25pF | CGA2B2C0G1H1R5C050BA | |
| | 1608 | 0.80±0.10 | ±0.25pF | CGA3E2C0G1H1R5C080AA | |
| 2pF | 0603 | 0.30±0.03 | ±0.25pF | CGA1A2C0G1H020C030BA | CGA1A2C0G1E020C030BA |
| | 1005 | 0.50±0.05 | ±0.25pF | CGA2B2C0G1H020C050BA | |
| | 1608 | 0.80±0.10 | ±0.25pF | CGA3E2C0G1H020C080AA | |
| 2.2pF | 0603 | 0.30±0.03 | ±0.25pF | CGA1A2C0G1H2R2C030BA | CGA1A2C0G1E2R2C030BA |
| | 1005 | 0.50±0.05 | ±0.25pF | CGA2B2C0G1H2R2C050BA | |
| | 1608 | 0.80±0.10 | ±0.25pF | CGA3E2C0G1H2R2C080AA | |
| 3pF | 0603 | 0.30±0.03 | ±0.25pF | CGA1A2C0G1H030C030BA | CGA1A2C0G1E030C030BA |
| | 1005 | 0.50±0.05 | ±0.25pF | CGA2B2C0G1H030C050BA | |
| | 1608 | 0.80±0.10 | ±0.25pF | CGA3E2C0G1H030C080AA | |
| 3.3pF | 0603 | 0.30±0.03 | ±0.25pF | CGA1A2C0G1H3R3C030BA | CGA1A2C0G1E3R3C030BA |
| | 1005 | 0.50±0.05 | ±0.25pF | CGA2B2C0G1H3R3C050BA | |
| | 1608 | 0.80±0.10 | ±0.25pF | CGA3E2C0G1H3R3C080AA | |
| 4pF | 0603 | 0.30±0.03 | ±0.25pF | CGA1A2C0G1H040C030BA | CGA1A2C0G1E040C030BA |
| | 1005 | 0.50±0.05 | ±0.25pF | CGA2B2C0G1H040C050BA | |
| | 1608 | 0.80±0.10 | ±0.25pF | CGA3E2C0G1H040C080AA | |
| 4.7pF | 0603 | 0.30±0.03 | ±0.25pF | CGA1A2C0G1H4R7C030BA | CGA1A2C0G1E4R7C030BA |
| | 1005 | 0.50±0.05 | ±0.25pF | CGA2B2C0G1H4R7C050BA | |
| | 1608 | 0.80±0.10 | ±0.25pF | CGA3E2C0G1H4R7C080AA | |
| 5pF | 0603 | 0.30±0.03 | ±0.25pF | CGA1A2C0G1H050C030BA | CGA1A2C0G1E050C030BA |
| | 1005 | 0.50±0.05 | ±0.25pF | CGA2B2C0G1H050C050BA | |
| | 1608 | 0.80±0.10 | ±0.25pF | CGA3E2C0G1H050C080AA | |
| 6pF | 0603 | 0.30±0.03 | ±0.50pF | CGA1A2C0G1H060D030BA | CGA1A2C0G1E060D030BA |
| | 1005 | 0.50±0.05 | ±0.50pF | CGA2B2C0G1H060D050BA | |
| | 1608 | 0.80±0.10 | ±0.50pF | CGA3E2C0G1H060D080AA | |
| 6.8pF | 0603 | 0.30±0.03 | ±0.50pF | CGA1A2C0G1H6R8D030BA | CGA1A2C0G1E6R8D030BA |
| | 1005 | 0.50±0.05 | ±0.50pF | CGA2B2C0G1H6R8D050BA | |
| | 1608 | 0.80±0.10 | ±0.50pF | CGA3E2C0G1H6R8D080AA | |
| 7pF | 0603 | 0.30±0.03 | ±0.50pF | CGA1A2C0G1H070D030BA | CGA1A2C0G1E070D030BA |
| | 1005 | 0.50±0.05 | ±0.50pF | CGA2B2C0G1H070D050BA | |
| | 1608 | 0.80±0.10 | ±0.50pF | CGA3E2C0G1H070D080AA | |
| 8pF | 0603 | 0.30±0.03 | ±0.50pF | CGA1A2C0G1H080D030BA | CGA1A2C0G1E080D030BA |
| | 1005 | 0.50±0.05 | ±0.50pF | CGA2B2C0G1H080D050BA | |
| | 1608 | 0.80±0.10 | ±0.50pF | CGA3E2C0G1H080D080AA | |
| 9pF | 0603 | 0.30±0.03 | ±0.50pF | CGA1A2C0G1H090D030BA | CGA1A2C0G1E090D030BA |
| | 1005 | 0.50±0.05 | ±0.50pF | CGA2B2C0G1H090D050BA | |
| | 1608 | 0.80±0.10 | ±0.50pF | CGA3E2C0G1H090D080AA | |
| 10pF | 0603 | 0.30±0.03 | ±0.50pF | CGA1A2C0G1H100D030BA | CGA1A2C0G1E100D030BA |
| | 1005 | 0.50±0.05 | ±0.50pF | CGA2B2C0G1H100D050BA | |
| | 1608 | 0.80±0.10 | ±0.50pF | CGA3E2C0G1H100D080AA | |
| 12pF | 0603 | 0.30±0.03 | ±5% | CGA1A2C0G1H120J030BA | CGA1A2C0G1E120J030BA |
| | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H120J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H120J080AA | |
| 15pF | 0603 | 0.30±0.03 | ±5% | CGA1A2C0G1H150J030BA | CGA1A2C0G1E150J030BA |
| | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H150J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H150J080AA | |
| 18pF | 0603 | 0.30±0.03 | ±5% | CGA1A2C0G1H180J030BA | CGA1A2C0G1E180J030BA |
| | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H180J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H180J080AA | |
| 22pF | 0603 | 0.30±0.03 | ±5% | CGA1A2C0G1H220J030BA | CGA1A2C0G1E220J030BA |
| | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H220J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H220J080AA | |
| 27pF | 0603 | 0.30±0.03 | ±5% | CGA1A2C0G1H270J030BA | CGA1A2C0G1E270J030BA |
| | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H270J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H270J080AA | |
| 33pF | 0603 | 0.30±0.03 | ±5% | CGA1A2C0G1H330J030BA | CGA1A2C0G1E330J030BA |
| | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H330J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H330J080AA | |
| 39pF | 0603 | 0.30±0.03 | ±5% | CGA1A2C0G1H390J030BA | CGA1A2C0G1E390J030BA |
| | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H390J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H390J080AA | |
| 47pF | 0603 | 0.30±0.03 | ±5% | CGA1A2C0G1H470J030BA | CGA1A2C0G1E470J030BA |
| | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H470J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H470J080AA | |

Click the part numbers for details.

⚠ Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use.
Please note that the contents may change without any prior notice due to reasons such as upgrading.

## Capacitance range table — Temperature characteristic: C0G (–55 to +125°C, 0±30ppm/°C)

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | |
|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 50V | Rated voltage Edc: 25V |
| 56pF | 0603 | 0.30±0.03 | ±5% | CGA1A2C0G1H560J030BA | CGA1A2C0G1E560J030BA |
| | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H560J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H560J080AA | |
| 68pF | 0603 | 0.30±0.03 | ±5% | CGA1A2C0G1H680J030BA | CGA1A2C0G1E680J030BA |
| | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H680J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H680J080AA | |
| 82pF | 0603 | 0.30±0.03 | ±5% | CGA1A2C0G1H820J030BA | CGA1A2C0G1E820J030BA |
| | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H820J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H820J080AA | |
| 100pF | 0603 | 0.30±0.03 | ±5% | CGA1A2C0G1H101J030BA | CGA1A2C0G1E101J030BA |
| | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H101J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H101J080AA | |
| 120pF | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H121J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H121J080AA | |
| 150pF | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H151J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H151J080AA | |
| 180pF | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H181J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H181J080AA | |
| 220pF | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H221J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H221J080AA | |
| 270pF | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H271J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H271J080AA | |
| 330pF | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H331J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H331J080AA | |
| 390pF | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H391J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H391J080AA | |
| 470pF | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H471J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H471J080AA | |
| 560pF | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H561J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H561J080AA | |
| 680pF | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H681J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H681J080AA | |
| 820pF | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H821J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H821J080AA | |
| 1nF | 1005 | 0.50±0.05 | ±5% | CGA2B2C0G1H102J050BA | |
| | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H102J080AA | |
| | 2012 | 0.60±0.15 | ±5% | CGA4C2C0G1H102J060AA | |
| 1.2nF | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H122J080AA | |
| | 2012 | 0.60±0.15 | ±5% | CGA4C2C0G1H122J060AA | |
| 1.5nF | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H152J080AA | |
| | 2012 | 0.60±0.15 | ±5% | CGA4C2C0G1H152J060AA | |
| 1.8nF | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H182J080AA | |
| | 2012 | 0.60±0.15 | ±5% | CGA4C2C0G1H182J060AA | |
| 2.2nF | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H222J080AA | |
| | 2012 | 0.60±0.15 | ±5% | CGA4C2C0G1H222J060AA | |
| 2.7nF | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H272J080AA | |
| | 2012 | 0.60±0.15 | ±5% | CGA4C2C0G1H272J060AA | |
| 3.3nF | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H332J080AA | |
| | 2012 | 0.60±0.15 | ±5% | CGA4C2C0G1H332J060AA | |
| 3.9nF | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H392J080AA | |
| | 2012 | 0.60±0.15 | ±5% | CGA4C2C0G1H392J060AA | |
| 4.7nF | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H472J080AA | |
| | 2012 | 0.60±0.15 | ±5% | CGA4C2C0G1H472J060AA | |
| | 3216 | 0.60±0.15 | ±5% | CGA5C2C0G1H472J060AA | |
| 5.6nF | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H562J080AA | |
| | 2012 | 0.60±0.15 | ±5% | CGA4C2C0G1H562J060AA | |
| | 3216 | 0.60±0.15 | ±5% | CGA5C2C0G1H562J060AA | |
| 6.8nF | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H682J080AA | |
| | 2012 | 0.60±0.15 | ±5% | CGA4C2C0G1H682J060AA | |
| | 3216 | 0.60±0.15 | ±5% | CGA5C2C0G1H682J060AA | |
| 8.2nF | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H822J080AA | |
| | 2012 | 0.60±0.15 | ±5% | CGA4C2C0G1H822J060AA | |
| | 3216 | 0.60±0.15 | ±5% | CGA5C2C0G1H822J060AA | |
| 10nF | 1608 | 0.80±0.10 | ±5% | CGA3E2C0G1H103J080AA | |
| | 2012 | 0.60±0.15 | ±5% | CGA4C2C0G1H103J060AA | |
| | 3216 | 0.60±0.15 | ±5% | CGA5C2C0G1H103J060AA | |
| 15nF | 2012 | 0.85±0.15 | ±5% | CGA4F2C0G1H153J085AA | |
| | 3216 | 0.60±0.15 | ±5% | CGA5C2C0G1H153J060AA | |

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

⚠ Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use.
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## Capacitance range table　　Temperature characteristic: C0G (–55 to +125°C, 0±30ppm/°C)

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number |
|---|---|---|---|---|
| | | | | Rated voltage Edc: 50V |
| 22nF | 2012 | 1.25±0.20 | ±5% | CGA4J2C0G1H223J125AA |
| | 3216 | 0.60±0.15 | ±5% | CGA5C2C0G1H223J060AA |
| | 3225 | 1.25±0.20 | ±5% | CGA6J2C0G1H223J125AA |
| 33nF | 2012 | 1.25±0.20 | ±5% | CGA4J2C0G1H333J125AA |
| | 3216 | 0.85±0.15 | ±5% | CGA5F2C0G1H333J085AA |
| | 3225 | 1.60±0.20 | ±5% | CGA6L2C0G1H333J160AA |
| 47nF | 3216 | 1.15±0.15 | ±5% | CGA5H2C0G1H473J115AA |
| | 3225 | 2.00±0.20 | ±5% | CGA6M2C0G1H473J200AA |
| | 4532 | 1.60±0.20 | ±5% | CGA8L2C0G1H473J160KA |
| 68nF | 3216 | 1.60±0.20 | ±5% | CGA5L2C0G1H683J160AA |
| | 3225 | 2.00±0.20 | ±5% | CGA6M2C0G1H683J200AA |
| | 4532 | 1.60±0.20 | ±5% | CGA8L2C0G1H683J160KA |
| 100nF | 3216 | 1.60±0.20 | ±5% | CGA5L2C0G1H104J160AA |
| | 3225 | 2.50±0.30 | ±5% | CGA6P2C0G1H104J250AA |
| | 4532 | 2.00±0.20 | ±5% | CGA8M2C0G1H104J200KA |
| 150nF | 4532 | 2.50±0.30 | ±5% | CGA8P2C0G1H154J250KA |
| 220nF | 4532 | 3.20±0.30 | ±5% | CGA8R2C0G1H224J320KA |

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

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Please note that the contents may change without any prior notice due to reasons such as upgrading.

## 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 |
| 220pF | 1005 | 0.50±0.05 | ±10% | CGA2B2X5R1H221K050BA | | |
| | | | ±20% | CGA2B2X5R1H221M050BA | | |
| 330pF | 1005 | 0.50±0.05 | ±10% | CGA2B2X5R1H331K050BA | | |
| | | | ±20% | CGA2B2X5R1H331M050BA | | |
| 470pF | 1005 | 0.50±0.05 | ±10% | CGA2B2X5R1H471K050BA | | |
| | | | ±20% | CGA2B2X5R1H471M050BA | | |
| 680pF | 1005 | 0.50±0.05 | ±10% | CGA2B2X5R1H681K050BA | | |
| | | | ±20% | CGA2B2X5R1H681M050BA | | |
| 1nF | 1005 | 0.50±0.05 | ±10% | CGA2B2X5R1H102K050BA | | |
| | | | ±20% | CGA2B2X5R1H102M050BA | | |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X5R1H102K080AA | | |
| | | | ±20% | CGA3E2X5R1H102M080AA | | |
| 1.5nF | 1005 | 0.50±0.05 | ±10% | CGA2B2X5R1H152K050BA | | |
| | | | ±20% | CGA2B2X5R1H152M050BA | | |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X5R1H152K080AA | | |
| | | | ±20% | CGA3E2X5R1H152M080AA | | |
| 2.2nF | 1005 | 0.50±0.05 | ±10% | CGA2B2X5R1H222K050BA | | |
| | | | ±20% | CGA2B2X5R1H222M050BA | | |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X5R1H222K080AA | | |
| | | | ±20% | CGA3E2X5R1H222M080AA | | |
| 3.3nF | 1005 | 0.50±0.05 | ±10% | CGA2B2X5R1H332K050BA | | |
| | | | ±20% | CGA2B2X5R1H332M050BA | | |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X5R1H332K080AA | | |
| | | | ±20% | CGA3E2X5R1H332M080AA | | |
| 4.7nF | 1005 | 0.50±0.05 | ±10% | CGA2B2X5R1H472K050BA | | |
| | | | ±20% | CGA2B2X5R1H472M050BA | | |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X5R1H472K080AA | | |
| | | | ±20% | CGA3E2X5R1H472M080AA | | |
| 6.8nF | 1005 | 0.50±0.05 | ±10% | CGA2B2X5R1H682K050BA | | |
| | | | ±20% | CGA2B2X5R1H682M050BA | | |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X5R1H682K080AA | | |
| | | | ±20% | CGA3E2X5R1H682M080AA | | |
| 10nF | 1005 | 0.50±0.05 | ±10% | CGA2B3X5R1H103K050BB | CGA2B3X5R1V103K050BB | CGA2B2X5R1E103K050BA |
| | | | ±20% | CGA2B3X5R1H103M050BB | CGA2B3X5R1V103M050BB | CGA2B2X5R1E103M050BA |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X5R1H103K080AA | | |
| | | | ±20% | CGA3E2X5R1H103M080AA | | |
| 15nF | 1005 | 0.50±0.05 | ±10% | CGA2B3X5R1H153K050BB | CGA2B3X5R1V153K050BB | CGA2B2X5R1E153K050BA |
| | | | ±20% | CGA2B3X5R1H153M050BB | CGA2B3X5R1V153M050BB | CGA2B2X5R1E153M050BA |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X5R1H153K080AA | | |
| | | | ±20% | CGA3E2X5R1H153M080AA | | |
| 22nF | 1005 | 0.50±0.05 | ±10% | CGA2B3X5R1H223K050BB | CGA2B3X5R1V223K050BB | CGA2B2X5R1E223K050BA |
| | | | ±20% | CGA2B3X5R1H223M050BB | CGA2B3X5R1V223M050BB | CGA2B2X5R1E223M050BA |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X5R1H223K080AA | | |
| | | | ±20% | CGA3E2X5R1H223M080AA | | |
| 33nF | 1005 | 0.50±0.05 | ±10% | CGA2B3X5R1H333K050BB | CGA2B3X5R1V333K050BB | CGA2B2X5R1E333K050BA |
| | | | ±20% | CGA2B3X5R1H333M050BB | CGA2B3X5R1V333M050BB | CGA2B2X5R1E333M050BA |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X5R1H333K080AA | | |
| | | | ±20% | CGA3E2X5R1H333M080AA | | |
| 47nF | 1005 | 0.50±0.05 | ±10% | CGA2B3X5R1H473K050BB | CGA2B3X5R1V473K050BB | CGA2B2X5R1E473K050BA |
| | | | ±20% | CGA2B3X5R1H473M050BB | CGA2B3X5R1V473M050BB | CGA2B2X5R1E473M050BA |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X5R1H473K080AA | | |
| | | | ±20% | CGA3E2X5R1H473M080AA | | |
| 68nF | 1005 | 0.50±0.05 | ±10% | CGA2B3X5R1H683K050BB | CGA2B3X5R1V683K050BB | CGA2B3X5R1E683K050BB |
| | | | ±20% | CGA2B3X5R1H683M050BB | CGA2B3X5R1V683M050BB | CGA2B3X5R1E683M050BB |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X5R1H683K080AA | | |
| | | | ±20% | CGA3E2X5R1H683M080AA | | |
| 100nF | 1005 | 0.50±0.05 | ±10% | CGA2B3X5R1H104K050BB | CGA2B3X5R1V104K050BB | CGA2B3X5R1E104K050BB |
| | | | ±20% | CGA2B3X5R1H104M050BB | CGA2B3X5R1V104M050BB | CGA2B3X5R1E104M050BB |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X5R1H104K080AA | | CGA3E2X5R1E104K080AA |
| | | | ±20% | CGA3E2X5R1H104M080AA | | CGA3E2X5R1E104M080AA |
| 150nF | 1608 | 0.80±0.10 | ±10% | CGA3E3X5R1H154K080AB | CGA3E3X5R1V154K080AB | CGA3E2X5R1E154K080AA |
| | | | ±20% | CGA3E3X5R1H154M080AB | CGA3E3X5R1V154M080AB | CGA3E2X5R1E154M080AA |
| | 2012 | 1.25±0.20 | ±10% | CGA4J2X5R1H154K125AA | | |
| | | | ±20% | CGA4J2X5R1H154M125AA | | |

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## 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 |
| 220nF | 1608 | 0.80±0.10 | ±10% | CGA3E3X5R1H224K080AB | CGA3E3X5R1V224K080AB | CGA3E2X5R1E224K080AA |
| | | | ±20% | CGA3E3X5R1H224M080AB | CGA3E3X5R1V224M080AB | CGA3E2X5R1E224M080AA |
| | 2012 | 1.25±0.20 | ±10% | CGA4J2X5R1H224K125AA | | |
| | | | ±20% | CGA4J2X5R1H224M125AA | | |
| 330nF | 1608 | 0.80±0.10 | ±10% | CGA3E3X5R1H334K080AB | CGA3E3X5R1V334K080AB | CGA3E3X5R1E334K080AB |
| | | | ±20% | CGA3E3X5R1H334M080AB | CGA3E3X5R1V334M080AB | CGA3E3X5R1E334M080AB |
| | 2012 | 1.25±0.20 | ±10% | CGA4J2X5R1H334K125AA | | |
| | | | ±20% | CGA4J2X5R1H334M125AA | | |
| 470nF | 1608 | 0.80±0.10 | ±10% | CGA3E3X5R1H474K080AB | CGA3E3X5R1V474K080AB | CGA3E3X5R1E474K080AB |
| | | | ±20% | CGA3E3X5R1H474M080AB | CGA3E3X5R1V474M080AB | CGA3E3X5R1E474M080AB |
| | 2012 | 1.25±0.20 | ±10% | CGA4J3X5R1H474K125AB | CGA4J3X5R1V474K125AB | CGA4J2X5R1E474K125AA |
| | | | ±20% | CGA4J3X5R1H474M125AB | CGA4J3X5R1V474M125AB | CGA4J2X5R1E474M125AA |
| | 3216 | 1.60+0.30,-0.10 | ±10% | CGA5L2X5R1H474K160AA | | |
| | | | ±20% | CGA5L2X5R1H474M160AA | | |
| 680nF | 1608 | 0.80±0.10 | ±10% | CGA3E3X5R1H684K080AB | CGA3E3X5R1V684K080AB | CGA3E3X5R1E684K080AB |
| | | | ±20% | CGA3E3X5R1H684M080AB | CGA3E3X5R1V684M080AB | CGA3E3X5R1E684M080AB |
| | 2012 | 1.25±0.20 | ±10% | CGA4J3X5R1H684K125AB | CGA4J3X5R1V684K125AB | CGA4J2X5R1E684K125AA |
| | | | ±20% | CGA4J3X5R1H684M125AB | CGA4J3X5R1V684M125AB | CGA4J2X5R1E684M125AA |
| | 3216 | 1.60+0.30,-0.10 | ±10% | CGA5L2X5R1H684K160AA | | |
| | | | ±20% | CGA5L2X5R1H684M160AA | | |
| 1μF | 1608 | 0.80±0.10 | ±10% | CGA3E3X5R1H105K080AB | CGA3E3X5R1V105K080AB | CGA3E3X5R1E105K080AB |
| | | | ±20% | CGA3E3X5R1H105M080AB | CGA3E3X5R1V105M080AB | CGA3E3X5R1E105M080AB |
| | 2012 | 1.25±0.20 | ±10% | CGA4J3X5R1H105K125AB | CGA4J3X5R1V105K125AB | CGA4J2X5R1E105K125AA |
| | | | ±20% | CGA4J3X5R1H105M125AB | CGA4J3X5R1V105M125AB | CGA4J2X5R1E105M125AA |
| | 3216 | 1.60+0.30,-0.10 | ±10% | CGA5L2X5R1H105K160AA | | |
| | | | ±20% | CGA5L2X5R1H105M160AA | | |
| 1.5μF | 2012 | 1.25±0.20 | ±10% | CGA4J3X5R1H155K125AB | CGA4J3X5R1V155K125AB | CGA4J3X5R1E155K125AB |
| | | | ±20% | CGA4J3X5R1H155M125AB | CGA4J3X5R1V155M125AB | CGA4J3X5R1E155M125AB |
| | 3216 | 1.60+0.30,-0.10 | ±10% | CGA5L3X5R1H155K160AB | CGA5L3X5R1V155K160AB | CGA5L2X5R1E155K160AA |
| | | | ±20% | CGA5L3X5R1H155M160AB | CGA5L3X5R1V155M160AB | CGA5L2X5R1E155M160AA |
| 2.2μF | 2012 | 1.25±0.20 | ±10% | CGA4J3X5R1H225K125AB | CGA4J3X5R1V225K125AB | CGA4J3X5R1E225K125AB |
| | | | ±20% | CGA4J3X5R1H225M125AB | CGA4J3X5R1V225M125AB | CGA4J3X5R1E225M125AB |
| | 3216 | 1.60+0.30,-0.10 | ±10% | CGA5L3X5R1H225K160AB | CGA5L3X5R1V225K160AB | CGA5L2X5R1E225K160AA |
| | | | ±20% | CGA5L3X5R1H225M160AB | CGA5L3X5R1V225M160AB | CGA5L2X5R1E225M160AA |
| 3.3μF | 2012 | 1.25±0.20 | ±10% | CGA4J3X5R1H335K125AB | CGA4J3X5R1V335K125AB | CGA4J3X5R1E335K125AB |
| | | | ±20% | CGA4J3X5R1H335M125AB | CGA4J3X5R1V335M125AB | CGA4J3X5R1E335M125AB |
| | 3216 | 1.60+0.30,-0.10 | ±10% | CGA5L3X5R1H335K160AB | CGA5L3X5R1V335K160AB | CGA5L2X5R1E335K160AA |
| | | | ±20% | CGA5L3X5R1H335M160AB | CGA5L3X5R1V335M160AB | CGA5L2X5R1E335M160AA |
| 4.7μF | 2012 | 1.25±0.20 | ±10% | CGA4J3X5R1H475K125AB | CGA4J3X5R1V475K125AB | CGA4J3X5R1E475K125AB |
| | | | ±20% | CGA4J3X5R1H475M125AB | CGA4J3X5R1V475M125AB | CGA4J3X5R1E475M125AB |
| | 3216 | 1.60+0.30,-0.10 | ±10% | CGA5L3X5R1H475K160AB | CGA5L3X5R1V475K160AB | CGA5L2X5R1E475K160AA |
| | | | ±20% | CGA5L3X5R1H475M160AB | CGA5L3X5R1V475M160AB | CGA5L2X5R1E475M160AA |
| 6.8μF | 3216 | 1.60+0.30,-0.10 | ±10% | CGA5L3X5R1H685K160AB | CGA5L3X5R1V685K160AB | CGA5L3X5R1E685K160AB |
| | | | ±20% | CGA5L3X5R1H685M160AB | CGA5L3X5R1V685M160AB | CGA5L3X5R1E685M160AB |
| 10μF | 3216 | 1.60+0.30,-0.10 | ±10% | CGA5L3X5R1H106K160AB | CGA5L3X5R1V106K160AB | CGA5L3X5R1E106K160AB |
| | | | ±20% | CGA5L3X5R1H106M160AB | CGA5L3X5R1V106M160AB | CGA5L3X5R1E106M160AB |

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

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Please note that the contents may change without any prior notice due to reasons such as upgrading.

## Capacitance range table — Temperature characteristic: X5R (–55 to +85°C, ±15%)

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | |
|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 16V | Rated voltage Edc: 10V | Rated voltage Edc: 6.3V |
| 33nF | 1005 | 0.50±0.05 | ±10% | CGA2B2X5R1C333K050BA | | |
| | | | ±20% | CGA2B2X5R1C333M050BA | | |
| 47nF | 1005 | 0.50±0.05 | ±10% | CGA2B2X5R1C473K050BA | | |
| | | | ±20% | CGA2B2X5R1C473M050BA | | |
| 68nF | 1005 | 0.50±0.05 | ±10% | CGA2B2X5R1C683K050BA | | |
| | | | ±20% | CGA2B2X5R1C683M050BA | | |
| 100nF | 1005 | 0.50±0.05 | ±10% | CGA2B2X5R1C104K050BA | CGA2B2X5R1A104K050BA | |
| | | | ±20% | CGA2B2X5R1C104M050BA | CGA2B2X5R1A104M050BA | |
| 150nF | 1005 | 0.50±0.05 | ±10% | CGA2B1X5R1C154K050BC | CGA2B3X5R1A154K050BB | |
| | | | ±20% | CGA2B1X5R1C154M050BC | CGA2B3X5R1A154M050BB | |
| 220nF | 1005 | 0.50±0.05 | ±10% | CGA2B1X5R1C224K050BC | CGA2B3X5R1A224K050BB | |
| | | | ±20% | CGA2B1X5R1C224M050BC | CGA2B3X5R1A224M050BB | |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X5R1C224K080AA | | |
| | | | ±20% | CGA3E2X5R1C224M080AA | | |
| 330nF | 1608 | 0.80±0.10 | ±10% | CGA3E2X5R1C334K080AA | CGA3E2X5R1A334K080AA | |
| | | | ±20% | CGA3E2X5R1C334M080AA | CGA3E2X5R1A334M080AA | |
| 470nF | 1608 | 0.80±0.10 | ±10% | CGA3E2X5R1C474K080AA | CGA3E2X5R1A474K080AA | |
| | | | ±20% | CGA3E2X5R1C474M080AA | CGA3E2X5R1A474M080AA | |
| 680nF | 1608 | 0.80±0.10 | ±10% | CGA3E2X5R1C684K080AA | CGA3E2X5R1A684K080AA | |
| | | | ±20% | CGA3E2X5R1C684M080AA | CGA3E2X5R1A684M080AA | |
| | 2012 | 1.25±0.20 | ±10% | CGA4J2X5R1C684K125AA | | |
| | | | ±20% | CGA4J2X5R1C684M125AA | | |
| 1μF | 1608 | 0.80±0.10 | ±10% | CGA3E1X5R1C105K080AC | CGA3E2X5R1A105K080AA | |
| | | | ±20% | CGA3E1X5R1C105M080AC | CGA3E2X5R1A105M080AA | |
| | 2012 | 1.25±0.20 | ±10% | CGA4J2X5R1C105K125AA | | |
| | | | ±20% | CGA4J2X5R1C105M125AA | | |
| 1.5μF | 1608 | 0.80±0.10 | ±10% | CGA3E1X5R1C155K080AC | CGA3E3X5R1A155K080AB | |
| | | | ±20% | CGA3E1X5R1C155M080AC | CGA3E3X5R1A155M080AB | |
| | 2012 | 1.25±0.20 | ±10% | CGA4J2X5R1C155K125AA | CGA4J2X5R1A155K125AA | |
| | | | ±20% | CGA4J2X5R1C155M125AA | CGA4J2X5R1A155M125AA | |
| 2.2μF | 1608 | 0.80±0.10 | ±10% | CGA3E1X5R1C225K080AC | CGA3E3X5R1A225K080AB | |
| | | | ±20% | CGA3E1X5R1C225M080AC | CGA3E3X5R1A225M080AB | |
| | 2012 | 1.25±0.20 | ±10% | CGA4J2X5R1C225K125AA | CGA4J2X5R1A225K125AA | |
| | | | ±20% | CGA4J2X5R1C225M125AA | CGA4J2X5R1A225M125AA | |
| 3.3μF | 1608 | 0.80±0.10 | ±10% | | CGA3E1X5R1A335K080AC | CGA3E3X5R0J335K080AB |
| | | | ±20% | | CGA3E1X5R1A335M080AC | CGA3E3X5R0J335M080AB |
| | 2012 | 1.25±0.20 | ±10% | CGA4J3X5R1C335K125AB | CGA4J2X5R1A335K125AA | |
| | | | ±20% | CGA4J3X5R1C335M125AB | CGA4J2X5R1A335M125AA | |
| 4.7μF | 1608 | 0.80±0.10 | ±10% | | | CGA3E1X5R0J475K080AC |
| | | | ±20% | | | CGA3E1X5R0J475M080AC |
| | 2012 | 1.25±0.20 | ±10% | CGA4J3X5R1C475K125AB | CGA4J2X5R1A475K125AA | |
| | | | ±20% | CGA4J3X5R1C475M125AB | CGA4J2X5R1A475M125AA | |
| | 3216 | 1.60+0.30,-0.10 | ±10% | CGA5L2X5R1C475K160AA | | |
| | | | ±20% | CGA5L2X5R1C475M160AA | | |
| 6.8μF | 2012 | 1.25±0.20 | ±10% | CGA4J1X5R1C685K125AC | CGA4J3X5R1A685K125AB | |
| | | | ±20% | CGA4J1X5R1C685M125AC | CGA4J3X5R1A685M125AB | |
| | 3216 | 1.60+0.30,-0.10 | ±10% | CGA5L2X5R1C685K160AA | | |
| | | | ±20% | CGA5L2X5R1C685M160AA | | |
| 10μF | 2012 | 1.25±0.20 | ±10% | CGA4J1X5R1C106K125AC | CGA4J3X5R1A106K125AB | |
| | | | ±20% | CGA4J1X5R1C106M125AC | CGA4J3X5R1A106M125AB | |
| | 3216 | 1.60+0.30,-0.10 | ±10% | CGA5L1X5R1C106K160AC | | |
| | | | ±20% | CGA5L1X5R1C106M160AC | | |
| 15μF | 3216 | 1.60+0.30,-0.10 | ±20% | CGA5L1X5R1C156M160AC | | |
| 22μF | 3216 | 1.60+0.30,-0.10 | ±20% | CGA5L1X5R1C226M160AC | | |

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

⚠ Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use.
Please note that the contents may change without any prior notice due to reasons such as upgrading.

## 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 |
| 100pF | 0603 | 0.30±0.03 | ±10% | CGA1A2X7R1H101K030BA | | CGA1A2X7R1E101K030BA |
| | | | ±20% | CGA1A2X7R1H101M030BA | | CGA1A2X7R1E101M030BA |
| 150pF | 0603 | 0.30±0.03 | ±10% | CGA1A2X7R1H151K030BA | | CGA1A2X7R1E151K030BA |
| | | | ±20% | CGA1A2X7R1H151M030BA | | CGA1A2X7R1E151M030BA |
| 220pF | 0603 | 0.30±0.03 | ±10% | CGA1A2X7R1H221K030BA | | CGA1A2X7R1E221K030BA |
| | | | ±20% | CGA1A2X7R1H221M030BA | | CGA1A2X7R1E221M030BA |
| | 1005 | 0.50±0.05 | ±10% | CGA2B2X7R1H221K050BA | | |
| | | | ±20% | CGA2B2X7R1H221M050BA | | |
| 330pF | 0603 | 0.30±0.03 | ±10% | CGA1A2X7R1H331K030BA | | CGA1A2X7R1E331K030BA |
| | | | ±20% | CGA1A2X7R1H331M030BA | | CGA1A2X7R1E331M030BA |
| | 1005 | 0.50±0.05 | ±10% | CGA2B2X7R1H331K050BA | | |
| | | | ±20% | CGA2B2X7R1H331M050BA | | |
| 470pF | 0603 | 0.30±0.03 | ±10% | CGA1A2X7R1H471K030BA | | CGA1A2X7R1E471K030BA |
| | | | ±20% | CGA1A2X7R1H471M030BA | | CGA1A2X7R1E471M030BA |
| | 1005 | 0.50±0.05 | ±10% | CGA2B2X7R1H471K050BA | | |
| | | | ±20% | CGA2B2X7R1H471M050BA | | |
| 680pF | 0603 | 0.30±0.03 | ±10% | | | CGA1A2X7R1E681K030BA |
| | | | ±20% | | | CGA1A2X7R1E681M030BA |
| | 1005 | 0.50±0.05 | ±10% | CGA2B2X7R1H681K050BA | | |
| | | | ±20% | CGA2B2X7R1H681M050BA | | |
| 1nF | 0603 | 0.30±0.03 | ±10% | | | CGA1A2X7R1E102K030BA |
| | | | ±20% | | | CGA1A2X7R1E102M030BA |
| | 1005 | 0.50±0.05 | ±10% | CGA2B2X7R1H102K050BA | | |
| | | | ±20% | CGA2B2X7R1H102M050BA | | |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X7R1H102K080AA | | |
| | | | ±20% | CGA3E2X7R1H102M080AA | | |
| 1.5nF | 0603 | 0.30±0.03 | ±10% | | | CGA1A2X7R1E152K030BA |
| | | | ±20% | | | CGA1A2X7R1E152M030BA |
| | 1005 | 0.50±0.05 | ±10% | CGA2B2X7R1H152K050BA | | |
| | | | ±20% | CGA2B2X7R1H152M050BA | | |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X7R1H152K080AA | | |
| | | | ±20% | CGA3E2X7R1H152M080AA | | |
| 2.2nF | 0603 | 0.30±0.03 | ±10% | | | CGA1A2X7R1E222K030BA |
| | | | ±20% | | | CGA1A2X7R1E222M030BA |
| | 1005 | 0.50±0.05 | ±10% | CGA2B2X7R1H222K050BA | | |
| | | | ±20% | CGA2B2X7R1H222M050BA | | |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X7R1H222K080AA | | |
| | | | ±20% | CGA3E2X7R1H222M080AA | | |
| 3.3nF | 0603 | 0.30±0.03 | ±10% | | | CGA1A2X7R1E332K030BA |
| | | | ±20% | | | CGA1A2X7R1E332M030BA |
| | 1005 | 0.50±0.05 | ±10% | CGA2B2X7R1H332K050BA | | |
| | | | ±20% | CGA2B2X7R1H332M050BA | | |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X7R1H332K080AA | | |
| | | | ±20% | CGA3E2X7R1H332M080AA | | |
| 4.7nF | 1005 | 0.50±0.05 | ±10% | CGA2B2X7R1H472K050BA | | |
| | | | ±20% | CGA2B2X7R1H472M050BA | | |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X7R1H472K080AA | | |
| | | | ±20% | CGA3E2X7R1H472M080AA | | |
| 6.8nF | 1005 | 0.50±0.05 | ±10% | CGA2B2X7R1H682K050BA | | |
| | | | ±20% | CGA2B2X7R1H682M050BA | | |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X7R1H682K080AA | | |
| | | | ±20% | CGA3E2X7R1H682M080AA | | |
| 10nF | 1005 | 0.50±0.05 | ±10% | CGA2B3X7R1H103K050BB | CGA2B3X7R1V103K050BB | CGA2B2X7R1E103K050BA |
| | | | ±20% | CGA2B3X7R1H103M050BB | CGA2B3X7R1V103M050BB | CGA2B2X7R1E103M050BA |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X7R1H103K080AA | | |
| | | | ±20% | CGA3E2X7R1H103M080AA | | |
| 15nF | 1005 | 0.50±0.05 | ±10% | CGA2B3X7R1H153K050BB | CGA2B3X7R1V153K050BB | CGA2B2X7R1E153K050BA |
| | | | ±20% | CGA2B3X7R1H153M050BB | CGA2B3X7R1V153M050BB | CGA2B2X7R1E153M050BA |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X7R1H153K080AA | | |
| | | | ±20% | CGA3E2X7R1H153M080AA | | |
| 22nF | 1005 | 0.50±0.05 | ±10% | CGA2B3X7R1H223K050BB | CGA2B3X7R1V223K050BB | CGA2B2X7R1E223K050BA |
| | | | ±20% | CGA2B3X7R1H223M050BB | CGA2B3X7R1V223M050BB | CGA2B2X7R1E223M050BA |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X7R1H223K080AA | | |
| | | | ±20% | CGA3E2X7R1H223M080AA | | |

Click the part numbers for details.

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Please note that the contents may change without any prior notice due to reasons such as upgrading.

## 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 |
| 33nF | 1005 | 0.50±0.05 | ±10% | CGA2B3X7R1H333K050BB | CGA2B3X7R1V333K050BB | CGA2B1X7R1E333K050BC |
| | | | ±20% | CGA2B3X7R1H333M050BB | CGA2B3X7R1V333M050BB | CGA2B1X7R1E333M050BC |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X7R1H333K080AA | | |
| | | | ±20% | CGA3E2X7R1H333M080AA | | |
| 47nF | 1005 | 0.50±0.05 | ±10% | CGA2B3X7R1H473K050BB | CGA2B3X7R1V473K050BB | CGA2B1X7R1E473K050BC |
| | | | ±20% | CGA2B3X7R1H473M050BB | CGA2B3X7R1V473M050BB | CGA2B1X7R1E473M050BC |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X7R1H473K080AA | | |
| | | | ±20% | CGA3E2X7R1H473M080AA | | |
| 68nF | 1005 | 0.50±0.05 | ±10% | CGA2B3X7R1H683K050BB | CGA2B3X7R1V683K050BB | CGA2B3X7R1E683K050BB |
| | | | ±20% | CGA2B3X7R1H683M050BB | CGA2B3X7R1V683M050BB | CGA2B3X7R1E683M050BB |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X7R1H683K080AA | | |
| | | | ±20% | CGA3E2X7R1H683M080AA | | |
| 100nF | 1005 | 0.50±0.05 | ±10% | CGA2B3X7R1H104K050BB | CGA2B3X7R1V104K050BB | CGA2B3X7R1E104K050BB |
| | | | ±20% | CGA2B3X7R1H104M050BB | CGA2B3X7R1V104M050BB | CGA2B3X7R1E104M050BB |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X7R1H104K080AA | | CGA3E2X7R1E104K080AA |
| | | | ±20% | CGA3E2X7R1H104M080AA | | CGA3E2X7R1E104M080AA |
| | 2012 | 1.25±0.20 | ±10% | CGA4J2X7R1H104K125AA | | |
| 150nF | 1005 | 0.50±0.05 | ±10% | | CGA2B1X7R1V154K050BC | CGA2B3X7R1E154K050BB |
| | | | ±20% | | CGA2B1X7R1V154M050BC | CGA2B3X7R1E154M050BB |
| | 1608 | 0.80±0.10 | ±10% | CGA3E3X7R1H154K080AB | CGA3E3X7R1V154K080AB | CGA3E2X7R1E154K080AA |
| | | | ±20% | CGA3E3X7R1H154M080AB | CGA3E3X7R1V154M080AB | CGA3E2X7R1E154M080AA |
| | 2012 | 1.25±0.20 | ±10% | CGA4J2X7R1H154K125AA | | |
| | | | ±20% | CGA4J2X7R1H154M125AA | | |
| 220nF | 1005 | 0.50±0.05 | ±10% | | CGA2B1X7R1V224K050BC | CGA2B3X7R1E224K050BB |
| | | | ±20% | | CGA2B1X7R1V224M050BC | CGA2B3X7R1E224M050BB |
| | 1608 | 0.80±0.10 | ±10% | CGA3E3X7R1H224K080AB | CGA3E3X7R1V224K080AB | CGA3E1X7R1E224K080AC |
| | | | ±20% | CGA3E3X7R1H224M080AB | CGA3E3X7R1V224M080AB | CGA3E1X7R1E224M080AC |
| | 2012 | 1.25±0.20 | ±10% | CGA4J2X7R1H224K125AA | | CGA4J2X7R1E224K125AA |
| | | | ±20% | CGA4J2X7R1H224M125AA | | |
| 330nF | 1608 | 0.80±0.10 | ±10% | CGA3E3X7R1H334K080AB | CGA3E1X7R1V334K080AC | CGA3E3X7R1E334K080AB |
| | | | ±20% | CGA3E3X7R1H334M080AB | CGA3E1X7R1V334M080AC | CGA3E3X7R1E334M080AB |
| | 2012 | 1.25±0.20 | ±10% | CGA4J2X7R1H334K125AA | | |
| | | | ±20% | CGA4J2X7R1H334M125AA | | |
| 470nF | 1608 | 0.80±0.10 | ±10% | CGA3E3X7R1H474K080AB | CGA3E1X7R1V474K080AC | CGA3E3X7R1E474K080AB |
| | | | ±20% | CGA3E3X7R1H474M080AB | CGA3E1X7R1V474M080AC | CGA3E3X7R1E474M080AB |
| | 2012 | 1.25±0.20 | ±10% | CGA4J3X7R1H474K125AB | CGA4J3X7R1V474K125AB | CGA4J2X7R1E474K125AA |
| | | | ±20% | CGA4J3X7R1H474M125AB | CGA4J3X7R1V474M125AB | CGA4J2X7R1E474M125AA |
| | 3216 | 1.60+0.30,-0.10 | ±10% | CGA5L2X7R1H474K160AA | | |
| | | | ±20% | CGA5L2X7R1H474M160AA | | |
| 680nF | 1608 | 0.80±0.10 | ±10% | | CGA3E1X7R1V684K080AC | CGA3E1X7R1E684K080AC |
| | | | ±20% | | CGA3E1X7R1V684M080AC | CGA3E1X7R1E684M080AC |
| | 2012 | 1.25±0.20 | ±10% | CGA4J3X7R1H684K125AB | CGA4J3X7R1V684K125AB | CGA4J3X7R1E684K125AB |
| | | | ±20% | CGA4J3X7R1H684M125AB | CGA4J3X7R1V684M125AB | CGA4J3X7R1E684M125AB |
| | 3216 | 1.60+0.30,-0.10 | ±10% | CGA5L2X7R1H684K160AA | | |
| | | | ±20% | CGA5L2X7R1H684M160AA | | |
| 1μF | 1608 | 0.80±0.10 | ±10% | | CGA3E1X7R1V105K080AC | CGA3E1X7R1E105K080AC |
| | | | ±20% | | CGA3E1X7R1V105M080AC | CGA3E1X7R1E105M080AC |
| | 2012 | 1.25±0.20 | ±10% | CGA4J3X7R1H105K125AB | CGA4J3X7R1V105K125AB | CGA4J3X7R1E105K125AB |
| | | | ±20% | CGA4J3X7R1H105M125AB | CGA4J3X7R1V105M125AB | CGA4J3X7R1E105M125AB |
| | 3216 | 1.60+0.30,-0.10 | ±10% | CGA5L3X7R1H105K160AB | | CGA5L2X7R1E105K160AA |
| | | | ±20% | CGA5L3X7R1H105M160AB | | CGA5L2X7R1E105M160AA |
| | 3225 | 1.60±0.20 | ±10% | CGA6L2X7R1H105K160AA | | |
| | | | ±20% | CGA6L2X7R1H105M160AA | | |
| 1.5μF | 2012 | 1.25±0.20 | ±10% | CGA4J3X7R1H155K125AB | CGA4J1X7R1V155K125AC | CGA4J3X7R1E155K125AB |
| | | | ±20% | CGA4J3X7R1H155M125AB | CGA4J1X7R1V155M125AC | CGA4J3X7R1E155M125AB |
| | 3216 | 1.60+0.30,-0.10 | ±10% | CGA5L3X7R1H155K160AB | CGA5L3X7R1V155K160AB | CGA5L2X7R1E155K160AA |
| | | | ±20% | CGA5L3X7R1H155M160AB | CGA5L3X7R1V155M160AB | CGA5L2X7R1E155M160AA |
| | 3225 | 2.00±0.20 | ±10% | CGA6M2X7R1H155K200AA | | |
| | | | ±20% | CGA6M2X7R1H155M200AA | | |
| | 4532 | 1.60±0.20 | ±10% | CGA8L2X7R1H155K160KA | | |
| 2.2μF | 2012 | 1.25±0.20 | ±10% | CGA4J3X7R1H225K125AB | CGA4J1X7R1V225K125AC | CGA4J3X7R1E225K125AB |
| | | | ±20% | CGA4J3X7R1H225M125AB | CGA4J1X7R1V225M125AC | CGA4J3X7R1E225M125AB |
| | 3216 | 1.60+0.30,-0.10 | ±10% | CGA5L3X7R1H225K160AB | CGA5L3X7R1V225K160AB | CGA5L2X7R1E225K160AA |
| | | | ±20% | CGA5L3X7R1H225M160AB | CGA5L3X7R1V225M160AB | CGA5L2X7R1E225M160AA |
| | 3225 | 2.00±0.20 | ±10% | CGA6M3X7R1H225K200AB | | |
| | | | ±20% | CGA6M3X7R1H225M200AB | | |
| | 4532 | 1.60±0.20 | ±10% | CGA8L2X7R1H225K160KA | | |

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

⚠ Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use.
Please note that the contents may change without any prior notice due to reasons such as upgrading.

## 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 |
| 3.3µF | 2012 | 1.25±0.20 | ±10% | | | CGA4J1X7R1V335K125AC | CGA4J1X7R1E335K125AC |
| | | | ±20% | | | CGA4J1X7R1V335M125AC | CGA4J1X7R1E335M125AC |
| | 3216 | 1.60+0.30,-0.10 | ±10% | | CGA5L3X7R1H335K160AB | CGA5L1X7R1V335K160AC | CGA5L1X7R1E335K160AC |
| | | | ±20% | | CGA5L3X7R1H335M160AB | CGA5L1X7R1V335M160AC | CGA5L1X7R1E335M160AC |
| | 3225 | 2.50±0.30 | ±10% | | CGA6P3X7R1H335K250AB | | |
| | | | ±20% | | CGA6P3X7R1H335M250AB | | |
| | 4532 | 2.00±0.20 | ±10% | | CGA8M2X7R1H335K200KA | | |
| 4.7µF | 2012 | 1.25±0.20 | ±10% | | CGA4J1X7R1H475K125AC | CGA4J1X7R1V475K125AC | CGA4J1X7R1E475K125AC |
| | | | ±20% | | | CGA4J1X7R1V475M125AC | CGA4J1X7R1E475M125AC |
| | 3216 | 1.60+0.30,-0.10 | ±10% | | CGA5L3X7R1H475K160AB | CGA5L1X7R1V475K160AC | CGA5L1X7R1E475K160AC |
| | | | ±20% | | CGA5L3X7R1H475M160AB | CGA5L1X7R1V475M160AC | CGA5L1X7R1E475M160AC |
| | 3225 | 2.50±0.30 | ±10% | | CGA6P3X7R1H475K250AB | | |
| | | | ±20% | | CGA6P3X7R1H475M250AB | | |
| | 4532 | 1.60±0.20 | ±10% | | | | CGA8L2X7R1E475K160KA |
| | | | ±20% | | | | CGA8L2X7R1E475M160KA |
| | | 2.00±0.20 | ±10% | | CGA8M3X7R1H475K200KB | | |
| | 5750 | 2.00±0.20 | ±10% | | CGA9M2X7R1H475K200KA | | |
| 6.8µF | 3216 | 1.60+0.30,-0.10 | ±10% | | | CGA5L1X7R1V685K160AC | CGA5L1X7R1E685K160AC |
| | | | ±20% | | | CGA5L1X7R1V685M160AC | CGA5L1X7R1E685M160AC |
| | 3225 | 2.50±0.30 | ±10% | | | | CGA6P3X7R1E685K250AB |
| | | | ±20% | | | | CGA6P3X7R1E685M250AB |
| | 4532 | 2.50±0.30 | ±10% | | CGA8P3X7R1H685K250KB | | |
| | 5750 | 2.50±0.30 | ±10% | | CGA9P2X7R1H685K250KA | | |
| 10µF | 3216 | 1.60+0.30,-0.10 | ±10% | | CGA5L1X7R1H106K160AC | CGA5L1X7R1V106K160AC | CGA5L1X7R1E106K160AC |
| | | | ±20% | | | CGA5L1X7R1V106M160AC | CGA5L1X7R1E106M160AC |
| | 3225 | 2.50±0.30 | ±10% | CGA6P1X7R1N106K250AC | | | CGA6P1X7R1E106K250AC |
| | | | ±20% | CGA6P1X7R1N106M250AC | | | CGA6P1X7R1E106M250AC |
| | 4532 | 2.50±0.30 | ±10% | | | | CGA8P2X7R1E106K250KA |
| | 5750 | 2.00±0.20 | ±20% | | | | CGA9M2X7R1E106M200KA |
| | | 2.30±0.20 | ±10% | | CGA9N3X7R1H106K230KB | | |
| 15µF | 3225 | 2.00±0.20 | ±20% | | | | CGA6M3X7R1E156M200AB |
| | 4532 | 2.80±0.30 | ±20% | | | | CGA8Q3X7R1E156M280KB |
| | 5750 | 2.30±0.20 | ±20% | | | | CGA9N2X7R1E156M230KA |
| 22µF | 3225 | 2.50±0.30 | ±20% | | | | CGA6P3X7R1E226M250AB |
| | 4532 | 2.50±0.30 | ±20% | | | | CGA8P1X7R1E226M250KC |
| | 5750 | 2.50±0.30 | ±20% | | CGA9P3X7R1H226M250KB | | CGA9P2X7R1E226M250KA |
| 47µF | 5750 | 2.30±0.20 | ±20% | | | | CGA9N3X7R1E476M230KB |

■ Gray items: These products are not recommended for new designs.
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## Capacitance range table　　Temperature characteristic: X7R (–55 to +125°C, ±15%)

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | |
|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 16V | Rated voltage Edc: 10V | Rated voltage Edc: 6.3V |
| 100pF | 0603 | 0.30±0.03 | ±10% | CGA1A2X7R1C101K030BA | | |
| | | | ±20% | CGA1A2X7R1C101M030BA | | |
| 150pF | 0603 | 0.30±0.03 | ±10% | CGA1A2X7R1C151K030BA | | |
| | | | ±20% | CGA1A2X7R1C151M030BA | | |
| 220pF | 0603 | 0.30±0.03 | ±10% | CGA1A2X7R1C221K030BA | | |
| | | | ±20% | CGA1A2X7R1C221M030BA | | |
| 330pF | 0603 | 0.30±0.03 | ±10% | CGA1A2X7R1C331K030BA | | |
| | | | ±20% | CGA1A2X7R1C331M030BA | | |
| 470pF | 0603 | 0.30±0.03 | ±10% | CGA1A2X7R1C471K030BA | | |
| | | | ±20% | CGA1A2X7R1C471M030BA | | |
| 680pF | 0603 | 0.30±0.03 | ±10% | CGA1A2X7R1C681K030BA | | |
| | | | ±20% | CGA1A2X7R1C681M030BA | | |
| 1nF | 0603 | 0.30±0.03 | ±10% | CGA1A2X7R1C102K030BA | | |
| | | | ±20% | CGA1A2X7R1C102M030BA | | |
| 1.5nF | 0603 | 0.30±0.03 | ±10% | CGA1A2X7R1C152K030BA | | |
| | | | ±20% | CGA1A2X7R1C152M030BA | | |
| 2.2nF | 0603 | 0.30±0.03 | ±10% | CGA1A2X7R1C222K030BA | | |
| | | | ±20% | CGA1A2X7R1C222M030BA | | |
| 3.3nF | 0603 | 0.30±0.03 | ±10% | CGA1A2X7R1C332K030BA | | |
| | | | ±20% | CGA1A2X7R1C332M030BA | | |
| 4.7nF | 0603 | 0.30±0.03 | ±10% | CGA1A2X7R1C472K030BA | | |
| | | | ±20% | CGA1A2X7R1C472M030BA | | |
| 6.8nF | 0603 | 0.30±0.03 | ±10% | CGA1A2X7R1C682K030BA | | |
| | | | ±20% | CGA1A2X7R1C682M030BA | | |
| 10nF | 0603 | 0.30±0.03 | ±10% | | CGA1A2X7R1A103K030BA | CGA1A2X7R0J103K030BA |
| | | | ±20% | | CGA1A2X7R1A103M030BA | CGA1A2X7R0J103M030BA |
| 33nF | 1005 | 0.50±0.05 | ±10% | CGA2B2X7R1C333K050BA | | |
| | | | ±20% | CGA2B2X7R1C333M050BA | | |
| 47nF | 1005 | 0.50±0.05 | ±10% | CGA2B2X7R1C473K050BA | | |
| | | | ±20% | CGA2B2X7R1C473M050BA | | |
| 68nF | 1005 | 0.50±0.05 | ±10% | CGA2B1X7R1C683K050BC | | |
| | | | ±20% | CGA2B1X7R1C683M050BC | | |
| 100nF | 1005 | 0.50±0.05 | ±10% | CGA2B1X7R1C104K050BC | | |
| | | | ±20% | CGA2B1X7R1C104M050BC | | |
| 150nF | 1005 | 0.50±0.05 | ±10% | CGA2B2X7R1C154K050BA | CGA2B1X7R1A154K050BC | CGA2B3X7R0J154K050BB |
| | | | ±20% | CGA2B2X7R1C154M050BA | CGA2B1X7R1A154M050BC | CGA2B3X7R0J154M050BB |
| 220nF | 1005 | 0.50±0.05 | ±10% | CGA2B2X7R1C224K050BA | CGA2B1X7R1A224K050BC | CGA2B3X7R0J224K050BB |
| | | | ±20% | CGA2B2X7R1C224M050BA | CGA2B1X7R1A224M050BC | CGA2B3X7R0J224M050BB |
| | 1608 | 0.80±0.10 | ±10% | CGA3E2X7R1C224K080AA | | |
| | | | ±20% | CGA3E2X7R1C224M080AA | | |
| 330nF | 1608 | 0.80±0.10 | ±10% | CGA3E1X7R1C334K080AC | | |
| | | | ±20% | CGA3E1X7R1C334M080AC | | |
| 470nF | 1608 | 0.80±0.10 | ±10% | CGA3E1X7R1C474K080AC | | |
| | | | ±20% | CGA3E1X7R1C474M080AC | | |
| | 2012 | 1.25±0.20 | ±10% | CGA4J2X7R1C474K125AA | | |
| 680nF | 1608 | 0.80±0.10 | ±10% | CGA3E1X7R1C684K080AC | | |
| | | | ±20% | CGA3E1X7R1C684M080AC | | |
| | 2012 | 1.25±0.20 | ±10% | CGA4J2X7R1C684K125AA | | |
| | | | ±20% | CGA4J2X7R1C684M125AA | | |
| 1μF | 1608 | 0.80±0.10 | ±10% | CGA3E1X7R1C105K080AC | | |
| | | | ±20% | CGA3E1X7R1C105M080AC | | |
| | 2012 | 1.25±0.20 | ±10% | CGA4J2X7R1C105K125AA | | |
| | | | ±20% | CGA4J2X7R1C105M125AA | | |
| 1.5μF | 1608 | 0.80±0.10 | ±10% | | | CGA3E1X7R0J155K080AC |
| | | | ±20% | | | CGA3E1X7R0J155M080AC |
| | 2012 | 1.25±0.20 | ±10% | CGA4J3X7R1C155K125AB | | |
| | | | ±20% | CGA4J3X7R1C155M125AB | | |
| 2.2μF | 1608 | 0.80±0.10 | ±10% | | | CGA3E1X7R0J225K080AC |
| | | | ±20% | | | CGA3E1X7R0J225M080AC |
| | 2012 | 1.25±0.20 | ±10% | CGA4J3X7R1C225K125AB | | |
| | | | ±20% | CGA4J3X7R1C225M125AB | | |
| 3.3μF | 2012 | 1.25±0.20 | ±10% | CGA4J3X7R1C335K125AB | CGA4J3X7R1A335K125AB | |
| | | | ±20% | CGA4J3X7R1C335M125AB | | |
| 4.7μF | 2012 | 1.25±0.20 | ±10% | CGA4J3X7R1C475K125AB | CGA4J3X7R1A475K125AB | |
| | | | ±20% | CGA4J3X7R1C475M125AB | | |
| | 3216 | 1.60+0.30,-0.10 | ±10% | CGA5L3X7R1C475K160AB | | |
| | | | ±20% | CGA5L3X7R1C475M160AB | | |

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

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | |
|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 16V | Rated voltage Edc: 6.3V |
| 6.8µF | 2012 | 1.25±0.20 | ±10% | | CGA4J1X7R0J685K125AC |
| | | | ±20% | | CGA4J1X7R0J685M125AC |
| | 3216 | 1.60+0.30,-0.10 | ±10% | CGA5L1X7R1C685K160AC | |
| | | | ±20% | CGA5L1X7R1C685M160AC | |
| 10µF | 2012 | 1.25±0.20 | ±10% | | CGA4J1X7R0J106K125AC |
| | | | ±20% | | CGA4J1X7R0J106M125AC |
| | 3216 | 1.60+0.30,-0.10 | ±10% | CGA5L1X7R1C106K160AC | |
| | | | ±20% | CGA5L1X7R1C106M160AC | |
| | 3225 | 2.00±0.20 | ±10% | CGA6M3X7R1C106K200AB | |
| | | | ±20% | CGA6M3X7R1C106M200AB | |
| 15µF | 3225 | 2.50±0.30 | ±20% | CGA6P3X7R1C156M250AB | |
| 22µF | 3216 | 1.60+0.30,-0.10 | ±20% | | CGA5L1X7R0J226M160AC |
| | 3225 | 2.50±0.30 | ±20% | CGA6P1X7R1C226M250AC | |
| | 4532 | 2.30±0.20 | ±20% | CGA8N3X7R1C226M230KB | |
| 33µF | 4532 | 2.50±0.30 | ±20% | CGA8P1X7R1C336M250KC | |
| 47µF | 5750 | 2.30±0.20 | ±20% | CGA9N3X7R1C476M230KB | |

■ Gray item: The product is not recommended for a new design.
Click the part numbers for details.

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## 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 |
| 330nF | 1005 | 0.50±0.05 | ±10% | | | CGA2B1X7S1C334K050BC |
| | | | ±20% | | | CGA2B1X7S1C334M050BC |
| 470nF | 1005 | 0.50±0.05 | ±10% | | | CGA2B1X7S1C474K050BC |
| | | | ±20% | | | CGA2B1X7S1C474M050BC |
| 1.5µF | 1608 | 0.80±0.10 | ±10% | | | CGA3E1X7S1C155K080AC |
| | | | ±20% | | | CGA3E1X7S1C155M080AC |
| 2.2µF | 1608 | 0.80±0.10 | ±10% | | | CGA3E1X7S1C225K080AC |
| | | | ±20% | | | CGA3E1X7S1C225M080AC |
| 4.7µF | 3225 | 2.30±0.20 | ±10% | CGA6N3X7S1H475K230AB | | |
| 6.8µF | 2012 | 1.25±0.20 | ±10% | | | CGA4J1X7S1C685K125AC |
| | | | ±20% | | | CGA4J1X7S1C685M125AC |
| | 3225 | 2.50±0.30 | ±10% | CGA6P3X7S1H685K250AB | | |
| | | | ±20% | CGA6P3X7S1H685M250AB | | |
| 10µF | 2012 | 1.25±0.20 | ±10% | | CGA4J1X7S1E106K125AC | CGA4J1X7S1C106K125AC |
| | | | ±20% | | | CGA4J1X7S1C106M125AC |
| | 3225 | 2.50±0.30 | ±10% | CGA6P3X7S1H106K250AB | | |
| | | | ±20% | CGA6P3X7S1H106M250AB | | |

■ Gray item: The product is not recommended for a new design.
Click the part numbers for details.

| Capacitance | Dimensions | Thickness (mm) | Capacitance tolerance | Catalog number | | |
|---|---|---|---|---|---|---|
| | | | | Rated voltage Edc: 10V | Rated voltage Edc: 6.3V | Rated voltage Edc: 4V |
| 330nF | 1005 | 0.50±0.05 | ±10% | CGA2B3X7S1A334K050BB | | |
| | | | ±20% | CGA2B3X7S1A334M050BB | | |
| 470nF | 1005 | 0.50±0.05 | ±10% | CGA2B3X7S1A474K050BB | | |
| | | | ±20% | CGA2B3X7S1A474M050BB | | |
| 1.5µF | 1608 | 0.80±0.10 | ±10% | CGA3E3X7S1A155K080AB | | |
| | | | ±20% | CGA3E3X7S1A155M080AB | | |
| 2.2µF | 1608 | 0.80±0.10 | ±10% | CGA3E3X7S1A225K080AB | | |
| | | | ±20% | CGA3E3X7S1A225M080AB | | |
| 6.8µF | 2012 | 1.25±0.20 | ±10% | CGA4J3X7S1A685K125AB | | |
| | | | ±20% | CGA4J3X7S1A685M125AB | | |
| 10µF | 1608 | 0.80+0.30,-0.10 | ±20% | | | CGA3E1X7S0G106M080AC |
| | 2012 | 1.25±0.20 | ±10% | CGA4J3X7S1A106K125AB | | |
| | | | ±20% | CGA4J3X7S1A106M125AB | | |
| 15µF | 3216 | 1.60+0.30,-0.10 | ±20% | CGA5L1X7S1A156M160AC | | |
| 22µF | 3216 | 1.60+0.30,-0.10 | ±20% | CGA5L1X7S1A226M160AC | | |
| 33µF | 3225 | 2.00±0.20 | ±20% | CGA6M1X7S1A336M200AC | | |
| | | 2.50±0.30 | ±20% | | CGA6P1X7S0J336M250AC | |
| 47µF | 3225 | 2.50±0.30 | ±20% | CGA6P1X7S1A476M250AC | CGA6P1X7S0J476M250AC | |

■ 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: 6.3V | Rated voltage Edc: 4V | Rated voltage Edc: 2.5V |
| 100nF | 0603 | 0.30+0.10,-0.03 | ±20% | | CGA1A1X7T0G104M030BC | |
| 1µF | 1005 | 0.50+0.10,-0.05 | ±20% | | CGA2B1X7T0G105M050BC | |
| 10µF | 1608 | 0.80+0.30,-0.10 | ±20% | | CGA3E1X7T0G106M080AC | |
| 22µF | 2012 | 1.25+0.30,-0.15 | ±20% | CGA4J1X7T0J226M125AC | | |
| 47µF | 3216 | 1.60+0.40,-0.10 | ±20% | | CGA5L1X7T0G476M160AC | |
| 100µF | 3225 | 2.50+0.40,-0.30 | ±20% | | CGA6P1X7T0G107M250AC | CGA6P3X7T0E107M250AB |

Click the part numbers for details.

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