

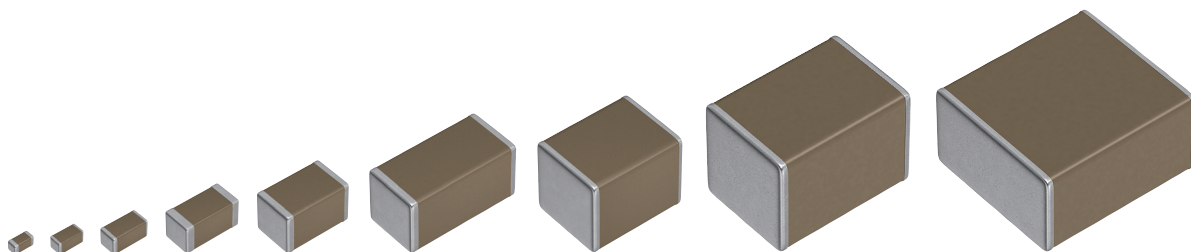
MULTILAYER CERAMIC CHIP CAPACITORS

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 | (7) Transportation control equipment |
| (2) Transportation equipment (cars, electric trains, ships, etc.) | (8) Public information-processing equipment |
| (3) Medical equipment (excepting Pharmaceutical Affairs Law classification Class1,2) | (9) Military equipment |
| (4) Power-generation control equipment | (10) Electric heating apparatus, burning equipment |
| (5) Atomic energy-related equipment | (11) Disaster prevention/crime prevention equipment |
| (6) Seabed 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)



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 100 μ F and the lineup has been expanding to a range of the film capacitor and electrolytic capacitor.

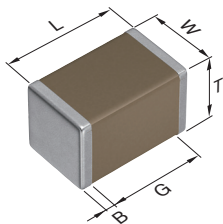
FEATURES

- 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

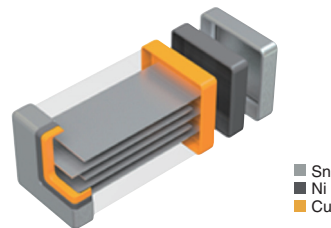
- General electronic equipment
- Mobile devices
- Servers, PCs, tablets
- Power supply circuit

SHAPE & DIMENSIONS



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

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
C0402	0.40 $\pm$ 0.02	0.20 $\pm$ 0.02	0.20 $\pm$ 0.02	0.07 min.	0.14 min.
C0603	0.60 $\pm$ 0.03	0.30 $\pm$ 0.03	0.30 $\pm$ 0.03	0.10 min.	0.20 min.
C1005	1.00 $\pm$ 0.05	0.50 $\pm$ 0.05	0.50 $\pm$ 0.05	0.10 min.	0.30 min.
C1608	1.60 $\pm$ 0.10	0.80 $\pm$ 0.10	0.80 $\pm$ 0.10	0.20 min.	0.30 min.
C2012	2.00 $\pm$ 0.20	1.25 $\pm$ 0.20	1.25 $\pm$ 0.20	0.20 min.	0.50 min.
C3216	3.20 $\pm$ 0.20	1.60 $\pm$ 0.20	1.60 $\pm$ 0.20	0.20 min.	1.00 min.
C3225	3.20 $\pm$ 0.40	2.50 $\pm$ 0.30	2.50 $\pm$ 0.30	0.20 min.	-
C4532	4.50 $\pm$ 0.40	3.20 $\pm$ 0.40	3.20 $\pm$ 0.40	0.20 min.	-
C5750	5.70 $\pm$ 0.40	5.00 $\pm$ 0.40	2.80 $\pm$ 0.30	0.20 min.	-

* Dimensional tolerances are typical values.

MULTILAYER CERAMIC CHIP CAPACITORS



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.

MULTILAYER CERAMIC CHIP CAPACITORS



Capacitance range chart

C0603 [0201 inch]

Capacitance		COG		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		COG		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

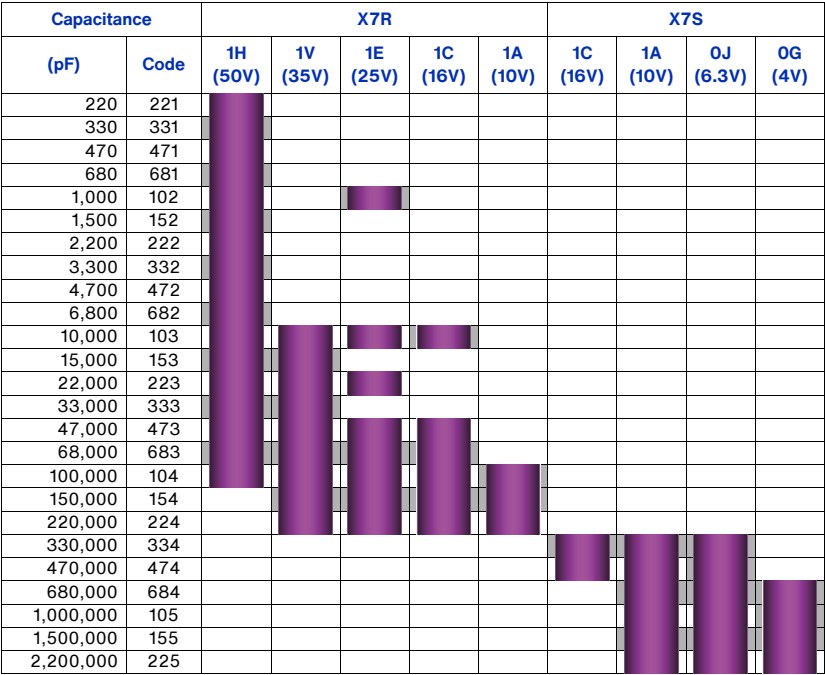
Background gray: These products are not recommended for new designs.

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]



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		COG				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

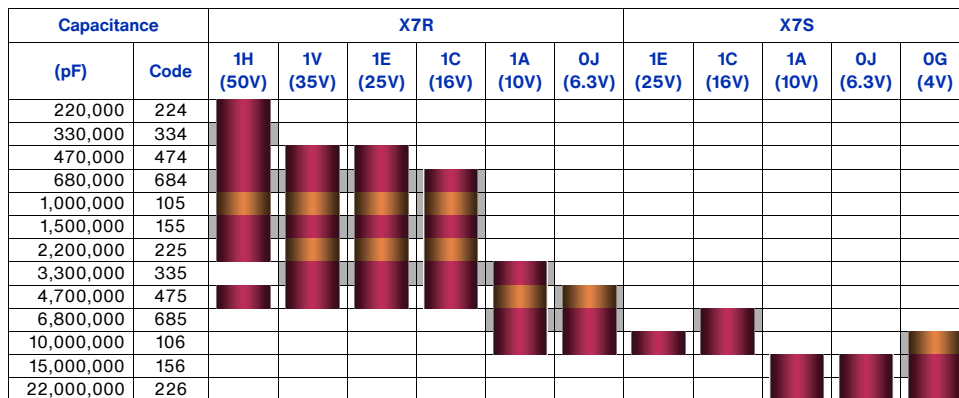
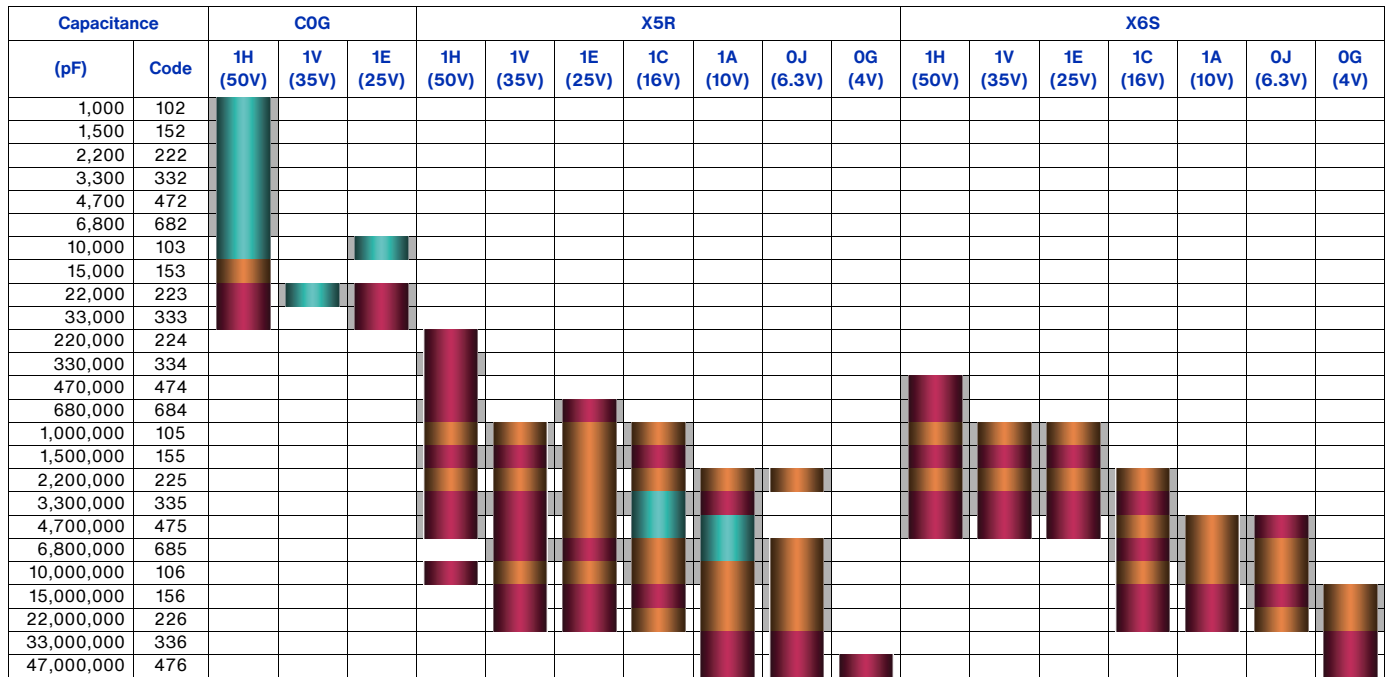
C1608 [0603 inch]

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]



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.

MULTILAYER CERAMIC CHIP CAPACITORS



Capacitance range chart

C3216 [1206 inch]

Capacitance		COG	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.

MULTILAYER CERAMIC CHIP CAPACITORS



Capacitance range chart

C3225 [1210 inch]

Capacitance		COG	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.

MULTILAYER CERAMIC CHIP CAPACITORS



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		
			±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		
			±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		
			±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		
			±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		
			±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		
			±0.25pF	C1608C0G1H060C080AA		
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		
			±0.25pF	C1608C0G1H070C080AA		
	1608	0.80±0.10	±0.50pF	C1608C0G1H070D080AA		

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

MULTILAYER CERAMIC CHIP CAPACITORS



Capacitance range table

Temperature characteristic: COG (–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		
			±0.25pF	C1608C0G1H080C080AA		
1608	0.80±0.10	±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		
			±0.25pF	C1608C0G1H090C080AA		
1608	0.80±0.10	±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		
			±0.25pF	C1608C0G1H100C080AA		
1608	0.80±0.10	±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	
			±1%	C1005C0G1H150F050BA		
	1005	0.50±0.05	±2%	C1005C0G1H150G050BA		
			±5%	C1005C0G1H150J050BA		
±1%			C1608C0G1H150F080AA			
1608	0.80±0.10	±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	
			±1%	C1005C0G1H220F050BA		
	1005	0.50±0.05	±2%	C1005C0G1H220G050BA		
			±5%	C1005C0G1H220J050BA		
±1%			C1608C0G1H220F080AA			
1608	0.80±0.10	±2%	C1608C0G1H220G080AA			
		±5%	C1608C0G1H220J080AA			

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

MULTILAYER CERAMIC CHIP CAPACITORS



Capacitance range table

Temperature characteristic: COG (–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		
			±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		
			±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		
			±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		
			±1%	C1608C0G1H101F080AA		
			±10%	C1608C0G1H101K080AA		
	1608	0.80±0.10	±2%	C1608C0G1H101G080AA		
			±5%	C1608C0G1H101J080AA		

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

Click the part numbers for details.

MULTILAYER CERAMIC CHIP CAPACITORS



Capacitance range table

Temperature characteristic: COG (–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.

MULTILAYER CERAMIC CHIP CAPACITORS



Capacitance range table

Temperature characteristic: COG (–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	
	1608	0.80±0.10	±5%	C1005C0G1H102J050BA	C1005C0G1E102J050BA
			±1%	C1608C0G1H102F080AA	
			±10%	C1608C0G1H102K080AA	
			±2%	C1608C0G1H102G080AA	
			±5%	C1608C0G1H102J080AA	
			±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	
	2012	0.60±0.15	±5%	C1608C0G1H222J080AA	
			±10%	C2012C0G1H222K060AA	
			±5%	C2012C0G1H222J060AA	
			±5%	C2012C0G1H222J085AA	
3.3 nF	1608	0.80±0.10	±10%	C1608C0G1H332K080AA	
			±5%	C1608C0G1H332J080AA	
			±10%	C2012C0G1H332K060AA	
	2012	0.60±0.15	±5%	C2012C0G1H332J060AA	
			±5%	C2012C0G1H332J125AA	
		1.25±0.20	±5%	C2012C0G1H332J125AA	
4.7 nF	1608	0.80±0.10	±10%	C1608C0G1H472K080AA	
	2012	0.60±0.15	±5%	C1608C0G1H472J080AA	C1608C0G1E472J080AA
			±10%	C2012C0G1H472K060AA	
			±5%	C2012C0G1H472J060AA	
			±10%	C3216C0G1H472K060AA	
	3216	0.60±0.15	±5%	C3216C0G1H472J060AA	

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

MULTILAYER CERAMIC CHIP CAPACITORS



Capacitance range table

Temperature characteristic: COG (–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	
	2012	0.60±0.15	±10%		C2012C0G1V223K060AC	
			±5%		C2012C0G1V223J060AC	
	3216	0.60±0.15	±10%	C3216C0G1H223K125AA		
			±5%	C3216C0G1H223J125AA		C2012C0G1E223J125AA
22 nF	2012	1.25±0.20	±10%	C2012C0G1H223K125AA		
			±5%	C2012C0G1H223J125AA		
	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.

MULTILAYER CERAMIC CHIP CAPACITORS



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	
330 pF	0402	0.20±0.02	±10%			C0402X5R1C331K020BC
			±20%			C0402X5R1C331M020BC
	0603	0.30±0.03	±10%		C0603X5R1E331K030BA	
			±20%		C0603X5R1E331M030BA	
470 pF	0402	0.20±0.02	±10%			C0402X5R1C471K020BC
			±20%			C0402X5R1C471M020BC
	0603	0.30±0.03	±10%		C0603X5R1E471K030BA	
			±20%		C0603X5R1E471M030BA	
680 pF	0402	0.20±0.02	±10%			C0402X5R1C681K020BC
			±20%			C0402X5R1C681M020BC
	0603	0.30±0.03	±10%		C0603X5R1E681K030BA	
			±20%		C0603X5R1E681M030BA	
1 nF	0402	0.20±0.02	±10%			C0402X5R1C102K020BC
			±20%			C0402X5R1C102M020BC
	0603	0.30±0.03	±10%		C0603X5R1E102K030BA	
			±20%		C0603X5R1E102M030BA	
1.5 nF	0402	0.20±0.02	±10%			C0402X5R1C152K020BC
			±20%			C0402X5R1C152M020BC
	0603	0.30±0.03	±10%		C0603X5R1E152K030BA	
			±20%		C0603X5R1E152M030BA	

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

MULTILAYER CERAMIC CHIP CAPACITORS



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			
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			
6.8 nF	0603	0.30±0.03	±10%				
			±20%				
	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	
15 nF	0603	0.30±0.03	±10%				
			±20%				
	1005	0.50±0.05	±10%	C1005X5R1H153K050BB		C1005X5R1E153K050BA	C1005X5R1C153K050BA
			±20%	C1005X5R1H153M050BB		C1005X5R1E153M050BA	C1005X5R1C153M050BA
22 nF	0603	0.30±0.03	±10%				
			±20%				
	1005	0.50±0.05	±10%	C1005X5R1H223K050BB		C1005X5R1E223K050BA	C1005X5R1C223K050BA
			±20%	C1005X5R1H223M050BB		C1005X5R1E223M050BA	C1005X5R1C223M050BA
33 nF	0603	0.30±0.03	±10%				
			±20%				
	1005	0.50±0.05	±10%	C1005X5R1H333K050BB		C1005X5R1E333K050BA	C1005X5R1C333K050BA
			±20%	C1005X5R1H333M050BB		C1005X5R1E333M050BA	C1005X5R1C333M050BA
47 nF	0603	0.30±0.03	±10%				
			±20%				
	1005	0.50±0.05	±10%	C1005X5R1H473K050BB		C1005X5R1E473K050BA	C1005X5R1C473K050BA
			±20%	C1005X5R1H473M050BB		C1005X5R1E473M050BA	C1005X5R1C473M050BA
68 nF	0603	0.30±0.03	±10%				
			±20%				
	1005	0.50±0.05	±10%	C1005X5R1H683K050BB	C1005X5R1V683K050BB	C1005X5R1E683K050BC	C1005X5R1C683K050BA
			±20%	C1005X5R1H683M050BB	C1005X5R1V683M050BB	C1005X5R1E683M050BC	C1005X5R1C683M050BA
100 nF	0603	0.30±0.03	±10%				
			±20%				
	1005	0.50±0.05	±10%	C1005X5R1H104K050BB	C1005X5R1V104K050BB	C1005X5R1E104K050BC	C1005X5R1C104K050BA
			±20%	C1005X5R1H104M050BB	C1005X5R1V104M050BB	C1005X5R1E104M050BC	C1005X5R1C104M050BA
150 nF	0603	0.30±0.03	±10%				
			±20%				
	1005	0.50±0.05	±10%				
			±20%				

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

MULTILAYER CERAMIC CHIP CAPACITORS



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
		0.80±0.10	±10%	C1608X5R1H224K080AB	C1608X5R1V224K080AB	C1608X5R1E224K080AA	
			±20%	C1608X5R1H224M080AB	C1608X5R1V224M080AB	C1608X5R1E224M080AA	
330 nF	1005	0.50±0.05	±10%				
			±20%				
		0.80±0.10	±10%	C1608X5R1H334K080AB	C1608X5R1V334K080AB	C1608X5R1E334K080AA	C1608X5R1C334K080AA
			±20%	C1608X5R1H334M080AB	C1608X5R1V334M080AB	C1608X5R1E334M080AA	C1608X5R1C334M080AA
	2012	1.25±0.20	±10%	C2012X5R1H334K125AA			
			±20%	C2012X5R1H334M125AA			
		0.50±0.05	±10%		C1005X5R1V334K050BC	C1005X5R1E334K050BB	
			±20%		C1005X5R1V334M050BC	C1005X5R1E334M050BB	
470 nF	1005	0.50±0.05	±10%				
			±20%				
		0.80±0.10	±10%	C1608X5R1H474K080AB	C1608X5R1V474K080AB	C1608X5R1E474K080AA	C1608X5R1C474K080AA
			±20%	C1608X5R1H474M080AB	C1608X5R1V474M080AB	C1608X5R1E474M080AA	C1608X5R1C474M080AA
	2012	1.25±0.20	±10%	C2012X5R1H474K125AB			
			±20%	C2012X5R1H474M125AB			
		0.50±0.05	±10%		C1005X5R1V474K050BC	C1005X5R1E474K050BB	
			±20%		C1005X5R1V474M050BC	C1005X5R1E474M050BB	
680 nF	1005	0.50±0.05	±10%				
			±20%				
		0.80±0.10	±10%	C1608X5R1H684K080AB	C1608X5R1V684K080AB	C1608X5R1E684K080AA	C1608X5R1C684K080AA
			±20%	C1608X5R1H684M080AB	C1608X5R1V684M080AB	C1608X5R1E684M080AA	C1608X5R1C684M080AA
	2012	1.25±0.20	±10%	C2012X5R1H684K125AB			
			±20%	C2012X5R1H684M125AB			
		0.50±0.05	±10%		C1005X5R1V684K050BC	C1005X5R1E684K050BB	C1005X5R1C684K050BB
			±20%		C1005X5R1V684M050BC	C1005X5R1E684M050BB	C1005X5R1C684M050BB
1 µF	1005	0.50±0.05	±10%				
			±20%				
		0.80±0.10	±10%	C1608X5R1H105K080AB	C1608X5R1V105K080AB	C1608X5R1E105K080AA	C1608X5R1C105K080AA
			±20%	C1608X5R1H105M080AB	C1608X5R1V105M080AB	C1608X5R1E105M080AA	C1608X5R1C105M080AA
	2012	0.85±0.15	±10%	C2012X5R1H105K085AB	C2012X5R1V105K085AB	C2012X5R1E105K085AA	C2012X5R1C105K085AA
			±20%	C2012X5R1H105M085AB	C2012X5R1V105M085AB	C2012X5R1E105M085AA	C2012X5R1C105M085AA
		1.25±0.20	±10%	C2012X5R1H105K125AB			
			±20%	C2012X5R1H105M125AB			
1.5 µF	1005	0.50±0.05	±10%				
			±20%				
		0.50±0.10	±10%				
			±20%				
	2012	0.85±0.15	±10%				
			±20%				
		1.25±0.20	±10%	C2012X5R1H155K125AB	C2012X5R1V155K125AB	C2012X5R1E155K125AA	C2012X5R1C155K125AA
			±20%	C2012X5R1H155M125AB	C2012X5R1V155M125AB	C2012X5R1E155M125AA	C2012X5R1C155M125AA
2.2 µF	1005	0.50±0.05	±10%				
			±20%				
		0.50±0.10	±10%				
			±20%				
	2012	0.85±0.15	±10%				
			±20%				
		1.25±0.20	±10%	C2012X5R1H225K125AB	C2012X5R1V225K125AB	C2012X5R1E225K125AA	C2012X5R1C225K125AA
			±20%	C2012X5R1H225M125AB	C2012X5R1V225M125AB	C2012X5R1E225M125AA	C2012X5R1C225M125AA

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

Click the part numbers for details.

MULTILAYER CERAMIC CHIP CAPACITORS



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
	3216	1.25±0.20	±10%	C2012X5R1H335K125AB	C2012X5R1V335K125AC	C2012X5R1E335K125AB	C2012X5R1C335K125AC
			±20%	C2012X5R1H335M125AB	C2012X5R1V335M125AC	C2012X5R1E335M125AB	C2012X5R1C335M125AC
		1.60±0.20	±10%	C3216X5R1H335K160AB	C3216X5R1V335K160AB	C3216X5R1E335K160AA	
			±20%	C3216X5R1H335M160AB	C3216X5R1V335M160AB	C3216X5R1E335M160AA	
4.7 µF	3225	2.50±0.30	±10%	C3225X5R1H335K250AB			
			±20%	C3225X5R1H335M250AB			
	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
	3216	1.25±0.20	±10%	C2012X5R1H475K125AB	C2012X5R1V475K125AC	C2012X5R1E475K125AB	C2012X5R1C475K125AC
			±20%	C2012X5R1H475M125AB	C2012X5R1V475M125AC	C2012X5R1E475M125AB	C2012X5R1C475M125AC
		0.85±0.15	±10%	C3216X5R1H475K085AB	C3216X5R1V475K085AB	C3216X5R1E475K085AB	
			±20%	C3216X5R1H475M085AB	C3216X5R1V475M085AB	C3216X5R1E475M085AB	
	3216	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			
	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			
	1608	0.80±0.20	±20%			C1608X5R1E106M080AC	C1608X5R1C106M080AB
			±10%				
	2012	0.85±0.15	±10%		C2012X5R1V106K085AC	C2012X5R1E106K085AC	C2012X5R1C106K085AC
			±20%		C2012X5R1V106M085AC	C2012X5R1E106M085AC	C2012X5R1C106M085AC
		1.25±0.20	±10%		C2012X5R1V106K125AC	C2012X5R1E106K125AB	
			±20%		C2012X5R1V106M125AC	C2012X5R1E106M125AB	
	3216	1.25±0.25, -0.15	±10%	C2012X5R1H106K125AC			
			±20%				
		0.85±0.15	±10%			C3216X5R1E106K085AC	
			±20%			C3216X5R1E106M085AC	
	3216	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.

MULTILAYER CERAMIC CHIP CAPACITORS



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	
15 µF	5750	2.30±0.20	±10%	C5750X5R1H106K230KA			
			±20%	C5750X5R1H106M230KA			
	2012	1.25±0.20	±10%		C2012X5R1V156M125AC	C2012X5R1E156M125AC	C2012X5R1C156M125AC
			±20%		C3216X5R1V156M160AC	C3216X5R1E156M160AB	C3216X5R1C156M160AB
	3216	1.60±0.20	±10%				C3216X5R1C156M160AB
			±20%				C3225X5R1C156M250AA
22 µF	4532	2.50±0.30	±10%			C4532X5R1E156M250KA	
			±20%			C4532X5R1E156M280KA	
	2012	1.25±0.20	±10%				C2012X5R1C226M085AC
			±20%				C2012X5R1C226K125AC
	3216	1.60±0.20	±10%	C2012X5R1V226M125AC	C2012X5R1E226M125AC	C2012X5R1C226M125AC	C2012X5R1C226M125AC
			±20%	C3216X5R1V226M160AC	C3216X5R1E226M160AB	C3216X5R1C226M160AB	C3216X5R1C226M160AB
33 µF	3225	2.50±0.30	±10%				C3225X5R1C226K250AA
			±20%				C3225X5R1C226M250AA
	4532	2.00±0.20	±10%				C4532X5R1C226M200KA
			±20%				C4532X5R1C226M230KA
	5750	2.30±0.20	±10%			C4532X5R1E226M250KA	
			±20%			C5750X5R1E226M250KA	
47 µF	3216	1.60±0.20	±10%			C3216X5R1E336M160AC	C3216X5R1C336M160AB
			±20%				C4532X5R1C336M250KA
	4532	2.50±0.30	±10%				C5750X5R1C336M200KA
			±20%				C3216X5R1C476M160AB
	5750	2.00±0.20	±10%				C5750X5R1C476M160AB
			±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.

MULTILAYER CERAMIC CHIP CAPACITORS



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		
			±20%		C0603X5R0J474M030BC	
470 nF	0603	0.30±0.03	±20%	C0603X5R1A474K080AA		
		0.30±0.05	±10%	C1005X5R1A684K050BB	C1005X5R0J684K050BB	
			±20%	C1005X5R1A684M050BB	C1005X5R0J684M050BB	
680 nF	1005	0.50±0.05	±10%	C1608X5R1A684K080AC		
			±20%	C1608X5R1A684M080AC		
	1608	0.80±0.15, -0.10	±10%	C1608X5R1A105K080AC		
			±20%	C1608X5R1A105M080AC		
1 µF	1608	0.80±0.15, -0.10	±10%	C1005X5R1A155K050BC	C1005X5R0J155K050BB	
1.5 µF	1005	0.50±0.05	±10%	C1005X5R1A225K050BC	C1005X5R0J225K050BB	C1005X5R0G225K050BB
			±20%	C1005X5R1A225M050BC	C1005X5R0J225M050BB	C1005X5R0G225M050BB
2.2 µF	1005	0.50±0.05	±10%	C2012X5R1A225K085AA	C2012X5R0J225K085AA	
			±20%	C2012X5R1A225M085AA	C2012X5R0J225M085AA	
	2012	0.85±0.15	±10%	C1005X5R1A335K050BC	C1005X5R0J335K050BB	C1005X5R0G335K050BB
			±20%	C1005X5R1A335M050BC	C1005X5R0J335M050BB	C1005X5R0G335M050BB
3.3 µF	1005	0.50±0.10	±10%	C2012X5R1A335K125AA		
			±20%	C2012X5R1A335M125AA		
	2012	1.25±0.20	±10%	C1005X5R1A475K050BC	C1005X5R0J475K050BB	C1005X5R0G475K050BB
			±20%	C1005X5R1A475M050BC	C1005X5R0J475M050BB	C1005X5R0G475M050BB

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

Click the part numbers for details.

MULTILAYER CERAMIC CHIP CAPACITORS



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
			±20%	C2012X5R1A156M085AC	C2012X5R0J156M085AB	
	2012	1.25±0.20	±20%	C2012X5R1A156M125AB		
			±20%	C3225X5R1A156M230AA		
22 µF	1608	0.85±0.15	±20%	C1608X5R1A226M080AC	C1608X5R0J226M080AC	C1608X5R0G226M080AA
			±20%	C2012X5R1A226M085AC	C2012X5R0J226M085AB	
	2012	1.25±0.20	±10%	C2012X5R1A226K125AB	C2012X5R0J226K125AB	
			±20%	C2012X5R1A226M125AB		
	3225	2.00±0.20	±10%		C3225X5R0J226K200AA	
			±20%		C3225X5R0J226M200AA	
33 µF	4532	2.30±0.20	±20%	C4532X5R1A226M230KA		
			±20%	C4532X5R1A226M230KA		
	2012	1.25±0.20	±20%	C2012X5R1A336M125AC	C2012X5R0J336M125AC	
			±20%	C3216X5R1A336M160AB		
	3225	2.00±0.20	±20%	C3225X5R1A336M200AC	C3225X5R0J336M200AA	
			±20%	C3225X5R1A336M200AC	C3225X5R0J336M250AA	
47 µF	4532	2.30±0.20	±20%	C4532X5R1A336M230KA		
			±20%	C4532X5R1A336M230KA		
	2012	1.25±0.20	±20%	C2012X5R1A476M125AC	C2012X5R0J476M125AC	C2012X5R0G476M125AB
			±20%	C3216X5R1A476M160AB		
	3225	2.50±0.30	±20%	C3225X5R1A476M250AC	C3225X5R0J476M250AA	
			±20%	C3225X5R1A476M250AC	C4532X5R0J476M250KA	
68 µF	4532	2.80±0.30	±20%	C4532X5R1A476M280KA		
			±20%	C4532X5R1A476M280KA		
	5750	2.30±0.20	±20%	C5750X5R1A686M230KA		
			±20%	C5750X5R1A686M230KA		
100 µF	3216	1.60±0.30, -0.10	±20%	C3216X5R1A107M160AC	C3216X5R0J107M160AB	C3216X5R0G107M160AB
			±20%	C3225X5R1A107M250AC	C3225X5R0J107M250AB	
	4532	2.80±0.30	±20%	C4532X5R1A107M280KC	C4532X5R0J107M280KA	
			±20%	C5750X5R1A107M280KC	C5750X5R0J107M280KA	

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

MULTILAYER CERAMIC CHIP CAPACITORS



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	C0603X6S1C472K030BA
			±20%			C0603X6S1C472M030BA	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
33 nF	1005	0.50±0.05	±10%	C1005X6S1H223K050BB			
			±20%	C1005X6S1H223M050BB			
47 nF	0603	0.30±0.03	±10%				C0603X6S1C473K030BC
			±20%				C0603X6S1C473M030BC
68 nF	1005	0.50±0.05	±10%	C1005X6S1H473K050BB			
			±20%	C1005X6S1H473M050BB			
100 nF	0603	0.30±0.03	±10%				C0603X6S1C104K030BC
			±20%				C0603X6S1C104M030BC
150 nF	1005	0.50±0.05	±10%	C1005X6S1H104K050BB	C1005X6S1V104K050BB	C1005X6S1E104K050BB	
			±20%	C1005X6S1H104M050BB	C1005X6S1V104M050BB	C1005X6S1E104M050BB	
220 nF	1005	0.50±0.05	±10%				C1005X6S1C154K050BB
			±20%				C1005X6S1C154M050BB
330 nF	1005	0.50±0.05	±10%	C1608X6S1H154K080AB	C1608X6S1V154K080AB		
			±20%	C1608X6S1H154M080AB	C1608X6S1V154M080AB		
470 nF	1005	0.50±0.05	±10%			C1005X6S1E224K050BC	C1005X6S1C224K050BB
			±20%			C1005X6S1E224M050BC	C1005X6S1C224M050BB
680 nF	1005	0.50±0.05	±10%	C1608X6S1H224K080AB	C1608X6S1V224K080AB		
			±20%	C1608X6S1H224M080AB	C1608X6S1V224M080AB		
1 µF	1005	0.50±0.05	±10%				C1005X6S1C334K050BC
			±20%				C1005X6S1C334M050BC
1.5 µF	1005	0.50±0.05	±10%	C1608X6S1H334K080AB	C1608X6S1V334K080AB	C1608X6S1E334K080AB	
			±20%	C1608X6S1H334M080AB	C1608X6S1V334M080AB	C1608X6S1E334M080AB	
2.2 µF	1005	0.50±0.05	±10%				C1005X6S1C474K050BC
			±20%				C1005X6S1C474M050BC
3.3 µF	1005	0.50±0.05	±10%	C1608X6S1H474K080AB	C1608X6S1V474K080AB	C1608X6S1E474K080AB	
			±20%	C1608X6S1H474M080AB	C1608X6S1V474M080AB	C1608X6S1E474M080AB	
4.7 µF	1005	0.50±0.05	±10%	C2012X6S1H474K125AB			
			±20%	C2012X6S1H474M125AB			
6.8 µF	1005	0.50±0.05	±10%				C1005X6S1C684K050BC
			±20%				C1005X6S1C684M050BC
10 µF	1005	0.50±0.05	±10%	C1608X6S1H684K080AC	C1608X6S1V684K080AB	C1608X6S1E684K080AB	C1608X6S1C684K080AC
			±20%	C1608X6S1H684M080AC	C1608X6S1V684M080AB	C1608X6S1E684M080AB	C1608X6S1C684M080AC
15 µF	1005	0.50±0.05	±10%	C2012X6S1H684K125AB			
			±20%	C2012X6S1H684M125AB			
22 µF	1005	0.50±0.05	±10%				C1005X6S1C105K050BC
			±20%				C1005X6S1C105M050BC
33 µF	1005	0.50±0.05	±10%	C1608X6S1H105K080AC	C1608X6S1V105K080AB	C1608X6S1E105K080AB	C1608X6S1C105K080AC
			±20%	C1608X6S1H105M080AC	C1608X6S1V105M080AB	C1608X6S1E105M080AB	C1608X6S1C105M080AC
47 µF	1005	0.50±0.05	±10%	C2012X6S1H105K085AB	C2012X6S1V105K085AB	C2012X6S1E105K085AB	
			±20%	C2012X6S1H105M085AB	C2012X6S1V105M085AB	C2012X6S1E105M085AB	
68 µF	1005	0.50±0.05	±10%	C2012X6S1H105K125AB			
			±20%	C2012X6S1H105M125AB			
100 µF	1005	0.50±0.05	±10%				C1005X6S1C155K050BC
			±20%				C1005X6S1C155M050BC
150 µF	1005	0.50±0.05	±10%				C1608X6S1C155K080AC
			±20%				C1608X6S1C155M080AC
220 µF	1005	0.50±0.05	±10%	C2012X6S1H155K125AB	C2012X6S1V155K125AB	C2012X6S1E155K125AB	
			±20%	C2012X6S1H155M125AB	C2012X6S1V155M125AB	C2012X6S1E155M125AB	
330 µF	1005	0.50±0.05	±10%	C3216X6S1H155K160AB			
			±20%	C3216X6S1H155M160AB			
470 µF	1005	0.50±0.05	±10%				
			±20%				
680 µF	1005	0.50±0.05	±10%				
			±20%				
1 µF	1005	0.50±0.05	±10%				
			±20%				
1.5 µF	1005	0.50±0.05	±10%				
			±20%				
2.2 µF	1005	0.50±0.05	±10%				
			±20%				
3.3 µF	1005	0.50±0.05	±10%				
			±20%				
4.7 µF	1005	0.50±0.05	±10%				
			±20%				
6.8 µF	1005	0.50±0.05	±10%				
			±20%				
10 µF	1005	0.50±0.05	±10%				
			±20%				
15 µF	1005	0.50±0.05	±10%				
			±20%				
22 µF	1005	0.50±0.05	±10%				
			±20%				
33 µF	1005	0.50±0.05	±10%				
			±20%				
47 µF	1005	0.50±0.05	±10%				
			±20%				
68 µF	1005	0.50±0.05	±10%				
			±20%				
100 µF	1005	0.50±0.05	±10%				
			±20%				
150 µF	1005	0.50±0.05	±10%				
			±20%				
220 µF	1005	0.50±0.05	±10%				
			±20%				
330 µF	1005	0.50±0.05	±10%				
			±20%				
470 µF	1005	0.50±0.05	±10%				
			±20%				
680 µF	1005	0.50±0.05	±10%				
			±20%				
1 µF	1005	0.50±0.05	±10%				
			±20%				
1.5 µF	1005	0.50±0.05	±10%				
			±20%				
2.2 µF	1005	0.50±0.05	±10%				
			±20%				
3.3 µF	1005	0.50±0.05	±10%				
			±20%				
4.7 µF	1005	0.50±0.05	±10%				
			±20%				
6.8 µF	1005	0.50±0.05	±10%				
			±20%				
10 µF	1005	0.50±0.05	±10%				
			±20%				
15 µF	1005	0.50±0.05	±10%				
			±20%				
22 µF	1005	0.50±0.05	±10%				
			±20%				
33 µF	1005	0.50±0.05	±10%				
			±20%				
47 µF	1005	0.50±0.05	±10%				
			±20%				
68 µF	1005	0.50±0.05	±10%				
			±20%				
100 µF	1005	0.50±0.05	±10%				
			±20%				
150 µF	1005	0.50±0.05	±10%				
			±20%				
220 µF	1005	0.50±0.05	±10%				
			±20%				
330 µF	1005	0.50±0.05	±10%				
			±20%				
470 µF	1005	0.50±0.05	±10%				
			±20%				
680 µF	1005	0.50±0.05	±10%				
			±20%				
1 µF	1005	0.50±0.05	±10%				
			±20%				

MULTILAYER CERAMIC CHIP CAPACITORS



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	
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
	2012	1.25±0.20	±20%				C2012X6S1C226M125AC
22 µF	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.

MULTILAYER CERAMIC CHIP CAPACITORS



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	±10%			C0603X6S0G474M030BC
			±20%			
	1005	0.50±0.05	±10%	C1005X6S1A474K050BC	C1005X6S0J474K050BC	C1005X6S0G474K050BB
			±20%	C1005X6S1A474M050BC	C1005X6S0J474M050BC	C1005X6S0G474M050BB
680 nF	1005	0.50±0.05	±10%	C1005X6S1A684K050BC		C1005X6S0G684K050BB
			±20%	C1005X6S1A684M050BC		C1005X6S0G684M050BB
	1005	0.50±0.05	±10%	C1005X6S1A105K050BC		
			±20%	C1005X6S1A105M050BC		
1 µF	1608	0.80±0.15, -0.10	±10%	C1608X6S1A105K080AC	C1608X6S0J105K080AC	
			±20%	C1608X6S1A105M080AC	C1608X6S0J105M080AC	
	1005	0.50±0.05	±10%		C1005X6S0J155K050BC	C1005X6S0G155K050BC
			±20%		C1005X6S0J155M050BC	C1005X6S0G155M050BC
1.5 µF	1005	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		
3.3 µF	1608	0.80±0.10	±10%	C1608X6S1A225K080AB	C1608X6S0J225K080AB	
			±20%	C1608X6S1A225M080AB	C1608X6S0J225M080AB	
	1005	0.50±0.10	±10%			C1005X6S0G335K050BC
			±20%			C1005X6S0G335M050BC
4.7 µF	1608	0.80±0.10	±10%	C1608X6S1A335K080AC	C1608X6S0J335K080AB	
			±20%	C1608X6S1A335M080AC	C1608X6S0J335M080AB	
	1005	0.50±0.15, -0.10	±20%			C1005X6S0G475M050BC
			±20%			

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

Click the part numbers for details.

MULTILAYER CERAMIC CHIP CAPACITORS



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	
			±10%	C2012X6S1A106K085AC	C2012X6S0J106K085AC	
	2012	0.85±0.15	±20%	C2012X6S1A106M085AC	C2012X6S0J106M085AC	
			±10%	C2012X6S1A106K125AB	C2012X6S0J106K125AB	
		1.25±0.20	±20%	C2012X6S1A106M125AB	C2012X6S0J106M125AB	
			±10%	C3216X6S1A106K085AB		
	3216	0.85±0.15	±20%	C3216X6S1A106M085AB		
			±10%		C3216X6S0J106K160AC	
15 µF	1608	0.80±0.20	±20%			C2012X6S0G156M085AC
			±10%	C2012X6S1A156M125AC	C2012X6S0J156M125AB	
		1.60±0.20	±20%	C3216X6S1A156M160AB	C3216X6S0J156M160AB	
			±20%			C1608X6S0G226M080AC
	2012	0.85±0.15	±20%		C2012X6S0J226M085AC	C2012X6S0G226M085AC
			±10%	C2012X6S1A226M125AC	C2012X6S0J226M125AB	
		1.60±0.20	±20%	C3216X6S1A226M160AB	C3216X6S0J226M160AB	
			±20%			C2012X6S0G336M125AC
	3216	1.60±0.20	±20%	C3216X6S1A336M160AC	C3216X6S0J336M160AB	
			±20%			C2012X6S0G476M125AC
47 µF	3216	1.60±0.20	±20%	C3216X6S1A476M160AC	C3216X6S0J476M160AB	
			±20%			
			±20%			
			±20%			
68 µF	3216	1.60±0.30,-0.10	±20%			C3216X6S0G686M160AC
			±20%			C3216X6S0G107M160AC
			±20%			
			±20%			
100 µF	3225	2.50±0.40,-0.30	±20%	C3225X6S1A107M250AC	C3225X6S0J107M250AB	
			±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.

MULTILAYER CERAMIC CHIP CAPACITORS



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			
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			
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			
6.8 nF	0603	0.30±0.03	±10%				
			±20%				
	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		C1608X7R1E154K080AB	
			±20%	C1608X7R1H154M080AB	C1608X7R1V154M080AB	C1608X7R1E154M080AA	

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

Click the part numbers for details.

MULTILAYER CERAMIC CHIP CAPACITORS



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
330 nF	2012	1.25±0.20	±10%	C2012X7R1H224K125AA			
			±20%	C2012X7R1H224M125AA			
	3216	1.15±0.15	±10%	C3216X7R1H224K115AA			
			±20%	C3216X7R1H224M115AA			
470 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			
680 nF	3216	1.60±0.20	±10%	C3216X7R1H334K160AA			
			±20%	C3216X7R1H334M160AA			
	1608	0.80±0.10	±10%	C1608X7R1H474K080AC	C1608X7R1V474K080AB	C1608X7R1E474K080AB	C1608X7R1C474K080AC
			±20%	C1608X7R1H474M080AC	C1608X7R1V474M080AB	C1608X7R1E474M080AB	C1608X7R1C474M080AC
1 µF	2012	1.25±0.20	±10%	C2012X7R1H474K125AB	C2012X7R1V474K125AB	C2012X7R1E474K125AA	
			±20%	C2012X7R1H474M125AB	C2012X7R1V474M125AB	C2012X7R1E474M125AA	
	3216	1.60±0.20	±10%	C3216X7R1H474K160AA			
			±20%	C3216X7R1H474M160AA			
1.5 µF	1608	0.80±0.10	±10%		C1608X7R1V105K080AC	C1608X7R1E105K080AB	C1608X7R1C105K080AC
			±20%		C1608X7R1V105M080AC	C1608X7R1E105M080AB	C1608X7R1C105M080AC
	2012	0.85±0.15	±10%	C2012X7R1H105K085AC	C2012X7R1V105K085AB	C2012X7R1E105K085AB	C2012X7R1C105K085AC
			±20%	C2012X7R1H105M085AC	C2012X7R1V105M085AB	C2012X7R1E105M085AB	C2012X7R1C105M085AC
2.2 µF	3216	1.60±0.20	±10%	C3216X7R1H105K125AB	C3216X7R1V105K125AB	C3216X7R1E105K125AB	C3216X7R1C105K125AA
			±20%	C3216X7R1H105M125AB	C3216X7R1V105M125AB	C3216X7R1E105M125AB	C3216X7R1C105M125AA
	3225	1.60±0.20	±10%	C3225X7R1H105K160AA			
			±20%	C3225X7R1H105M160AA			
2.2 µF	4532	1.60±0.20	±10%	C4532X7R1H105K160KA			
			±20%	C4532X7R1H105M160KA			
	2012	1.25±0.20	±10%	C2012X7R1H155K125AC	C2012X7R1V155K125AB	C2012X7R1E155K125AC	C2012X7R1C155K125AB
			±20%	C2012X7R1H155M125AC	C2012X7R1V155M125AB	C2012X7R1E155M125AC	C2012X7R1C155M125AB
2.2 µF	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
	3216	1.60±0.20	±10%	C3216X7R1H225K125AC	C3216X7R1V225K125AB	C3216X7R1E225K125AB	C3216X7R1C225K125AB
			±20%	C3216X7R1H225M125AC	C3216X7R1V225M125AB	C3216X7R1E225M125AB	C3216X7R1C225M125AB
2.2 µF	3216	1.60±0.20	±10%	C3216X7R1H225K160AB	C3216X7R1V225K160AB	C3216X7R1E225K160AA	
			±20%	C3216X7R1H225M160AB	C3216X7R1V225M160AB	C3216X7R1E225M160AA	
	3225	2.00±0.20	±10%	C3225X7R1H225K200AB			
			±20%	C3225X7R1H225M200AB			
2.2 µF	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.

MULTILAYER CERAMIC CHIP CAPACITORS



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	
	4532	2.00±0.20	±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	C3216X7R1V475K085AC	C3216X7R1E475K085AB	C3216X7R1C475K085AB
			±20%		C3216X7R1V475M085AC	C3216X7R1V475M085AC	C3216X7R1E475M085AB	C3216X7R1C475M085AB
	3216	1.60±0.20	±10%		C3216X7R1H475K160AC	C3216X7R1V475K160AB	C3216X7R1E475K160AC	C3216X7R1C475K160AB
			±20%		C3216X7R1H475M160AC	C3216X7R1V475M160AB	C3216X7R1E475M160AC	C3216X7R1C475M160AB
	3225	2.00±0.20	±10%				C3225X7R1E475K200AA	
			±20%				C3225X7R1E475M200AA	
	4532	2.50±0.30	±10%		C3225X7R1H475K250AB			
			±20%		C3225X7R1H475M250AB			
	4532	2.00±0.20	±10%		C4532X7R1H475K200KB			
			±20%		C4532X7R1H475M200KB		C4532X7R1E475M200KA	
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			
	3216	1.60±0.20	±10%		C3216X7R1H106K160AC	C3216X7R1V106K160AC	C3216X7R1E106K160AB	C3216X7R1C106K160AC
			±20%			C3216X7R1V106M160AC	C3216X7R1E106M160AB	C3216X7R1C106M160AC
10 µF	3225	2.00±0.20	±10%					C3225X7R1C106K200AB
			±20%					C3225X7R1C106M200AB
	3225	2.50±0.30	±10%	C3225X7R1N106K250AC	C3225X7R1H106K250AC		C3225X7R1E106K250AC	
			±20%	C3225X7R1N106M250AC	C3225X7R1H106M250AC		C3225X7R1E106M250AC	
	4532	2.30±0.20	±10%					C4532X7R1C106K230KA
			±20%					C4532X7R1C106M230KA
	4532	2.50±0.30	±10%				C4532X7R1E106K250KA	
			±20%				C4532X7R1E106M250KA	
	5750	2.00±0.20	±10%		C5750X7R1H106K230KB		C5750X7R1E106M200KA	
			±20%		C5750X7R1H106M230KB			
15 µF	3225	2.50±0.30	±20%					C3225X7R1C156M250AB
	4532	2.50±0.30	±20%				C4532X7R1E156M250KC	
			±20%				C4532X7R1E156M280KB	
	5750	2.30±0.20	±20%				C5750X7R1E156M230KA	
22 µF	3225	2.50±0.30	±10%					C3225X7R1C226K250AC
			±20%				C3225X7R1E226M250AB	C3225X7R1C226M250AC
	4532	2.30±0.20	±20%					C4532X7R1C226M200KC
			±20%				C4532X7R1E226M250KC	C4532X7R1C226M230KB
	5750	2.50±0.30	±20%		C5750X7R1H226M250KB		C5750X7R1E226M250KA	
			±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.

MULTILAYER CERAMIC CHIP CAPACITORS



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		
			±20%	C1005X7R1A104M050BB		
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.

MULTILAYER CERAMIC CHIP CAPACITORS



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.

MULTILAYER CERAMIC CHIP CAPACITORS



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
		0.50±0.05	±10%		C1005X7S0G155K050BC	
			±20%		C1005X7S0G155M050BC	
1.5 µF	1005	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	C1005X7S0J225M050BC	
			±20%	C1005X7S1A225K050BC		
	1608	0.80±0.10	±10%	C1608X7S1A225K080AC	C1608X7S0J225K080AB	
			±20%	C1608X7S1A225M080AC	C1608X7S0J225M080AB	
		0.80±0.10	±10%		C1608X7S0G335K080AC	C1608X7S0G335K080AC
			±20%		C1608X7S0G335M080AC	C1608X7S0G335M080AC
3.3 µF	1608	0.80±0.20	±10%	C1608X7S1A335K080AC		
			±20%	C1608X7S1A335M080AC		
		0.80±0.10	±10%		C1608X7S0J475K080AC	C1608X7S0G475K080AC
			±20%	C1608X7S1A475K080AC	C1608X7S0J475M080AC	C1608X7S0G475M080AC
4.7 µF	1608	0.80±0.20	±10%	C1608X7S1A475K080AC		
			±20%	C1608X7S1A475M080AC		
	1608	0.80±0.20	±10%		C1608X7S0J685K080AC	C1608X7S0G685K080AB
			±20%		C1608X7S0J685M080AC	C1608X7S0G685M080AB
10 µF	2012	0.85±0.15	±10%	C2012X7S0J106K085AC	C2012X7S0G106K085AC	
			±20%	C2012X7S0J106M085AC	C2012X7S0G106M085AC	
	3216	1.25±0.20	±20%	C3216X7S1A156M125AC	C3216X7S0J156M125AC	C3216X7S0G156M125AC
			±20%	C3216X7S1A226M125AC	C3216X7S0J226M125AC	C3216X7S0G226M125AC
22 µF	3216	1.60±0.20	±20%	C3216X7S1A226M160AC	C3216X7S0J226M160AB	
			±20%	C3216X7S0J336M160AC	C3216X7S0G336M160AB	
33 µF	3216	1.60±0.20	±20%	C3216X7S0J476M160AC	C3216X7S0G476M160AB	
			±20%	C3225X7S1A476M250AC	C3225X7S0J476M250AC	
47 µF	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.