

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

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 50V)



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

TDK multilayer ceramic chip capacitor C series is a product for surface mount which multiple sheets of dielectric and conductive material are layered alternately. The monolithic structure ensures superior mechanical strength and reliability.

Also the lower ESR, ESL and better frequency characteristics are offered by the simple structure than other capacitors.

The capacitance range is up to 100uF and the line-up has been expanding to the region of the film capacitor or electrolytic capacitor.

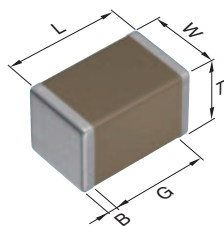
### FEATURES

- The superior mechanical strength and reliability due to the monolithic structure.
- Low ESR, ESL and excellent frequency characteristics allow for a circuit design that closely conforms to theoretical values.
- Low self-heating and high ripple resistance due to low ESR.
- No polarity.

### APPLICATIONS

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

### SHAPE & DIMENSIONS



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

Dimensions in mm

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

### (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
CH	0±60 ppm/°C	-25 to +85°C
C0G	0±30 ppm/°C	-55 to +125°C
JB	±10%	-25 to +85°C
X5R	±15%	-55 to +85°C
X6S	±22%	-55 to +105°C
X7R	±15%	-55 to +125°C
X7S	±22%	-55 to +125°C

### (4) Rated voltage (DC)

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

### (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) Nominal 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
130	1.30 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

## Capacitance range chart

C0402 [01005 inch]

Capacitance		Tolerance	C0G	CH	JB			
(pF)	Code		1C (16V)	1C (16V)	1C (16V)	1A (10V)	0J (6.3V)	0G (4V)
0.5	0R5	C:±0.25pF						
0.75	R75							
1	010							
1.5	1R5							
2	020							
2.2	2R2							
3	030							
3.3	3R3							
4	040							
4.7	4R7							
5	050							
6	060	D:±0.50pF						
6.8	6R8							
7	070							
8	080							
9	090							
10	100	J:±5% K:±10% M:±20%						
12	120							
15	150							
18	180							
22	220							
27	270							
33	330							
39	390							
47	470							
56	560							
68	680	K:±10% M:±20%						
82	820							
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: The product which is not recommended to a new design.

Please refer to the capacitance range table after P-24 for the details such as product thickness and capacitance tolerance.

## Capacitance range chart

C0402 [01005 inch]

Capacitance		Tolerance	X5R				X6S			X7R		
(pF)	Code		1C (16V)	1A (10V)	0J (6.3V)	0G (4V)	1A (10V)	0J (6.3V)	0G (4V)	1A (10V)	0J (6.3V)	0G (4V)
100	101	K:±10% M:±20%										
150	151											
220	221											
330	331											
470	471											
680	681											
1,000	102	M:±20%										
1,500	152											
2,200	222											
22,000	223											
47,000	473											
100,000	104											
220,000	224											

Standard thickness  
0.20 mm




Background gray: The product which is not recommended to a new design.

Please refer to the capacitance range table after P-24 for the details such as product thickness and capacitance tolerance.

## Capacitance range chart

C0603 [0201 inch]



Capacitance		Tolerance	C0G		CH		JB				X5R					
(pF)	Code		1H (50V)	1E (25V)	1H (50V)	1E (25V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)	0G (4V)	
0.5	0R5	C:±0.25pF														
0.75	R75															
1	010															
1.5	1R5															
2	020															
2.2	2R2															
3	030															
3.3	3R3															
4	040															
4.7	4R7															
5	050															
6	060	D:±0.50pF														
6.8	6R8															
7	070															
8	080															
9	090															
10	100															
12	120		J:±5% K:±10% M:±20%													
15	150															
18	180															
22	220															
27	270															
33	330															
39	390															
47	470															
56	560															
68	680															
82	820															
100	101															
150	151	K:±10% M:±20%														
220	221															
330	331															
470	471															
680	681															
1,000	102															
1,500	152															
2,200	222															
3,300	332															
4,700	472															
6,800	682															
10,000	103	M:±20%														
15,000	153															
22,000	223															
47,000	473															
100,000	104															
150,000	154															
220,000	224															
330,000	334															
470,000	474															
1,000,000	105															

Standard thickness  0.30 mm Background gray: The product which is not recommended to a new design. Please refer to the capacitance range table after P-24 for the details such as product thickness and capacitance tolerance.

## Capacitance range chart

C0603 [0201 inch]

Capacitance		Tolerance	X6S					X7R				X7S		
(pF)	Code		1E (25V)	1C (16V)	1A (10V)	0J (6.3V)	0G (4V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)	1A (10V)	0J (6.3V)	0G (4V)
100	101	K:±10% M:±20%												
150	151													
220	221													
330	331													
470	471													
680	681													
1,000	102													
1,500	152													
2,200	222													
3,300	332													
4,700	472													
10,000	103													
22,000	223													
47,000	473													
100,000	104													
150,000	154													
220,000	224													
330,000	334													
470,000	474	M:±20%												

Standard thickness  0.30 mm Background gray: The product which is not recommended to a new design. Please refer to the capacitance range table after P-24 for the details such as product thickness and capacitance tolerance.


## Capacitance range chart

C1005 [0402 inch]

Capacitance		Tolerance	C0G		CH
(pF)	Code		1H (50V)	1E (25V)	1H (50V)
0.5	0R5	B:±0.10pF C:±0.25pF			
0.75	R75				
1	010				
1.5	1R5				
2	020				
3	030	C:±0.25pF D:±0.50pF			
4	040				
5	050				
6	060				
7	070				
8	080	F:±1% G:±2% J:±5%			
9	090				
10	100				
12	120				
15	150				
18	180				
22	220				
27	270				
33	330				
39	390				
47	470	F:±1% G:±2% J:±5% K:±10%			
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				

Standard thickness

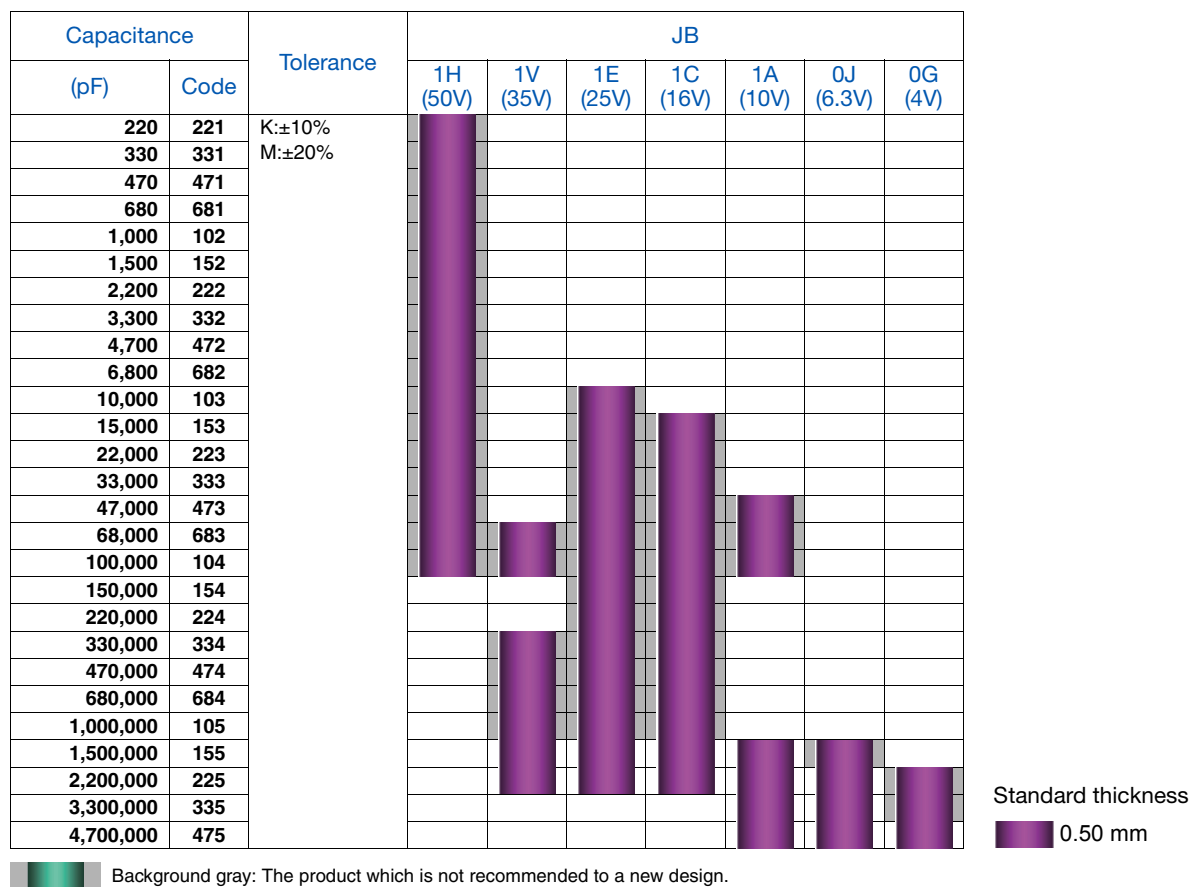
0.50 mm

 Background gray: The product which is not recommended to a new design.

■ Please refer to the capacitance range table after P-24 for the details such as product thickness and capacitance tolerance.

## Capacitance range chart

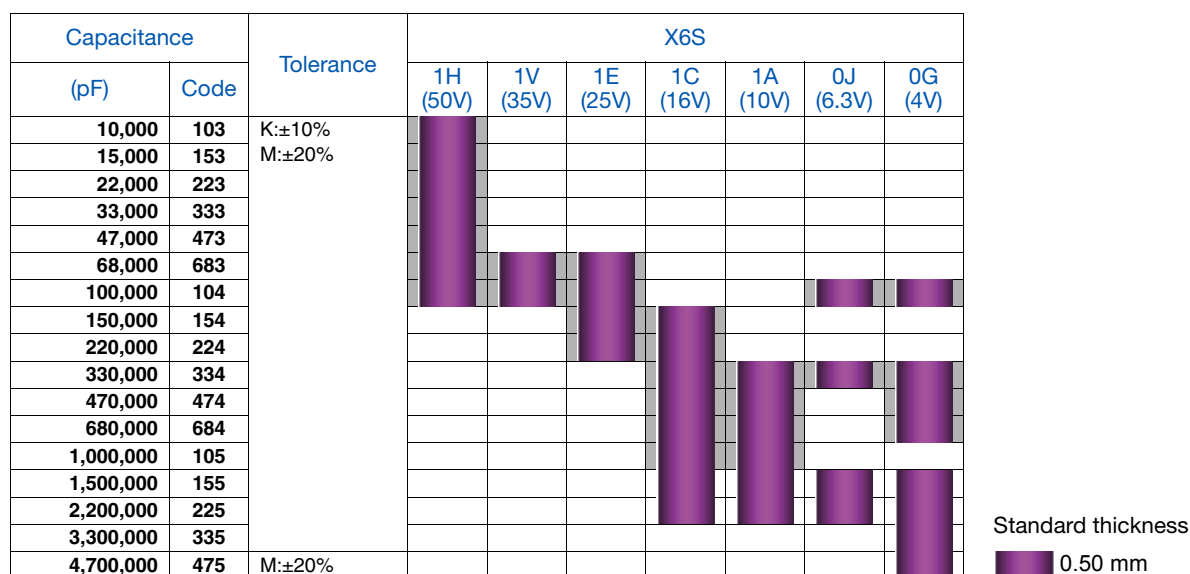
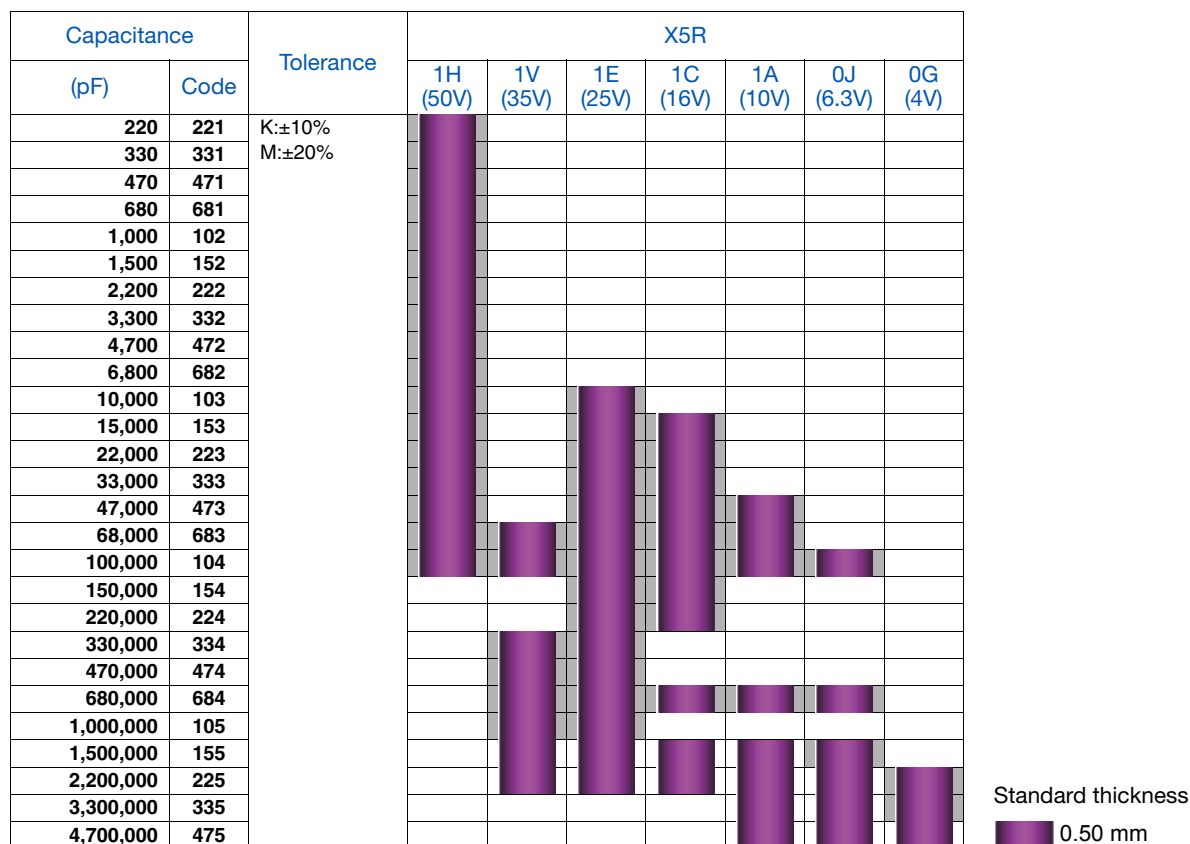
C1005 [0402 inch]



■ Please refer to the capacitance range table after P-24 for the details such as product thickness and capacitance tolerance.

## Capacitance range chart

C1005 [0402 inch]

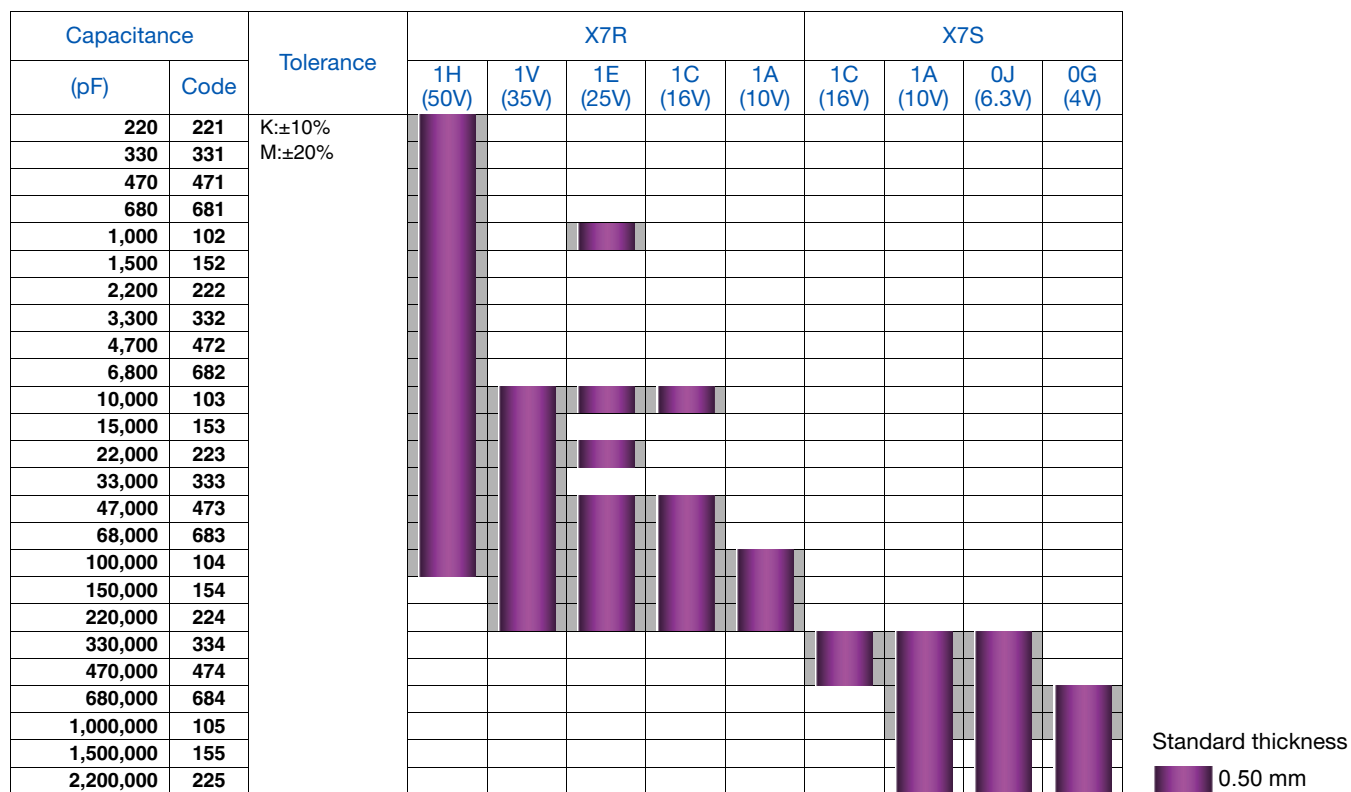


■ Background gray: The product which is not recommended to a new design.

■ Please refer to the capacitance range table after P-24 for the details such as product thickness and capacitance tolerance.

## Capacitance range chart

C1005 [0402 inch]




## Capacitance range chart

C1608 [0603 inch]

Capacitance		Tolerance	C0G			CH	
(pF)	Code		1H (50V)	1V (35V)	1E (25V)	1H (50V)	1V (35V)
0.5	0R5	C:±0.25pF					
0.75	R75						
1	010						
1.5	1R5						
2	020						
3	030	C:±0.25pF D:±0.50pF					
4	040						
5	050						
6	060						
7	070						
8	080	F:±1% G:±2% J:±5%					
9	090						
10	100						
12	120						
15	150						
18	180						
22	220						
27	270						
33	330						
39	390						
47	470	F:±1% G:±2% J:±5% K:±10%					
56	560						
68	680						
82	820						
100	101						
120	121						
150	151						
180	181						
220	221						
270	271						
330	331	J:±5% K:±10%					
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						
18,000	183						

Standard thickness

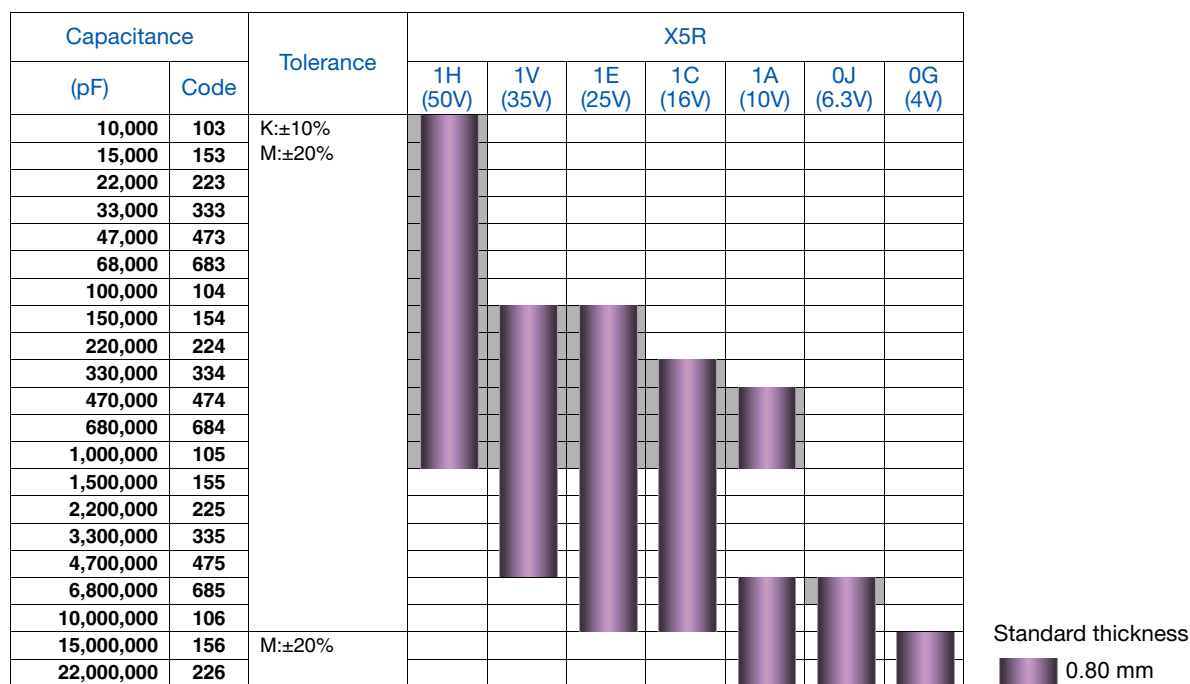
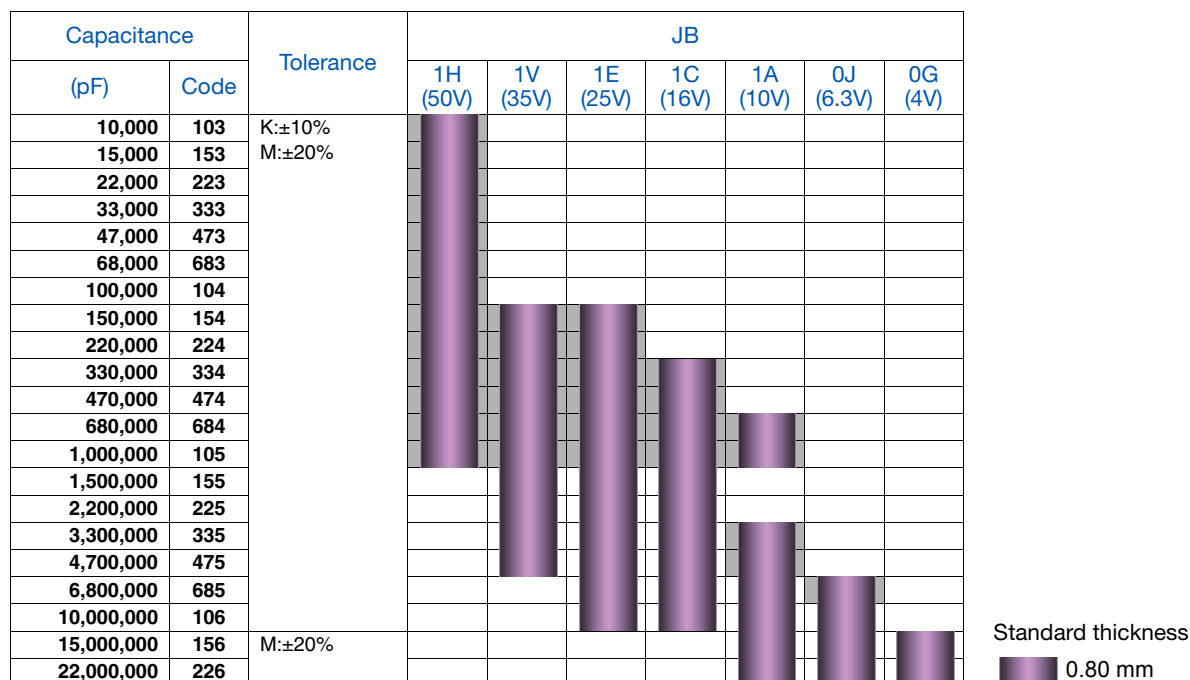
0.80 mm

 Background gray: The product which is not recommended to a new design.

 Please refer to the capacitance range table after P-24 for the details such as product thickness and capacitance tolerance.

## Capacitance range chart

## C1608 [0603 inch]

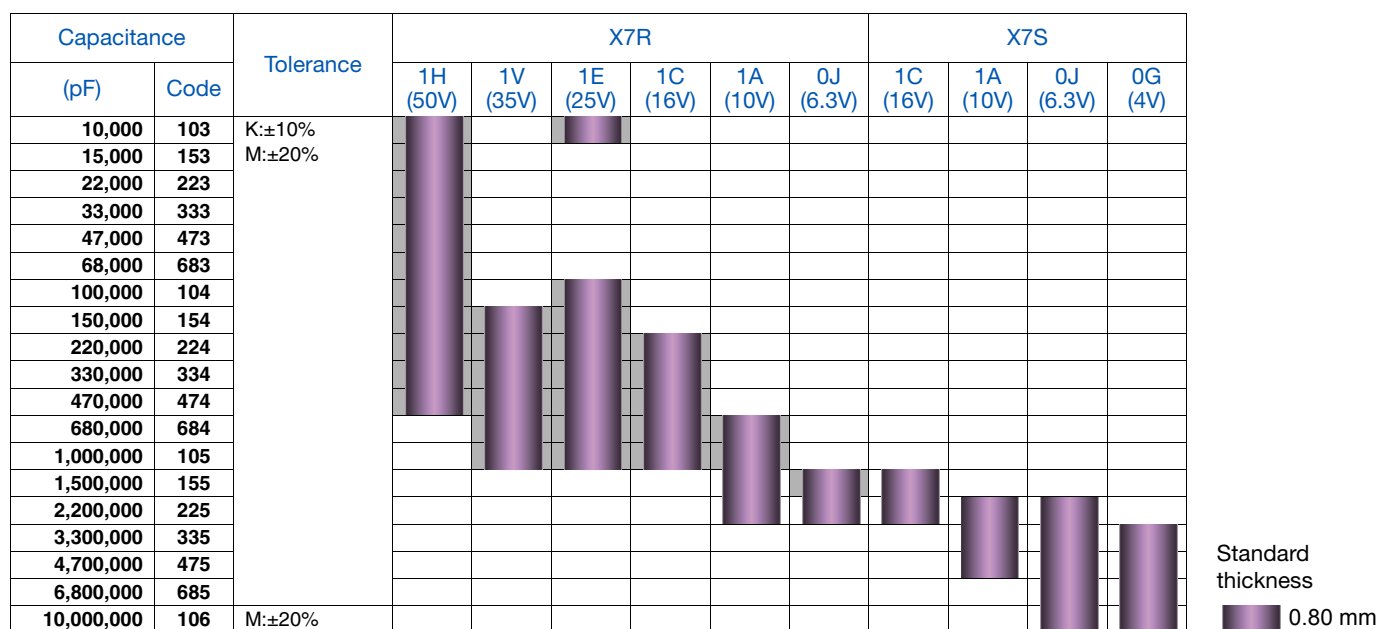
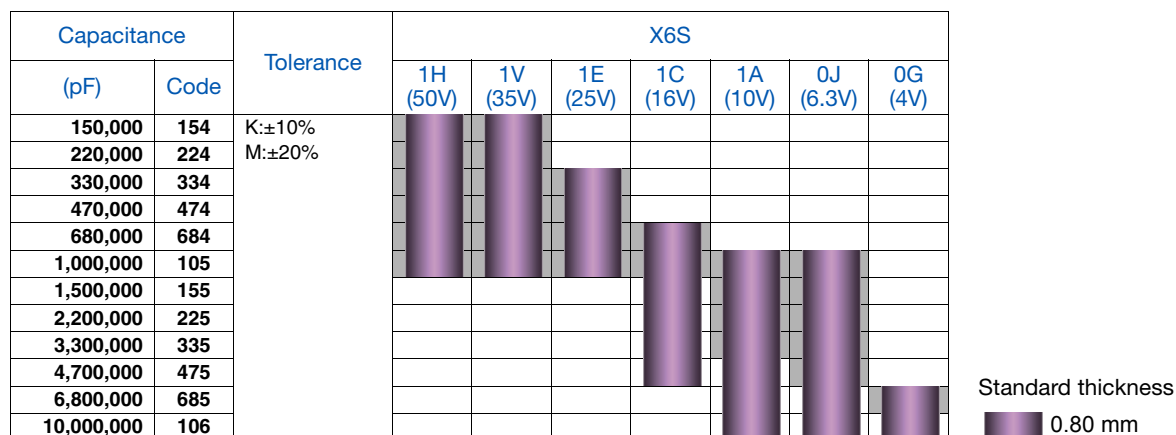


■ Background gray: The product which is not recommended to a new design.

■ Please refer to the capacitance range table after P-24 for the details such as product thickness and capacitance tolerance.

## Capacitance range chart

C1608 [0603 inch]



Background gray: The product which is not recommended to a new design.

■ Please refer to the capacitance range table after P-24 for the details such as product thickness and capacitance tolerance.

## Capacitance range chart

C2012 [0805 inch]

Capacitance		Tolerance	C0G			CH		JB					
(pF)	Code		1H (50V)	1V (35V)	1E (25V)	1H (50V)	1V (35V)	1H (50V)	1V (35V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)
1,000	102	J:±5% K:±10%											
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												
18,000	183												
22,000	223												
27,000	273												
30,000	303												
33,000	333												
100,000	104	K:±10% M:±20%											
150,000	154												
220,000	224												
330,000	334												
470,000	474												
680,000	684												
1,000,000	105												
1,500,000	155												
2,200,000	225												
3,300,000	335												
4,700,000	475	M:±20%											
6,800,000	685												
10,000,000	106												
15,000,000	156												
22,000,000	226												
33,000,000	336												
47,000,000	476												

Standard thickness    0.60 mm    0.85 mm    1.25 mm

Background gray: The product which is not recommended to a new design.

Please refer to the capacitance range table after P-24 for the details such as product thickness and capacitance tolerance.

## Capacitance range chart

## C2012 [0805 inch]

Capacitance		Tolerance	X5R						
(pF)	Code		1H (50V)	1V (35V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)	0G (4V)
100,000	104	K:±10% M:±20%							
150,000	154								
220,000	224								
330,000	334								
470,000	474								
680,000	684								
1,000,000	105								
1,500,000	155								
2,200,000	225								
3,300,000	335								
4,700,000	475								
6,800,000	685								
10,000,000	106								
15,000,000	156								
22,000,000	226								
33,000,000	336	M:±20%							
47,000,000	476								

Standard thickness

0.60 mm

0.85 mm


1.25 mm

Capacitance		Tolerance	X6S						
(pF)	Code		1H (50V)	1V (35V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)	0G (4V)
470,000	474	K:±10% M:±20%							
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	M:±20%							
33,000,000	336								
47,000,000	476								

Standard thickness

0.85 mm

1.25 mm

 Background gray: The product which is not recommended to a new design.

 Please refer to the capacitance range table after P-24 for the details such as product thickness and capacitance tolerance.

## Capacitance range chart

C2012 [0805 inch]

Capacitance		Tolerance	X7R						X7S			
(pF)	Code		1H (50V)	1V (35V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)	1C (16V)	1A (10V)	0J (6.3V)	0G (4V)
100,000	104	K:±10% M:±20%										
150,000	154											
220,000	224											
330,000	334											
470,000	474											
680,000	684											
1,000,000	105											
1,500,000	155											
2,200,000	225											
3,300,000	335											
4,700,000	475	M:±20%										
6,800,000	685											
10,000,000	106											
15,000,000	156											
22,000,000	226											

Standard  
thickness

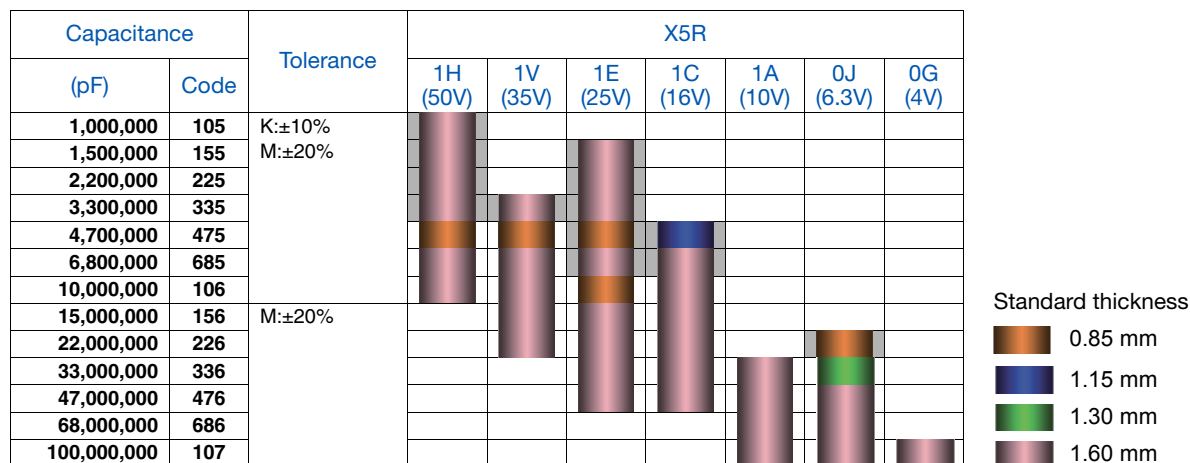
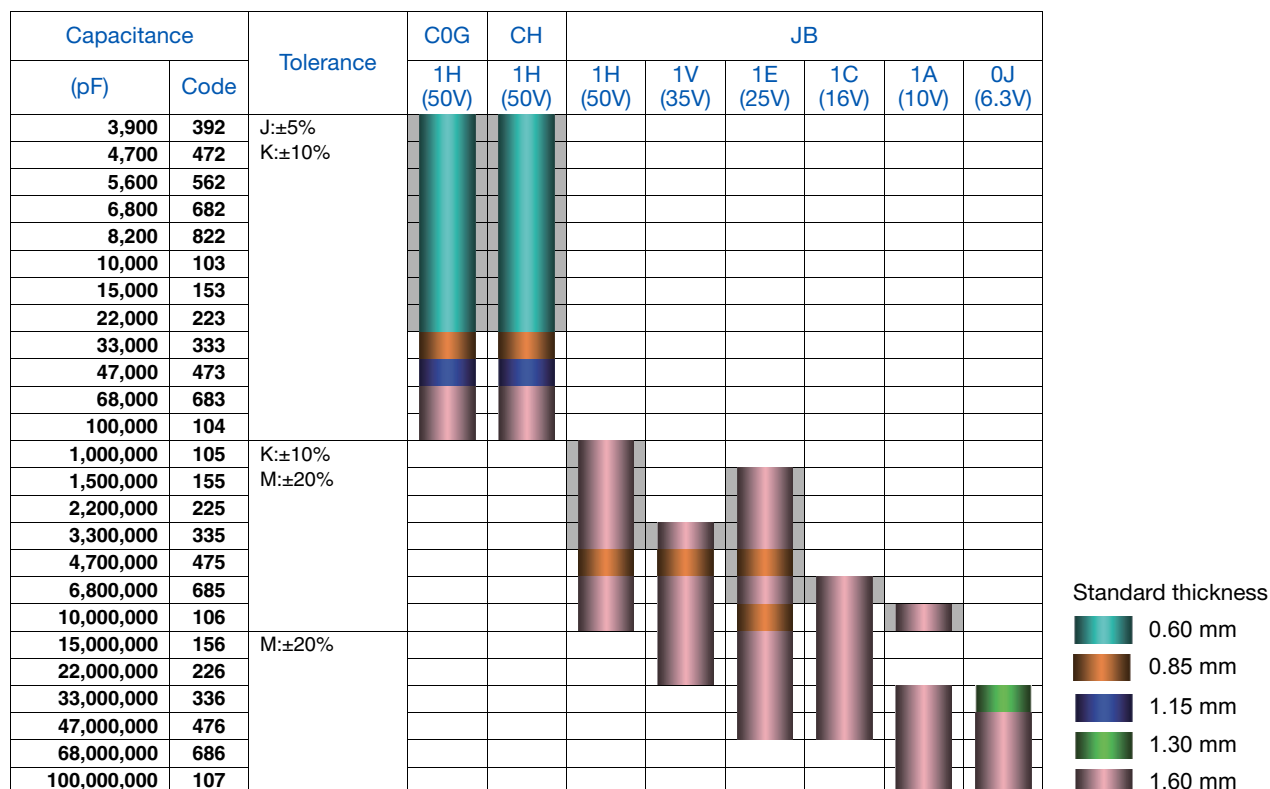
0.85 mm  
1.25 mm

Background gray: The product which is not recommended to a new design.

Please refer to the capacitance range table after P-24 for the details such as product thickness and capacitance tolerance.

## Capacitance range chart

C3216 [1206 inch]



Background gray: The product which is not recommended to a new design.

■ Please refer to the capacitance range table after P-24 for the details such as product thickness and capacitance tolerance.

## Capacitance range chart

## C3216 [1206 inch]

Capacitance		Tolerance	X6S						
(pF)	Code		1H (50V)	1V (35V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)	0G (4V)
1,500,000	155	K:±10% M:±20%							
2,200,000	225								
3,300,000	335								
4,700,000	475								
6,800,000	685								
10,000,000	106	M:±20%							
15,000,000	156								
22,000,000	226								
33,000,000	336								
47,000,000	476								
68,000,000	686								
100,000,000	107								

Standard thickness

0.85 mm

1.60 mm

Capacitance		Tolerance	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	K:±10% M:±20%									
330,000	334										
470,000	474										
680,000	684										
1,000,000	105										
1,500,000	155	M:±20%									
2,200,000	225										
3,300,000	335										
4,700,000	475										
6,800,000	685										
10,000,000	106	M:±20%									
15,000,000	156										
22,000,000	226										
33,000,000	336										
47,000,000	476										

Standard thickness

0.85 mm

1.15 mm

1.60 mm

Background gray: The product which is not recommended to a new design.

■ Please refer to the capacitance range table after P-24 for the details such as product thickness and capacitance tolerance.

## Capacitance range chart

C3225 [1210 inch]

Capacitance		Tolerance	C0G	CH	JB					X5R				
(pF)	Code		1H (50V)	1H (50V)	1H (50V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)	1H (50V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)
22,000	223	J:±5% K:±10%												
33,000	333													
47,000	473													
68,000	683													
100,000	104													
2,200,000	225	K:±10% M:±20%												
3,300,000	335													
4,700,000	475													
6,800,000	685													
10,000,000	106													
15,000,000	156	M:±20%												
22,000,000	226													
33,000,000	336													
47,000,000	476													
68,000,000	686													
100,000,000	107													

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

Capacitance		Tolerance	X6S						X7R				X7S	
(pF)	Code		1H (50V)	1V (35V)	1E (25V)	1C (16V)	0J (6.3V)	0G (4V)	1H (50V)	1E (25V)	1C (16V)	1A (10V)	1H (50V)	0J (6.3V)
1,000,000	105	K:±10% M:±20%												
1,500,000	155													
2,200,000	225													
3,300,000	335													
4,700,000	475													
6,800,000	685	M:±20%												
10,000,000	106													
15,000,000	156													
22,000,000	226													
47,000,000	476													
100,000,000	107													

Standard thickness    1.60 mm    2.00 mm    2.30 mm    2.50 mm

Background gray: The product which is not recommended to a new design.

■ Please refer to the capacitance range table after P-24 for the details such as product thickness and capacitance tolerance.

## Capacitance range chart

C4532 [1812 inch]

Capacitance		Tolerance	C0G	CH	JB		
(pF)	Code		1H (50V)	1H (50V)	1H (50V)	1E (25V)	1C (16V)
47,000	473	J:±5% K:±10%					
68,000	683						
100,000	104						
150,000	154						
220,000	224						
6,800,000	685	K:±10% M:±20%					
10,000,000	106						
15,000,000	156	M:±20%					
22,000,000	226						
33,000,000	336						

Standard thickness

	1.60 mm
	2.00 mm
	2.50 mm
	3.20 mm

Capacitance		Tolerance	X5R					X6S	X7R		
(pF)	Code		1H (50V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)	0J (6.3V)	1H (50V)	1E (25V)	1C (16V)
1,000,000	105	K:±10%									
2,200,000	225										
3,300,000	335										
4,700,000	475										
6,800,000	685										
10,000,000	106	M:±20%									
15,000,000	156										
22,000,000	226										
33,000,000	336										
47,000,000	476										
68,000,000	686										
100,000,000	107										

Standard thickness

	1.60 mm
	2.00 mm
	2.30 mm
	2.50 mm
	2.80 mm

Background gray: The product which is not recommended to a new design.





■ Please refer to the capacitance range table after P-24 for the details such as product thickness and capacitance tolerance.


## Capacitance range chart

C5750 [2220 inch]

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

Standard thickness

	2.00 mm
	2.30 mm
	2.50 mm
	2.80 mm

 Background gray: The product which is not recommended to a new design.

■ Please refer to the capacitance range table after P-24 for the details such as product thickness and capacitance tolerance.

## MULTILAYER CERAMIC CHIP CAPACITORS


**Capacitance range table**      **Temperature characteristics: 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
0.5 pF	0402	0.20±0.02	±0.25pF			C0402C0G1C0R5C020BC
	0603	0.30±0.03	±0.25pF	C0603C0G1H0R5C030BA	C0603C0G1E0R5C030BA	
	1005	0.50±0.05	±0.10pF	C1005C0G1H0R5B050BA		
	1608	0.80±0.10	±0.25pF	C1005C0G1H0R5C050BA		
0.75 pF	0402	0.20±0.02	±0.25pF	C1608C0G1H0R5C080AA		C0402C0G1CR75C020BC
	0603	0.30±0.03	±0.25pF	C0603C0G1HR75C030BA	C0603C0G1ER75C030BA	
	1005	0.50±0.05	±0.10pF	C1005C0G1HR75B050BA		
	1608	0.80±0.10	±0.25pF	C1005C0G1HR75C050BA		
1 pF	0402	0.20±0.02	±0.25pF	C1608C0G1HR75C080AA		C0402C0G1C010C020BC
	0603	0.30±0.03	±0.25pF	C0603C0G1H010C030BA	C0603C0G1E010C030BA	
	1005	0.50±0.05	±0.10pF	C1005C0G1H010B050BA		
	1608	0.80±0.10	±0.25pF	C1005C0G1H010C050BA		
1.5 pF	0402	0.20±0.02	±0.25pF	C1608C0G1H010C080AA		C0402C0G1C1R5C020BC
	0603	0.30±0.03	±0.25pF	C0603C0G1H1R5C030BA	C0603C0G1E1R5C030BA	
	1005	0.50±0.05	±0.10pF	C1005C0G1H1R5B050BA		
	1608	0.80±0.10	±0.25pF	C1005C0G1H1R5C050BA		
2 pF	0402	0.20±0.02	±0.25pF	C1608C0G1H1R5C080AA		C0402C0G1C020C020BC
	0603	0.30±0.03	±0.25pF	C0603C0G1H020C030BA	C0603C0G1E020C030BA	
	1005	0.50±0.05	±0.10pF	C1005C0G1H020B050BA		
	1608	0.80±0.10	±0.25pF	C1005C0G1H020C050BA		
2.2 pF	0402	0.20±0.02	±0.25pF	C1608C0G1H020C080AA		C0402C0G1C2R2C020BC
	0603	0.30±0.03	±0.25pF	C0603C0G1H2R2C030BA	C0603C0G1E2R2C030BA	
	0402	0.20±0.02	±0.25pF			C0402C0G1C030C020BC
	0603	0.30±0.03	±0.25pF	C0603C0G1H030C030BA	C0603C0G1E030C030BA	
3 pF	1005	0.50±0.05	±0.10pF	C1005C0G1H030B050BA		
	1608	0.80±0.10	±0.25pF	C1005C0G1H030C050BA		
	0402	0.20±0.02	±0.25pF	C1608C0G1H030C080AA		C0402C0G1C3R3C020BC
	0603	0.30±0.03	±0.25pF	C0603C0G1H3R3C030BA	C0603C0G1E3R3C030BA	
3.3 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		
	1608	0.80±0.10	±0.25pF	C1005C0G1H040C050BA		
4 pF	0402	0.20±0.02	±0.25pF	C1608C0G1H040C080AA		C0402C0G1C4R7C020BC
	0603	0.30±0.03	±0.25pF	C0603C0G1H4R7C030BA	C0603C0G1E4R7C030BA	
	0402	0.20±0.02	±0.25pF			C0402C0G1C050C020BC
	0603	0.30±0.03	±0.25pF	C0603C0G1H050C030BA	C0603C0G1E050C030BA	
5 pF	1005	0.50±0.05	±0.10pF	C1005C0G1H050B050BA		
	1608	0.80±0.10	±0.25pF	C1005C0G1H050C050BA		
	0402	0.20±0.02	±0.50pF	C1608C0G1H050C080AA		C0402C0G1C060D020BC
	0603	0.30±0.03	±0.50pF	C0603C0G1H060D030BA	C0603C0G1E060D030BA	
6 pF	1005	0.50±0.05	±0.25pF	C1005C0G1H060C050BA		
	1608	0.80±0.10	±0.50pF	C1005C0G1H060D050BA		
	0402	0.20±0.02	±0.25pF	C1608C0G1H060C080AA		C0402C0G1C6R8D020BC
	0603	0.30±0.03	±0.50pF	C1608C0G1H060D080AA		
6.8 pF	0402	0.20±0.02	±0.50pF			C0402C0G1C070D020BC
	0603	0.30±0.03	±0.50pF	C0603C0G1H6R8D030BA	C0603C0G1E6R8D030BA	
	0402	0.20±0.02	±0.50pF			C0402C0G1C070D020BC
	0603	0.30±0.03	±0.50pF	C0603C0G1H070D030BA	C0603C0G1E070D030BA	
7 pF	1005	0.50±0.05	±0.25pF	C1005C0G1H070C050BA		
	1608	0.80±0.10	±0.50pF	C1005C0G1H070D050BA		
	0402	0.20±0.02	±0.25pF	C1608C0G1H070C080AA		
	0603	0.30±0.03	±0.50pF	C1608C0G1H070D080AA		

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance range table

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

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number		
				Rated voltage Edc: 50V	Rated voltage Edc: 25V	Rated voltage Edc: 16V
8 pF	0402	0.20±0.02	±0.50pF			C0402C0G1C080D020BC
	0603	0.30±0.03	±0.50pF	C0603C0G1H080D030BA	C0603C0G1E080D030BA	
	1005	0.50±0.05	±0.25pF	C1005C0G1H080C050BA		
			±0.50pF	C1005C0G1H080D050BA		
			±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		
12 pF	0402	0.20±0.02	±10%			C0402C0G1C120K020BC
			±5%			C0402C0G1C120J020BC
	0603	0.30±0.03	±10%	C0603C0G1H120K030BA	C0603C0G1E120K030BA	
			±5%	C0603C0G1H120J030BA	C0603C0G1E120J030BA	
			±5%	C1005C0G1H120J050BA		
	1005	0.50±0.05	±5%	C1005C0G1H120J050BA		
	1608	0.80±0.10	±5%	C1608C0G1H120J080AA		
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		
18 pF	0402	0.20±0.02	±10%			C0402C0G1C180K020BC
			±5%			C0402C0G1C180J020BC
	0603	0.30±0.03	±10%	C0603C0G1H180K030BA	C0603C0G1E180K030BA	
			±5%	C0603C0G1H180J030BA	C0603C0G1E180J030BA	
			±5%	C1005C0G1H180J050BA		
	1005	0.50±0.05	±5%	C1005C0G1H180J050BA		
	1608	0.80±0.10	±5%	C1608C0G1H180J080AA		
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		
27 pF	0402	0.20±0.02	±10%			C0402C0G1C270K020BC
			±5%			C0402C0G1C270J020BC
	0603	0.30±0.03	±10%	C0603C0G1H270K030BA	C0603C0G1E270K030BA	
			±5%	C0603C0G1H270J030BA	C0603C0G1E270J030BA	
			±5%	C1005C0G1H270J050BA		
	1608	0.80±0.10	±5%	C1608C0G1H270J080AA		

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS


**Capacitance range table**      **Temperature characteristics: C0G (-55 to +125°C, 0±30 ppm/°C)**

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number		
				Rated voltage Edc: 50V	Rated voltage Edc: 25V	Rated voltage Edc: 16V
33 pF	0402	0.20±0.02	±10%			C0402C0G1C330K020BC
			±5%			C0402C0G1C330J020BC
	0603	0.30±0.03	±10%	C0603C0G1H330K030BA	C0603C0G1E330K030BA	
			±5%	C0603C0G1H330J030BA	C0603C0G1E330J030BA	
	1005	0.50±0.05	±1%	C1005C0G1H330F050BA		
			±2%	C1005C0G1H330G050BA		
			±5%	C1005C0G1H330J050BA		
			±1%	C1608C0G1H330F080AA		
	1608	0.80±0.10	±2%	C1608C0G1H330G080AA		
			±5%	C1608C0G1H330J080AA		
39 pF	0402	0.20±0.02	±10%			C0402C0G1C390K020BC
			±5%			C0402C0G1C390J020BC
	0603	0.30±0.03	±10%	C0603C0G1H390K030BA	C0603C0G1E390K030BA	
			±5%	C0603C0G1H390J030BA	C0603C0G1E390J030BA	
	1005	0.50±0.05	±5%	C1005C0G1H390J050BA		
			±5%	C1608C0G1H390J080AA		
	1608	0.80±0.10	±10%			C0402C0G1C470K020BC
			±5%			C0402C0G1C470J020BC
			±10%	C0603C0G1H470K030BA	C0603C0G1E470K030BA	
			±5%	C0603C0G1H470J030BA	C0603C0G1E470J030BA	
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		
	1608	0.80±0.10	±2%	C1608C0G1H470G080AA		
			±5%	C1608C0G1H470J080AA		
56 pF	0402	0.20±0.02	±10%			C0402C0G1C560K020BC
			±5%			C0402C0G1C560J020BC
	0603	0.30±0.03	±10%	C0603C0G1H560K030BA	C0603C0G1E560K030BA	
			±5%	C0603C0G1H560J030BA	C0603C0G1E560J030BA	
	1005	0.50±0.05	±5%	C1005C0G1H560J050BA		
			±5%	C1608C0G1H560J080AA		
	1608	0.80±0.10	±10%			C0402C0G1C680K020BC
			±5%			C0402C0G1C680J020BC
			±10%	C0603C0G1H680K030BA	C0603C0G1E680K030BA	
			±5%	C0603C0G1H680J030BA	C0603C0G1E680J030BA	
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		
	1608	0.80±0.10	±2%	C1608C0G1H680G080AA		
			±5%	C1608C0G1H680J080AA		
82 pF	0402	0.20±0.02	±10%			C0402C0G1C820K020BC
			±5%			C0402C0G1C820J020BC
	0603	0.30±0.03	±10%	C0603C0G1H820K030BA	C0603C0G1E820K030BA	
			±5%	C0603C0G1H820J030BA	C0603C0G1E820J030BA	
	1005	0.50±0.05	±5%	C1005C0G1H820J050BA		
			±5%	C1608C0G1H820J080AA		
	1608	0.80±0.10	±10%			C0402C0G1C101K020BC
			±5%			C0402C0G1C101J020BC
			±10%	C0603C0G1H101K030BA	C0603C0G1E101K030BA	
			±5%	C0603C0G1H101J030BA	C0603C0G1E101J030BA	
100 pF	0402	0.20±0.02	±1%	C1005C0G1H101F050BA		
			±10%	C1005C0G1H101K050BA		
	1005	0.50±0.05	±2%	C1005C0G1H101G050BA		
			±5%	C1005C0G1H101J050BA		
			±1%	C1608C0G1H101F080AA		
			±10%	C1608C0G1H101K080AA		
	1608	0.80±0.10	±2%	C1608C0G1H101G080AA		
			±5%	C1608C0G1H101J080AA		

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS



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

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number Rated voltage Edc: 50V
120 pF	1005	0.50±0.05	±10%	C1005C0G1H121K050BA
			±5%	C1005C0G1H121J050BA
	1608	0.80±0.10	±10%	C1608C0G1H121K080AA
			±5%	C1608C0G1H121J080AA
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
180 pF	1005	0.50±0.05	±10%	C1005C0G1H181K050BA
			±5%	C1005C0G1H181J050BA
	1608	0.80±0.10	±10%	C1608C0G1H181K080AA
			±5%	C1608C0G1H181J080AA
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
270 pF	1005	0.50±0.05	±10%	C1005C0G1H271K050BA
			±5%	C1005C0G1H271J050BA
	1608	0.80±0.10	±10%	C1608C0G1H271K080AA
			±5%	C1608C0G1H271J080AA
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
390 pF	1005	0.50±0.05	±10%	C1005C0G1H391K050BA
			±5%	C1005C0G1H391J050BA
	1608	0.80±0.10	±10%	C1608C0G1H391K080AA
			±5%	C1608C0G1H391J080AA
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
560 pF	1005	0.50±0.05	±10%	C1005C0G1H561K050BA
			±5%	C1005C0G1H561J050BA
	1608	0.80±0.10	±10%	C1608C0G1H561K080AA
			±5%	C1608C0G1H561J080AA
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 item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance range table      Temperature characteristics: 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
820 pF	1005	0.50±0.05	±10%	C1005C0G1H821K050BA	
			±5%	C1005C0G1H821J050BA	
	1608	0.80±0.10	±10%	C1608C0G1H821K080AA	
			±5%	C1608C0G1H821J080AA	
1 nF	1005	0.50±0.05	±1%	C1005C0G1H102F050BA	
			±10%	C1005C0G1H102K050BA	
			±2%	C1005C0G1H102G050BA	
			±5%	C1005C0G1H102J050BA	C1005C0G1E102J050BA
	1608	0.80±0.10	±1%	C1608C0G1H102F080AA	
			±10%	C1608C0G1H102K080AA	
			±2%	C1608C0G1H102G080AA	
			±5%	C1608C0G1H102J080AA	
	2012	0.60±0.15	±10%	C2012C0G1H102K060AA	
			±5%	C2012C0G1H102J060AA	
1.2 nF	1608	0.80±0.10	±10%	C1608C0G1H122K080AA	
			±5%	C1608C0G1H122J080AA	
	2012	0.60±0.15	±10%	C2012C0G1H122K060AA	
1.5 nF	1608	0.80±0.10	±10%	C1608C0G1H152K080AA	
			±5%	C1608C0G1H152J080AA	
	2012	0.60±0.15	±10%	C2012C0G1H152K060AA	
1.8 nF	1608	0.80±0.10	±10%	C1608C0G1H182K080AA	
			±5%	C1608C0G1H182J080AA	
	2012	0.60±0.15	±10%	C2012C0G1H182K060AA	
2.2 nF	1608	0.80±0.10	±10%	C1608C0G1H222K080AA	
			±5%	C1608C0G1H222J080AA	
	2012	0.60±0.15	±10%	C2012C0G1H222K060AA	
2.7 nF	1608	0.80±0.10	±10%	C1608C0G1H272K080AA	
			±5%	C1608C0G1H272J080AA	
	2012	0.60±0.15	±10%	C2012C0G1H272K060AA	
3.3 nF	1608	0.80±0.10	±10%	C1608C0G1H332K080AA	
			±5%	C1608C0G1H332J080AA	
	2012	0.60±0.15	±10%	C2012C0G1H332K060AA	
3.9 nF	1608	0.80±0.10	±10%	C1608C0G1H392K080AA	
			±5%	C1608C0G1H392J080AA	C1608C0G1E392J080AA
	2012	0.60±0.15	±10%	C2012C0G1H392K060AA	
4.7 nF	1608	0.80±0.10	±10%	C1608C0G1H472K080AA	
			±5%	C1608C0G1H472J080AA	C1608C0G1E472J080AA
	2012	0.60±0.15	±10%	C2012C0G1H472K060AA	
5.6 nF	1608	0.80±0.10	±10%	C1608C0G1H562K080AA	
			±5%	C1608C0G1H562J080AA	C1608C0G1E562J080AA
	2012	0.60±0.15	±10%	C2012C0G1H562K060AA	
3216	0.60±0.15	0.60±0.15	±10%	C3216C0G1H562K060AA	
			±5%	C3216C0G1H562J060AA	

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance range table

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

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number		
				Rated voltage Edc: 50V	Rated voltage Edc: 35V	Rated voltage Edc: 25V
6.8 nF	1608	0.80±0.10	±10%	C1608C0G1H682K080AA		
			±5%	C1608C0G1H682J080AA		C1608C0G1E682J080AA
	2012	0.60±0.15	±10%	C2012C0G1H682K060AA		
			±5%	C2012C0G1H682J060AA		
	3216	0.60±0.15	±10%	C3216C0G1H682K060AA		
			±5%	C3216C0G1H682J060AA		
8.2 nF	1608	0.80±0.10	±10%	C1608C0G1H822K080AA		
			±5%	C1608C0G1H822J080AA		C1608C0G1E822J080AA
	2012	0.60±0.15	±10%	C2012C0G1H822K060AA		
			±5%	C2012C0G1H822J060AA		
	3216	0.60±0.15	±10%	C3216C0G1H822K060AA		
			±5%	C3216C0G1H822J060AA		
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		C2012C0G1E153J085AA
	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%		C2012C0G1V183K060AC	
			±5%		C2012C0G1V183J060AC	
			±10%		C2012C0G1V223K060AC	
			±5%		C2012C0G1V223J060AC	
22 nF	2012	0.60±0.15	±10%	C2012C0G1H223K125AA		
			±5%	C2012C0G1H223J125AA		C2012C0G1E223J125AA
	3216	0.60±0.15	±10%	C3216C0G1H223K060AA		
			±5%	C3216C0G1H223J060AA		
	3225	1.25±0.20	±10%	C3225C0G1H223K125AA		
			±5%	C3225C0G1H223J125AA		
27 nF	2012	0.60±0.15	±10%		C2012C0G1V273K060AC	
			±5%		C2012C0G1V273J060AC	
30 nF	2012	0.60±0.15	±10%		C2012C0G1V303K060AC	
			±5%		C2012C0G1V303J060AC	
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 item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance range table      Temperature characteristics: CH (-25 to +85°C, 0±60 ppm/°C)

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number		
				Rated voltage Edc: 50V	Rated voltage Edc: 25V	Rated voltage Edc: 16V
0.5 pF	0402	0.20±0.02	±0.25pF			C0402CH1C0R5C020BC
	0603	0.30±0.03	±0.25pF	C0603CH1H0R5C030BA	C0603CH1E0R5C030BA	
	1005	0.50±0.05	±0.10pF	C1005CH1H0R5B050BA		
	1608	0.80±0.10	±0.25pF	C1005CH1H0R5C050BA		
0.75 pF	0402	0.20±0.02	±0.25pF			C0402CH1CR75C020BC
	0603	0.30±0.03	±0.25pF	C0603CH1HR75C030BA	C0603CH1ER75C030BA	
	1005	0.50±0.05	±0.10pF	C1005CH1HR75B050BA		
	1608	0.80±0.10	±0.25pF	C1005CH1HR75C050BA		
1 pF	0402	0.20±0.02	±0.25pF			C0402CH1C010C020BC
	0603	0.30±0.03	±0.25pF	C0603CH1H010C030BA	C0603CH1E010C030BA	
	1005	0.50±0.05	±0.10pF	C1005CH1H010B050BA		
	1608	0.80±0.10	±0.25pF	C1005CH1H010C050BA		
1.5 pF	0402	0.20±0.02	±0.25pF			C0402CH1C1R5C020BC
	0603	0.30±0.03	±0.25pF	C0603CH1H1R5C030BA	C0603CH1E1R5C030BA	
	1005	0.50±0.05	±0.10pF	C1005CH1H1R5B050BA		
	1608	0.80±0.10	±0.25pF	C1005CH1H1R5C050BA		
2 pF	0402	0.20±0.02	±0.25pF			C0402CH1C020C020BC
	0603	0.30±0.03	±0.25pF	C0603CH1H020C030BA	C0603CH1E020C030BA	
	1005	0.50±0.05	±0.10pF	C1005CH1H020B050BA		
	1608	0.80±0.10	±0.25pF	C1005CH1H020C050BA		
2.2 pF	0402	0.20±0.02	±0.25pF			C0402CH1C2R2C020BC
	0603	0.30±0.03	±0.25pF	C0603CH1H2R2C030BA	C0603CH1E2R2C030BA	
	0402	0.20±0.02	±0.25pF			C0402CH1C030C020BC
	0603	0.30±0.03	±0.25pF	C0603CH1H030C030BA	C0603CH1E030C030BA	
3 pF	1005	0.50±0.05	±0.10pF	C1005CH1H030B050BA		
	1608	0.80±0.10	±0.25pF	C1005CH1H030C050BA		
	0402	0.20±0.02	±0.25pF			C0402CH1C3R3C020BC
	0603	0.30±0.03	±0.25pF	C0603CH1H3R3C030BA	C0603CH1E3R3C030BA	
3.3 pF	0402	0.20±0.02	±0.25pF			C0402CH1C040C020BC
	0603	0.30±0.03	±0.25pF	C0603CH1H040C030BA	C0603CH1E040C030BA	
	1005	0.50±0.05	±0.10pF	C1005CH1H040B050BA		
	1608	0.80±0.10	±0.25pF	C1005CH1H040C050BA		
4 pF	0402	0.20±0.02	±0.25pF			C0402CH1C4R7C020BC
	0603	0.30±0.03	±0.25pF	C0603CH1H4R7C030BA	C0603CH1E4R7C030BA	
	0402	0.20±0.02	±0.25pF			C0402CH1C050C020BC
	0603	0.30±0.03	±0.25pF	C0603CH1H050C030BA	C0603CH1E050C030BA	
5 pF	1005	0.50±0.05	±0.10pF	C1005CH1H050B050BA		
	1608	0.80±0.10	±0.25pF	C1005CH1H050C050BA		
	0402	0.20±0.02	±0.50pF			C0402CH1C060D020BC
	0603	0.30±0.03	±0.50pF	C0603CH1H060D030BA	C0603CH1E060D030BA	
6 pF	1005	0.50±0.05	±0.25pF	C1005CH1H060C050BA		
	1608	0.80±0.10	±0.50pF	C1005CH1H060D050BA		
	0402	0.20±0.02	±0.25pF	C1608CH1H060C080AA		
	0603	0.30±0.03	±0.50pF	C1608CH1H060D080AA		
6.8 pF	0402	0.20±0.02	±0.50pF			C0402CH1C6R8D020BC
	0603	0.30±0.03	±0.50pF	C0603CH1H6R8D030BA	C0603CH1E6R8D030BA	
	0402	0.20±0.02	±0.50pF			C0402CH1C070D020BC
	0603	0.30±0.03	±0.50pF	C0603CH1H070D030BA	C0603CH1E070D030BA	
7 pF	1005	0.50±0.05	±0.25pF	C1005CH1H070C050BA		
	1608	0.80±0.10	±0.50pF	C1005CH1H070D050BA		
	0402	0.20±0.02	±0.25pF	C1608CH1H070C080AA		
	0603	0.30±0.03	±0.50pF	C1608CH1H070D080AA		

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance range table      Temperature characteristics: CH (-25 to +85°C, 0±60 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			C0402CH1C080D020BC
	0603	0.30±0.03	±0.50pF	C0603CH1H080D030BA	C0603CH1E080D030BA	
	1005	0.50±0.05	±0.25pF	C1005CH1H080C050BA		
			±0.50pF	C1005CH1H080D050BA		
			±0.25pF	C1608CH1H080C080AA		
9 pF	0402	0.20±0.02	±0.50pF			C0402CH1C090D020BC
	0603	0.30±0.03	±0.50pF	C0603CH1H090D030BA	C0603CH1E090D030BA	
	1005	0.50±0.05	±0.25pF	C1005CH1H090C050BA		
			±0.50pF	C1005CH1H090D050BA		
			±0.25pF	C1608CH1H090C080AA		
10 pF	0402	0.20±0.02	±0.50pF			C0402CH1C100D020BC
	0603	0.30±0.03	±0.50pF	C0603CH1H100D030BA	C0603CH1E100D030BA	
	1005	0.50±0.05	±0.25pF	C1005CH1H100C050BA		
			±0.50pF	C1005CH1H100D050BA		
			±0.25pF	C1608CH1H100C080AA		
12 pF	0402	0.20±0.02	±10%			C0402CH1C120K020BC
	0603	0.30±0.03	±5%			C0402CH1C120J020BC
			±10%	C0603CH1H120K030BA	C0603CH1E120K030BA	
			±5%	C0603CH1H120J030BA	C0603CH1E120J030BA	
	1005	0.50±0.05	±5%	C1005CH1H120J050BA		
15 pF	0402	0.20±0.02	±10%			C0402CH1C150K020BC
	0603	0.30±0.03	±5%			C0402CH1C150J020BC
			±10%	C0603CH1H150K030BA	C0603CH1E150K030BA	
			±5%	C0603CH1H150J030BA	C0603CH1E150J030BA	
	1005	0.50±0.05	±5%	C1005CH1H150J050BA		
18 pF	0402	0.20±0.02	±10%			C0402CH1C180K020BC
	0603	0.30±0.03	±5%			C0402CH1C180J020BC
			±10%	C0603CH1H180K030BA	C0603CH1E180K030BA	
			±5%	C0603CH1H180J030BA	C0603CH1E180J030BA	
	1005	0.50±0.05	±5%	C1005CH1H180J050BA		
22 pF	0402	0.20±0.02	±10%			C0402CH1C220K020BC
	0603	0.30±0.03	±5%			C0402CH1C220J020BC
			±10%	C0603CH1H220K030BA	C0603CH1E220K030BA	
			±5%	C0603CH1H220J030BA	C0603CH1E220J030BA	
	1005	0.50±0.05	±5%	C1005CH1H220J050BA		
27 pF	0402	0.20±0.02	±10%			C0402CH1C270K020BC
	0603	0.30±0.03	±5%			C0402CH1C270J020BC
			±10%	C0603CH1H270K030BA	C0603CH1E270K030BA	
			±5%	C0603CH1H270J030BA	C0603CH1E270J030BA	
	1005	0.50±0.05	±5%	C1005CH1H270J050BA		
33 pF	0402	0.20±0.02	±10%			C0402CH1C330K020BC
	0603	0.30±0.03	±5%			C0402CH1C330J020BC
			±10%	C0603CH1H330K030BA	C0603CH1E330K030BA	
			±5%	C0603CH1H330J030BA	C0603CH1E330J030BA	
	1005	0.50±0.05	±5%	C1005CH1H330J050BA		
39 pF	0402	0.20±0.02	±10%			C0402CH1C390K020BC
	0603	0.30±0.03	±5%			C0402CH1C390J020BC
			±10%	C0603CH1H390K030BA	C0603CH1E390K030BA	
			±5%	C0603CH1H390J030BA	C0603CH1E390J030BA	
	1005	0.50±0.05	±5%	C1005CH1H390J050BA		
47 pF	0402	0.20±0.02	±10%			C0402CH1C470K020BC
	0603	0.30±0.03	±5%			C0402CH1C470J020BC
			±10%	C0603CH1H470K030BA	C0603CH1E470K030BA	
			±5%	C0603CH1H470J030BA	C0603CH1E470J030BA	
	1005	0.50±0.05	±5%	C1005CH1H470J050BA		
56 pF	0402	0.20±0.02	±10%			C0402CH1C560K020BC
	0603	0.30±0.03	±5%			C0402CH1C560J020BC
			±10%	C0603CH1H560K030BA	C0603CH1E560K030BA	
			±5%	C0603CH1H560J030BA	C0603CH1E560J030BA	
	1005	0.50±0.05	±5%	C1005CH1H560J050BA		
68 pF	0402	0.20±0.02	±10%			C0402CH1C680K020BC
	0603	0.30±0.03	±5%			C0402CH1C680J020BC
			±10%	C0603CH1H680K030BA	C0603CH1E680K030BA	
			±5%	C0603CH1H680J030BA	C0603CH1E680J030BA	
	1005	0.50±0.05	±5%	C1005CH1H680J050BA		
82 pF	0402	0.20±0.02	±10%			C0402CH1C820K020BC
	0603	0.30±0.03	±5%			C0402CH1C820J020BC
			±10%	C0603CH1H820K030BA	C0603CH1E820K030BA	
			±5%	C0603CH1H820J030BA	C0603CH1E820J030BA	
	1005	0.50±0.05	±5%	C1005CH1H820J050BA		
100 pF	0402	0.20±0.02	±10%			C0402CH1C100K020BC
	0603	0.30±0.03	±5%			C0402CH1C100J020BC
			±10%	C0603CH1H100K030BA	C0603CH1E100K030BA	
			±5%	C0603CH1H100J030BA	C0603CH1E100J030BA	
	1005	0.50±0.05	±5%	C1005CH1H100J050BA		
150 pF	0402	0.20±0.02	±10%			C0402CH1C150K020BC
	0603	0.30±0.03	±5%			C0402CH1C150J020BC
			±10%	C0603CH1H150K030BA	C0603CH1E150K030BA	
			±5%	C0603CH1H150J030BA	C0603CH1E150J030BA	
	1005	0.50±0.05	±5%	C1005CH1H150J050BA		
220 pF	0402	0.20±0.02	±10%			C0402CH1C220K020BC
	0603	0.30±0.03	±5%			C0402CH1C220J020BC
			±10%	C0603CH1H220K030BA	C0603CH1E220K030BA	
			±5%	C0603CH1H220J030BA	C0603CH1E220J030BA	
	1005	0.50±0.05	±5%	C1005CH1H220J050BA		
330 pF	0402	0.20±0.02	±10%			C0402CH1C330K020BC
	0603	0.30±0.03	±5%			C0402CH1C330J020BC
			±10%	C0603CH1H330K030BA	C0603CH1E330K030BA	
			±5%	C0603CH1H330J030BA	C0603CH1E330J030BA	
	1005	0.50±0.05	±5%	C1005CH1H330J050BA		
470 pF	0402	0.20±0.02	±10%			C0402CH1C470K020BC
	0603	0.30±0.03	±5%			C0402CH1C470J020BC
			±10%	C0603CH1H470K030BA	C0603CH1E470K030BA	
			±5%	C0603CH1H470J030BA	C0603CH1E470J030BA	
	1005	0.50±0.05	±5%	C1005CH1H470J050BA		
680 pF	0402	0.20±0.02	±10%			C0402CH1C680K020BC
	0603	0.30±0.03	±5%			C0402CH1C680J020BC
			±10%	C0603CH1H680K030BA	C0603CH1E680K030BA	
			±5%	C0603CH1H680J030BA	C0603CH1E680J030BA	
	1005	0.50±0.05	±5%	C1005CH1H680J050BA		
1000 pF	0402	0.20±0.02	±10%			C0402CH1C1000K020BC
	0603	0.30±0.03	±5%			C0402CH1C1000J020BC
			±10%	C0603CH1H1000K030BA	C0603CH1E1000K030BA	
			±5%	C0603CH1H1000J030BA	C0603CH1E1000J030BA	
	1005	0.50±0.05	±5%	C1005CH1H1000J050BA		
1500 pF	0402	0.20±0.02	±10%			C0402CH1C1500K020BC
	0603	0.30±0.03	±5%			C0402CH1C1500J020BC
			±10%	C0603CH1H1500K030BA	C0603CH1E1500K030BA	
			±5%	C0603CH1H1500J030BA	C0603CH1E1500J030BA	
	1005	0.50±0.05	±5%	C1005CH1H1500J050BA		
2200 pF	0402	0.20±0.02	±10%			C0402CH1C2200K020BC
	0603	0.30±0.03	±5%			C0402CH1C2200J020BC
			±10%	C0603CH1H2200K030BA	C0603CH1E2200K030BA	
			±5%	C0603CH1H2200J030BA	C0603CH1E2200J030BA	
	1005	0.50±0.05	±5%	C1005CH1H2200J050BA		
3300 pF	0402	0.20±0.02	±10%			C0402CH1C3300K020BC
	0603	0.30±0.03	±5%			C0402CH1C3300J020BC
			±10%	C0603CH1H3300K030BA	C0603CH1E3300K030BA	
			±5%	C0603CH1H3300J030BA	C0603CH1E3300J030BA	
	1005	0.50±0.05	±5%	C1005CH1H3300J050BA		
4700 pF	0402	0.20±0.02	±10%			C0402CH1C4700K020BC
	0603	0.30±0.03	±5%			C0402CH1C4700J020BC
			±10%	C0603CH1H4700K030BA	C0603CH1E4700K030BA	
			±5%	C0603CH1H4700J030BA	C0603CH1E4700J030BA	
	1005	0.50±0.05	±5%	C1005CH1H4700J050BA		
6800 pF	0402	0.20±0.02	±10%			C0402CH1C6800K020BC
	0603	0.30±0.03	±5%			C0402CH1C6800J020BC
			±10%	C0603CH1H6800K030BA	C0603CH1E6800K030BA	
			±5%	C0603CH1H6800J030BA	C0603CH1E6800J030BA	
	1005	0.50±0.05	±5%	C1005CH1H6800J050BA		
10000 pF	0402	0.20±0.02	±10%			C0402CH1C10000K020BC
	0603	0.30±0.03	±5%			C0402CH1C10000J020BC
			±10%	C0603CH1H10000K030BA	C0603CH1E10000K030BA	
			±5%	C0603CH1H10000J030BA	C0603CH1E10000J030BA	
	1005	0.50±0.05	±5%	C1005CH1H10000J050BA		

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance range table      Temperature characteristics: CH (-25 to +85°C, 0±60 ppm/°C)

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number		
				Rated voltage Edc: 50V	Rated voltage Edc: 25V	Rated voltage Edc: 16V
47 pF	0402	0.20±0.02	±10%			C0402CH1C470K020BC
			±5%			C0402CH1C470J020BC
	0603	0.30±0.03	±10%	C0603CH1H470K030BA	C0603CH1E470K030BA	
			±5%	C0603CH1H470J030BA	C0603CH1E470J030BA	
56 pF	1005	0.50±0.05	±5%	C1005CH1H470J050BA		
			±5%	C1608CH1H470J080AA		
	1608	0.80±0.10	±5%			C0402CH1C560K020BC
			±5%			C0402CH1C560J020BC
68 pF	0402	0.20±0.02	±10%			C0603CH1H560K030BA
			±5%			C0603CH1E560K030BA
	0603	0.30±0.03	±10%	C0603CH1H560J030BA	C0603CH1E560J030BA	
			±5%	C1005CH1H560J050BA		
82 pF	1005	0.50±0.05	±5%	C1608CH1H560J080AA		
			±5%			C0402CH1C680K020BC
	1608	0.80±0.10	±10%			C0402CH1C680J020BC
			±5%			
100 pF	0402	0.20±0.02	±10%			C0603CH1H680K030BA
			±5%			C0603CH1E680K030BA
	0603	0.30±0.03	±10%	C0603CH1H680J030BA	C0603CH1E680J030BA	
			±5%	C1005CH1H680J050BA		
120 pF	1005	0.50±0.05	±5%	C1608CH1H680J080AA		
			±5%			C0402CH1C820K020BC
	1608	0.80±0.10	±10%			C0402CH1C820J020BC
			±5%			
150 pF	0402	0.20±0.02	±10%			C0603CH1H820K030BA
			±5%			C0603CH1E820K030BA
	0603	0.30±0.03	±10%	C0603CH1H820J030BA	C0603CH1E820J030BA	
			±5%	C1005CH1H820J050BA		
180 pF	1005	0.50±0.05	±5%	C1608CH1H820J080AA		
			±5%			C0402CH1C101K020BC
	1608	0.80±0.10	±10%			C0402CH1C101J020BC
			±5%			
220 pF	0402	0.20±0.02	±10%			C0603CH1H101K030BA
			±5%			C0603CH1E101K030BA
	0603	0.30±0.03	±10%	C0603CH1H101J030BA	C0603CH1E101J030BA	
			±5%	C1005CH1H101J050BA		
270 pF	1005	0.50±0.05	±5%	C1608CH1H101J080AA		
			±5%			
	1608	0.80±0.10	±10%			
			±5%			
330 pF	0402	0.20±0.02	±10%			C1005CH1H121K050BA
			±5%			C1005CH1H121J050BA
	0603	0.30±0.03	±10%	C1608CH1H121K080AA		
			±5%	C1608CH1H121J080AA		
390 pF	1005	0.50±0.05	±10%	C1005CH1H151K050BA		
			±5%	C1005CH1H151J050BA		
	1608	0.80±0.10	±10%	C1608CH1H151K080AA		
			±5%	C1608CH1H151J080AA		
470 pF	0402	0.20±0.02	±10%			C1005CH1H181K050BA
			±5%			C1005CH1H181J050BA
	0603	0.30±0.03	±10%	C1608CH1H181K080AA		
			±5%	C1608CH1H181J080AA		
560 pF	1005	0.50±0.05	±10%	C1005CH1H221K050BA		
			±5%	C1005CH1H221J050BA		
	1608	0.80±0.10	±10%	C1608CH1H221K080AA		
			±5%	C1608CH1H221J080AA		
680 pF	0402	0.20±0.02	±10%			C1005CH1H271K050BA
			±5%			C1005CH1H271J050BA
	0603	0.30±0.03	±10%	C1608CH1H271K080AA		
			±5%	C1608CH1H271J080AA		
820 pF	1005	0.50±0.05	±10%	C1005CH1H331K050BA		
			±5%	C1005CH1H331J050BA		
	1608	0.80±0.10	±10%	C1608CH1H331K080AA		
			±5%	C1608CH1H331J080AA		
1000 pF	0402	0.20±0.02	±10%			C1005CH1H391K050BA
			±5%			C1005CH1H391J050BA
	0603	0.30±0.03	±10%	C1608CH1H391K080AA		
			±5%	C1608CH1H391J080AA		

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS


**Capacitance range table      Temperature characteristics: CH (-25 to +85°C, 0±60 ppm/°C)**

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number Rated voltage Edc: 50V
470 pF	1005	0.50±0.05	±10%	C1005CH1H471K050BA
			±5%	C1005CH1H471J050BA
	1608	0.80±0.10	±10%	C1608CH1H471K080AA
			±5%	C1608CH1H471J080AA
560 pF	1005	0.50±0.05	±10%	C1005CH1H561K050BA
			±5%	C1005CH1H561J050BA
	1608	0.80±0.10	±10%	C1608CH1H561K080AA
			±5%	C1608CH1H561J080AA
680 pF	1005	0.50±0.05	±10%	C1005CH1H681K050BA
			±5%	C1005CH1H681J050BA
	1608	0.80±0.10	±10%	C1608CH1H681K080AA
			±5%	C1608CH1H681J080AA
820 pF	1005	0.50±0.05	±10%	C1005CH1H821K050BA
			±5%	C1005CH1H821J050BA
	1608	0.80±0.10	±10%	C1608CH1H821K080AA
			±5%	C1608CH1H821J080AA
1 nF	1005	0.50±0.05	±10%	C1005CH1H102K050BA
			±5%	C1005CH1H102J050BA
	1608	0.80±0.10	±10%	C1608CH1H102K080AA
			±5%	C1608CH1H102J080AA
1.2 nF	2012	0.60±0.15	±10%	C2012CH1H102K060AA
			±5%	C2012CH1H102J060AA
	1608	0.80±0.10	±10%	C1608CH1H122K080AA
			±5%	C1608CH1H122J080AA
1.5 nF	2012	0.60±0.15	±10%	C2012CH1H122K060AA
			±5%	C2012CH1H122J060AA
	1608	0.80±0.10	±10%	C1608CH1H152K080AA
			±5%	C1608CH1H152J080AA
1.8 nF	2012	0.60±0.15	±10%	C2012CH1H152K060AA
			±5%	C2012CH1H152J060AA
	1608	0.80±0.10	±10%	C1608CH1H182K080AA
			±5%	C1608CH1H182J080AA
2.2 nF	2012	0.60±0.15	±10%	C2012CH1H182K060AA
			±5%	C2012CH1H182J060AA
	1608	0.80±0.10	±10%	C1608CH1H222K080AA
			±5%	C1608CH1H222J080AA
2.7 nF	2012	0.60±0.15	±10%	C2012CH1H222K060AA
			±5%	C2012CH1H222J060AA
	1608	0.80±0.10	±10%	C1608CH1H272K080AA
			±5%	C1608CH1H272J080AA
3.3 nF	2012	0.60±0.15	±10%	C2012CH1H272K060AA
			±5%	C2012CH1H272J060AA
	1608	0.80±0.10	±10%	C1608CH1H332K080AA
			±5%	C1608CH1H332J080AA
3.9 nF	2012	0.60±0.15	±10%	C2012CH1H332K060AA
			±5%	C2012CH1H332J060AA
	1608	0.80±0.10	±10%	C1608CH1H392K080AA
			±5%	C1608CH1H392J080AA
4.7 nF	2012	0.60±0.15	±10%	C2012CH1H392K060AA
			±5%	C2012CH1H392J060AA
	3216	0.60±0.15	±10%	C3216CH1H392K060AA
			±5%	C3216CH1H392J060AA
5.6 nF	2012	0.60±0.15	±10%	C2012CH1H472K060AA
			±5%	C2012CH1H472J060AA
	3216	0.60±0.15	±10%	C3216CH1H472K060AA
			±5%	C3216CH1H472J060AA

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS


**Capacitance range table      Temperature characteristics: CH (-25 to +85°C, 0±60 ppm/°C)**

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number	
				Rated voltage Edc: 50V	Rated voltage Edc: 35V
5.6 nF	1608	0.80±0.10	±10%	C1608CH1H562K080AA	
			±5%	C1608CH1H562J080AA	
	2012	0.60±0.15	±10%	C2012CH1H562K060AA	
			±5%	C2012CH1H562J060AA	
	3216	0.60±0.15	±10%	C3216CH1H562K060AA	
			±5%	C3216CH1H562J060AA	
6.8 nF	1608	0.80±0.10	±10%	C1608CH1H682K080AA	
			±5%	C1608CH1H682J080AA	
	2012	0.60±0.15	±10%	C2012CH1H682K060AA	
			±5%	C2012CH1H682J060AA	
	3216	0.60±0.15	±10%	C3216CH1H682K060AA	
			±5%	C3216CH1H682J060AA	
8.2 nF	1608	0.80±0.10	±10%	C1608CH1H822K080AA	
			±5%	C1608CH1H822J080AA	
	2012	0.60±0.15	±10%	C2012CH1H822K060AA	
			±5%	C2012CH1H822J060AA	
	3216	0.60±0.15	±10%	C3216CH1H822K060AA	
			±5%	C3216CH1H822J060AA	
10 nF	1608	0.80±0.10	±10%	C1608CH1H103K080AA	C1608CH1V103K080AC
			±5%	C1608CH1H103J080AA	C1608CH1V103J080AC
	2012	0.60±0.15	±10%	C2012CH1H103K060AA	
			±5%	C2012CH1H103J060AA	
	3216	0.60±0.15	±10%	C3216CH1H103K060AA	
			±5%	C3216CH1H103J060AA	
15 nF	1608	0.80±0.10	±10%		C1608CH1V153K080AC
			±5%		C1608CH1V153J080AC
	2012	0.85±0.15	±10%	C2012CH1H153K085AA	
			±5%	C2012CH1H153J085AA	
	3216	0.60±0.15	±10%	C3216CH1H153K060AA	
			±5%	C3216CH1H153J060AA	
18 nF	1608	0.80±0.10	±10%		C1608CH1V183K080AC
			±5%		C1608CH1V183J080AC
	2012	0.60±0.15	±10%		C2012CH1V183K060AC
			±5%		C2012CH1V183J060AC
	2012	0.60±0.15	±10%		C2012CH1V223K060AC
			±5%		C2012CH1V223J060AC
22 nF	2012	1.25±0.20	±10%	C2012CH1H223K125AA	
			±5%	C2012CH1H223J125AA	
	3216	0.60±0.15	±10%	C3216CH1H223K060AA	
			±5%	C3216CH1H223J060AA	
	3225	1.25±0.20	±10%	C3225CH1H223K125AA	
			±5%	C3225CH1H223J125AA	
27 nF	2012	0.60±0.15	±10%		C2012CH1V273K060AC
			±5%		C2012CH1V273J060AC
30 nF	2012	0.60±0.15	±10%		C2012CH1V303K060AC
			±5%		C2012CH1V303J060AC
33 nF	2012	1.25±0.20	±10%	C2012CH1H333K125AA	
			±5%	C2012CH1H333J125AA	
	3216	0.85±0.15	±10%	C3216CH1H333K085AA	
			±5%	C3216CH1H333J085AA	
	3225	1.60±0.20	±10%	C3225CH1H333K160AA	
			±5%	C3225CH1H333J160AA	
47 nF	3216	1.15±0.15	±10%	C3216CH1H473K115AA	
			±5%	C3216CH1H473J115AA	
	3225	2.00±0.20	±10%	C3225CH1H473K200AA	
			±5%	C3225CH1H473J200AA	
	4532	1.60±0.20	±10%	C4532CH1H473K160KA	
			±5%	C4532CH1H473J160KA	
68 nF	3216	1.60±0.20	±10%	C3216CH1H683K160AA	
			±5%	C3216CH1H683J160AA	
	3225	2.00±0.20	±10%	C3225CH1H683K200AA	
			±5%	C3225CH1H683J200AA	
	4532	1.60±0.20	±10%	C4532CH1H683K160KA	
			±5%	C4532CH1H683J160KA	

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS


**Capacitance range table      Temperature characteristics: CH (-25 to +85°C, 0±60 ppm/°C)**

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number
				Rated voltage Edc: 50V
100 nF	3216	1.60±0.20	±10%	C3216CH1H104K160AA
			±5%	C3216CH1H104J160AA
	3225	2.50±0.30	±10%	C3225CH1H104K250AA
			±5%	C3225CH1H104J250AA
150 nF	4532	2.00±0.20	±10%	C4532CH1H104K200KA
			±5%	C4532CH1H104J200KA
	4532	2.50±0.30	±10%	C4532CH1H154K250KA
			±5%	C4532CH1H154J250KA
220 nF	4532	3.20±0.30	±10%	C4532CH1H224K320KA
			±5%	C4532CH1H224J320KA

■ Gray item: The product which is not recommended to a new design.

**Capacitance range table      Temperature characteristics: JB (-25 to +85°C, ±10%)**

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%			C0402JB1C101K020BC
			±20%			C0402JB1C101M020BC
	0603	0.30±0.03	±10%		C0603JB1E101K030BA	
			±20%		C0603JB1E101M030BA	
150 pF	0402	0.20±0.02	±10%			C0402JB1C151K020BC
			±20%			C0402JB1C151M020BC
	0603	0.30±0.03	±10%		C0603JB1E151K030BA	
			±20%		C0603JB1E151M030BA	
220 pF	0402	0.20±0.02	±10%			C0402JB1C221K020BC
			±20%			C0402JB1C221M020BC
	0603	0.30±0.03	±10%		C0603JB1E221K030BA	
			±20%		C0603JB1E221M030BA	
330 pF	1005	0.50±0.05	±10%	C1005JB1H221K050BA		
			±20%	C1005JB1H221M050BA		
	0402	0.20±0.02	±10%			C0402JB1C331K020BC
			±20%			C0402JB1C331M020BC
470 pF	0603	0.30±0.03	±10%		C0603JB1E331K030BA	
			±20%		C0603JB1E331M030BA	
	1005	0.50±0.05	±10%	C1005JB1H331K050BA		
			±20%	C1005JB1H331M050BA		
680 pF	0402	0.20±0.02	±10%			C0402JB1C471K020BC
			±20%			C0402JB1C471M020BC
	0603	0.30±0.03	±10%		C0603JB1E471K030BA	
			±20%		C0603JB1E471M030BA	
1 nF	1005	0.50±0.05	±10%	C1005JB1H471K050BA		
			±20%	C1005JB1H471M050BA		
	0402	0.20±0.02	±10%			C0402JB1C681K020BC
			±20%			C0402JB1C681M020BC
1.5 nF	0603	0.30±0.03	±10%		C0603JB1E681K030BA	
			±20%		C0603JB1E681M030BA	
	1005	0.50±0.05	±10%	C1005JB1H681K050BA		
			±20%	C1005JB1H681M050BA		
2.2 nF	0603	0.30±0.03	±10%		C0603JB1E102K030BA	
			±20%		C0603JB1E102M030BA	
	1005	0.50±0.05	±10%	C1005JB1H102K050BA		
			±20%	C1005JB1H102M050BA		
3.3 nF	0603	0.30±0.03	±10%		C0603JB1E152K030BA	
			±20%		C0603JB1E152M030BA	
	1005	0.50±0.05	±10%	C1005JB1H152K050BA		
			±20%	C1005JB1H152M050BA		
4.7 nF	0603	0.30±0.03	±10%		C0603JB1E222K030BA	
			±20%		C0603JB1E222M030BA	
	1005	0.50±0.05	±10%	C1005JB1H222K050BA		
			±20%	C1005JB1H222M050BA		
10 nF	0603	0.30±0.03	±10%		C0603JB1E332K030BA	
			±20%		C0603JB1E332M030BA	
	1005	0.50±0.05	±10%	C1005JB1H332K050BA		
			±20%	C1005JB1H332M050BA		
22 nF	0603	0.30±0.03	±10%			C0603JB1C472K030BA
			±20%			C0603JB1C472M030BA
	1005	0.50±0.05	±10%	C1005JB1H472K050BA		
			±20%	C1005JB1H472M050BA		

■ Gray item: The product which is not recommended to a new design.

⚠ 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.

## MULTILAYER CERAMIC CHIP CAPACITORS


**Capacitance range table      Temperature characteristics: JB (-25 to +85°C, ±10%)**

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number			
				Rated voltage Edc: 50V	Rated voltage Edc: 35V	Rated voltage Edc: 25V	Rated voltage Edc: 16V
6.8 nF	1005	0.50±0.05	±10%	C1005JB1H682K050BA			
			±20%	C1005JB1H682M050BA			
10 nF	1005	0.50±0.05	±10%	C1005JB1H103K050BB		C1005JB1E103K050BA	
			±20%	C1005JB1H103M050BB		C1005JB1E103M050BA	
	1608	0.80±0.10	±10%	C1608JB1H103K080AA			
			±20%	C1608JB1H103M080AA			
15 nF	1005	0.50±0.05	±10%	C1005JB1H153K050BB		C1005JB1E153K050BA	C1005JB1C153K050BA
			±20%	C1005JB1H153M050BB		C1005JB1E153M050BA	C1005JB1C153M050BA
	1608	0.80±0.10	±10%	C1608JB1H153K080AA			
			±20%	C1608JB1H153M080AA			
22 nF	0603	0.30±0.03	±10%			C0603JB1E223K030BB	
			±20%			C0603JB1E223M030BB	
	1005	0.50±0.05	±10%	C1005JB1H223K050BB		C1005JB1E223K050BA	C1005JB1C223K050BA
			±20%	C1005JB1H223M050BB		C1005JB1E223M050BA	C1005JB1C223M050BA
33 nF	1608	0.80±0.10	±10%	C1608JB1H223K080AA			
			±20%	C1608JB1H223M080AA			
	1005	0.50±0.05	±10%	C1005JB1H333K050BB		C1005JB1E333K050BA	C1005JB1C333K050BA
			±20%	C1005JB1H333M050BB		C1005JB1E333M050BA	C1005JB1C333M050BA
47 nF	1608	0.80±0.10	±10%	C1608JB1H333K080AA			
			±20%	C1608JB1H333M080AA			
	0603	0.30±0.03	±10%			C0603JB1E473K030BB	
			±20%			C0603JB1E473M030BB	
68 nF	1005	0.50±0.05	±10%	C1005JB1H473K050BB		C1005JB1E473K050BA	C1005JB1C473K050BA
			±20%	C1005JB1H473M050BB		C1005JB1E473M050BA	C1005JB1C473M050BA
	1608	0.80±0.10	±10%	C1608JB1H473K080AA			
			±20%	C1608JB1H473M080AA			
100 nF	1005	0.50±0.05	±10%	C1005JB1H683K050BB	C1005JB1V683K050BB	C1005JB1E683K050BC	C1005JB1C683K050BA
			±20%	C1005JB1H683M050BB	C1005JB1V683M050BB	C1005JB1E683M050BC	C1005JB1C683M050BA
	1608	0.80±0.10	±10%	C1608JB1H683K080AA			
			±20%	C1608JB1H683M080AA			
150 nF	0603	0.30±0.03	±10%			C0603JB1E104K030BB	C0603JB1C104K030BC
			±20%			C0603JB1E104M030BB	C0603JB1C104M030BC
	1005	0.50±0.05	±10%	C1005JB1H104K050BB	C1005JB1V104K050BB	C1005JB1E104K050BC	C1005JB1C104K050BA
			±20%	C1005JB1H104M050BB	C1005JB1V104M050BB	C1005JB1E104M050BC	C1005JB1C104M050BA
220 nF	1608	0.80±0.10	±10%	C1608JB1H104K080AA			
			±20%	C1608JB1H104M080AA			
	2012	0.85±0.15	±10%	C2012JB1H104K085AA			
			±20%	C2012JB1H104M085AA			
330 nF	0603	0.30±0.03	±10%			C0603JB1E154K030BC	C0603JB1C154K030BC
			±20%			C0603JB1E154M030BC	C0603JB1C154M030BC
	1005	0.50±0.05	±10%	C1005JB1H154K050BB		C1005JB1E154K050BC	C1005JB1C154K050BB
			±20%	C1005JB1H154M050BB		C1005JB1E154M050BC	C1005JB1C154M050BB
470 nF	1608	0.80±0.10	±10%	C1608JB1H154K080AB	C1608JB1V154K080AB	C1608JB1E154K080AA	
			±20%	C1608JB1H154M080AB	C1608JB1V154M080AB	C1608JB1E154M080AA	
	2012	0.85±0.15	±10%	C2012JB1H154K085AA			
			±20%	C2012JB1H154M085AA			
680 nF	0603	0.30±0.03	±10%			C0603JB1E224K030BC	C0603JB1C224K030BC
			±20%			C0603JB1E224M030BC	C0603JB1C224M030BC
	1005	0.50±0.05	±10%	C1005JB1H224K050BB		C1005JB1E224K050BC	C1005JB1C224K050BB
			±20%	C1005JB1H224M050BB		C1005JB1E224M050BC	C1005JB1C224M050BB
1000 nF	1608	0.80±0.10	±10%	C1608JB1H224K080AB	C1608JB1V224K080AB	C1608JB1E224K080AA	
			±20%	C1608JB1H224M080AB	C1608JB1V224M080AB	C1608JB1E224M080AA	
	2012	1.25±0.20	±10%	C2012JB1H224K125AA			
			±20%	C2012JB1H224M125AA			
1500 nF	1005	0.50±0.05	±10%		C1005JB1V334K050BC	C1005JB1E334K050BB	C1005JB1C334K050BC
			±20%		C1005JB1V334M050BC	C1005JB1E334M050BB	C1005JB1C334M050BC
	1608	0.80±0.10	±10%	C1608JB1H334K080AB	C1608JB1V334K080AB	C1608JB1E334K080AC	C1608JB1C334K080AA
			±20%	C1608JB1H334M080AB	C1608JB1V334M080AB	C1608JB1E334M080AC	C1608JB1C334M080AA

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS


**Capacitance range table      Temperature characteristics: JB (-25 to +85°C, ±10%)**

Capacitance Dimensions		Thickness (mm)	Capacitance tolerance	Catalog number			
				Rated voltage Edc: 50V	Rated voltage Edc: 35V	Rated voltage Edc: 25V	Rated voltage Edc: 16V
330 nF	2012	1.25±0.20	±10%	C2012JB1H334K125AA			
			±20%	C2012JB1H334M125AA			
470 nF	1005	0.50±0.05	±10%		C1005JB1V474K050BC	C1005JB1E474K050BB	C1005JB1C474K050BC
			±20%		C1005JB1V474M050BC	C1005JB1E474M050BB	C1005JB1C474M050BC
	1608	0.80±0.10	±10%	C1608JB1H474K080AB	C1608JB1V474K080AB	C1608JB1E474K080AC	C1608JB1C474K080AA
			±20%	C1608JB1H474M080AB	C1608JB1V474M080AB	C1608JB1E474M080AC	C1608JB1C474M080AA
	2012	1.25±0.20	±10%	C2012JB1H474K125AB			
			±20%	C2012JB1H474M125AB			
680 nF	1005	0.50±0.05	±10%		C1005JB1V684K050BC	C1005JB1E684K050BC	C1005JB1C684K050BC
			±20%		C1005JB1V684M050BC	C1005JB1E684M050BC	C1005JB1C684M050BC
	1608	0.80±0.10	±10%	C1608JB1H684K080AB	C1608JB1V684K080AB	C1608JB1E684K080AC	C1608JB1C684K080AA
			±20%	C1608JB1H684M080AB	C1608JB1V684M080AB	C1608JB1E684M080AC	C1608JB1C684M080AA
	2012	1.25±0.20	±10%	C2012JB1H684K125AB		C2012JB1E684K125AA	
			±20%	C2012JB1H684M125AB		C2012JB1E684M125AA	
1 µF	1005	0.50±0.05	±10%		C1005JB1V105K050BC	C1005JB1E105K050BC	C1005JB1C105K050BC
			±20%		C1005JB1V105M050BC	C1005JB1E105M050BC	C1005JB1C105M050BC
	1608	0.80±0.10	±10%	C1608JB1H105K080AB	C1608JB1V105K080AB	C1608JB1E105K080AC	C1608JB1C105K080AA
			±20%	C1608JB1H105M080AB	C1608JB1V105M080AB	C1608JB1E105M080AC	C1608JB1C105M080AA
	2012	0.85±0.15	±10%	C2012JB1H105K085AB	C2012JB1V105K085AB	C2012JB1E105K085AC	C2012JB1C105K085AA
			±20%	C2012JB1H105M085AB	C2012JB1V105M085AB	C2012JB1E105M085AC	C2012JB1C105M085AA
		1.25±0.20	±10%	C2012JB1H105K125AB		C2012JB1E105K125AA	
			±20%	C2012JB1H105M125AB		C2012JB1E105M125AA	
	3216	1.60±0.20	±10%	C3216JB1H105K160AA			
			±20%	C3216JB1H105M160AA			
1.5 µF	1005	0.50±0.05	±10%				C1005JB1C155K050BC
			±20%				C1005JB1C155M050BC
		0.50±0.10	±10%			C1005JB1E155K050BC	
			±20%			C1005JB1E155M050BC	
	1608	0.80±0.10	±10%		C1005JB1V155K050BC		
			±20%		C1005JB1V155M050BC		
		0.85±0.15	±10%		C1608JB1E155K080AB	C1608JB1C155K080AB	
			±20%		C1608JB1V155M080AC	C1608JB1C155M080AB	
	2012	1.25±0.20	±10%	C2012JB1H155K125AB	C2012JB1V155K125AB	C2012JB1E155K125AB	C2012JB1C155K125AA
			±20%	C2012JB1H155M125AB	C2012JB1V155M125AB	C2012JB1E155M125AB	C2012JB1C155M125AA
	3216	1.60±0.20	±10%	C3216JB1H155K160AB		C3216JB1E155K160AA	
			±20%	C3216JB1H155M160AB		C3216JB1E155M160AA	
2.2 µF	1005	0.50±0.05	±10%				C1005JB1C225K050BC
			±20%				C1005JB1C225M050BC
		0.50±0.10	±10%			C1005JB1E225K050BC	
			±20%			C1005JB1E225M050BC	
	1608	0.80±0.10	±10%		C1005JB1V225K050BC		
			±20%		C1005JB1V225M050BC		
		0.85±0.15	±10%		C1608JB1E225K080AB	C1608JB1C225K080AB	
			±20%		C1608JB1V225M080AC	C1608JB1C225M080AB	
	2012	1.25±0.20	±10%	C2012JB1H225K085AB	C2012JB1V225K085AB	C2012JB1E225K085AC	C2012JB1C225K085AC
			±20%	C2012JB1H225M085AB	C2012JB1V225M085AB	C2012JB1E225M085AB	C2012JB1C225M085AC
		1.60±0.20	±10%	C3216JB1H225K160AB		C3216JB1E225K160AA	
			±20%	C3216JB1H225M160AB		C3216JB1E225M160AA	
3.3 µF	1608	0.80±0.10	±10%			C1608JB1E335K080AC	C1608JB1C335K080AC
			±20%			C1608JB1E335M080AC	C1608JB1C335M080AC
		0.80±0.20, -0.10	±10%		C1608JB1V335K080AC		
			±20%		C1608JB1V335M080AC		
	2012	0.85±0.15	±10%				C2012JB1C335K060AC
			±20%				C2012JB1C335M060AC
		1.25±0.20	±10%			C2012JB1E335K085AC	C2012JB1C335K085AB
			±20%			C2012JB1E335M085AC	C2012JB1C335M085AB
	3216	1.60±0.20	±10%	C2012JB1H335K125AB	C2012JB1V335K125AC	C2012JB1E335K125AB	C2012JB1C335K125AC
			±20%	C2012JB1H335M125AB	C2012JB1V335M125AC	C2012JB1E335M125AB	C2012JB1C335M125AC
		1.60±0.20	±10%	C3216JB1H335K160AB	C3216JB1V335K160AB	C3216JB1E335K160AA	
			±20%	C3216JB1H335M160AB	C3216JB1V335M160AB	C3216JB1E335M160AA	

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance range table      Temperature characteristics: JB (-25 to +85°C, ±10%)

Capacitance Dimensions		Thickness (mm)	Capacitance tolerance	Catalog number			
				Rated voltage Edc: 50V	Rated voltage Edc: 35V	Rated voltage Edc: 25V	Rated voltage Edc: 16V
3.3 $\mu$ F	3225	2.50±0.30	±10%	C3225JB1H335K250AA			
			±20%	C3225JB1H335M250AA			
		0.80±0.10	±10%			C1608JB1E475K080AC	C1608JB1C475K080AC
	1608	0.80±0.10	±20%			C1608JB1E475M080AC	C1608JB1C475M080AC
			±10%		C1608JB1V475K080AC		
		0.80±0.20, -0.10	±20%		C1608JB1V475M080AC		
	2012	0.60±0.15	±10%				C2012JB1C475K060AC
			±20%				C2012JB1C475M060AC
		0.85±0.15	±10%			C2012JB1E475K085AC	C2012JB1C475K085AB
	4.7 $\mu$ F	1.25±0.20	±20%	C2012JB1H475K125AB	C2012JB1V475K125AC	C2012JB1E475K125AB	C2012JB1C475K125AC
			±10%	C2012JB1H475M125AB	C2012JB1V475M125AC	C2012JB1E475M125AB	C2012JB1C475M125AC
		0.85±0.15	±10%	C3216JB1H475K085AB	C3216JB1V475K085AB	C3216JB1E475K085AB	
4.7 $\mu$ F	3216	1.15±0.15	±20%	C3216JB1H475M085AB	C3216JB1V475M085AB	C3216JB1E475M085AB	
			±10%			C3216JB1E475K115AB	
		1.60±0.20	±20%	C3216JB1H475K160AB	C3216JB1V475K160AB	C3216JB1E475K160AA	
	3225	2.50±0.30	±10%	C3225JB1H475K250AB			
			±20%	C3225JB1H475M250AB			
		0.80±0.20, -0.10	±10%			C1608JB1E685K080AC	C1608JB1C685K080AB
	1608	0.85±0.15	±20%			C1608JB1E685M080AC	C1608JB1C685M080AB
			±10%				C2012JB1C685K085AC
		1.25±0.20	±20%		C2012JB1V685K125AC	C2012JB1E685K125AC	C2012JB1C685K125AB
	3216	1.60±0.20	±10%	C3216JB1H685K160AB	C3216JB1V685K160AB	C3216JB1E685K160AB	C3216JB1C685K160AA
			±20%	C3216JB1H685M160AB	C3216JB1V685M160AB	C3216JB1E685M160AB	C3216JB1C685M160AA
		2.00±0.20	±10%			C3225JB1E685K200AA	C3225JB1C685K200AA
6.8 $\mu$ F	3225	2.50±0.30	±20%	C3225JB1H685K250AB			
			±10%	C3225JB1H685M250AB			
		2.50±0.30	±10%	C4532JB1H685K250KA			
	4532	2.50±0.30	±20%	C4532JB1H685M250KA			
			±10%				
		0.80±0.20, -0.10	±20%			C1608JB1E106M080AC	C1608JB1C106M080AB
	2012	0.85±0.15	±10%		C2012JB1V106K085AC	C2012JB1E106K085AC	C2012JB1C106K085AC
			±20%		C2012JB1V106M085AC	C2012JB1E106M085AC	C2012JB1C106M085AC
		1.25±0.20	±10%		C2012JB1V106K125AC	C2012JB1E106K125AB	C2012JB1C106K125AB
	3216	0.85±0.15	±20%		C2012JB1V106M125AC	C2012JB1E106M125AB	C2012JB1C106M125AB
			±10%			C3216JB1E106K085AC	C3216JB1C106K085AB
		1.60±0.20	±20%	C3216JB1H106K160AB	C3216JB1V106K160AB	C3216JB1E106K160AB	C3216JB1C106K160AA
10 $\mu$ F	3216	1.60±0.20	±10%	C3216JB1H106M160AB	C3216JB1V106M160AB	C3216JB1E106M160AB	C3216JB1C106M160AA
			±20%				
		2.00±0.20	±10%				C3225JB1C106K200AA
	3225	2.50±0.30	±20%	C3225JB1H106K250AB		C3225JB1E106K250AA	
			±10%	C3225JB1H106M250AB		C3225JB1E106M250AA	
		2.50±0.30	±10%				C4532JB1E106K250KA
	4532	2.50±0.30	±20%				C4532JB1E106M250KA
			±10%				
		1.25±0.20	±20%		C2012JB1V156M125AC	C2012JB1E156M125AC	C2012JB1C156M125AC
	3216	1.60±0.20	±20%		C3216JB1V156M160AC	C3216JB1E156M160AB	C3216JB1C156M160AB
			±10%				C3225JB1C156M250AA
		2.50±0.30	±20%				
15 $\mu$ F	4532	2.50±0.30	±20%				
			±10%				
		0.85±0.15	±20%				C2012JB1C226M085AC
	2012	1.25±0.20	±20%		C2012JB1V226M125AC	C2012JB1E226M125AC	C2012JB1C226M125AC
			±10%				
		1.60±0.20	±20%		C3216JB1V226M160AC	C3216JB1E226M160AB	C3216JB1C226M160AB
	3216	2.50±0.30	±20%				C3225JB1C226M250AA
			±10%				C4532JB1C226M200KA
		2.00±0.20	±20%				
	4532	2.50±0.30	±20%			C4532JB1E226M250KA	
			±10%				
		2.50±0.30	±20%			C5750JB1E226M250KA	

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS


**Capacitance range table      Temperature characteristics: JB (-25 to +85°C, ±10%)**

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number	
				Rated voltage Edc: 25V	Rated voltage Edc: 16V
33 µF	3216	1.60±0.20	±20%	C3216JB1E336M160AC	C3216JB1C336M160AB
	4532	2.50±0.30	±20%		C4532JB1C336M250KA
47 µF	3216	1.60±0.20	±20%	C3216JB1E476M160AC	C3216JB1C476M160AB

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%	C0402JB1A102K020BC	C0402JB0J102K020BC	C0402JB0G102K020BC
			±20%	C0402JB1A102M020BC	C0402JB0J102M020BC	C0402JB0G102M020BC
1.5 nF	0402	0.20±0.02	±10%	C0402JB1A152K020BC	C0402JB0J152K020BC	C0402JB0G152K020BC
			±20%	C0402JB1A152M020BC	C0402JB0J152M020BC	C0402JB0G152M020BC
2.2 nF	0402	0.20±0.02	±10%	C0402JB1A222K020BC	C0402JB0J222K020BC	C0402JB0G222K020BC
			±20%	C0402JB1A222M020BC	C0402JB0J222M020BC	C0402JB0G222M020BC
6.8 nF	0603	0.30±0.03	±10%	C0603JB1A682K030BA		
			±20%	C0603JB1A682M030BA		
10 nF	0603	0.30±0.03	±10%	C0603JB1A103K030BA		
			±20%	C0603JB1A103M030BA		
15 nF	0603	0.30±0.03	±10%	C0603JB1A153K030BC	C0603JB0J153K030BA	
			±20%	C0603JB1A153M030BC	C0603JB0J153M030BA	
47 nF	1005	0.50±0.05	±10%	C1005JB1A473K050BA		
			±20%	C1005JB1A473M050BA		
68 nF	1005	0.50±0.05	±10%	C1005JB1A683K050BA		
			±20%	C1005JB1A683M050BA		
100 nF	0603	0.30±0.03	±10%	C0603JB1A104K030BC		
			±20%	C0603JB1A104M030BC		
	1005	0.50±0.05	±10%	C1005JB1A104K050BA		
			±20%	C1005JB1A104M050BA		
150 nF	0603	0.30±0.03	±10%	C0603JB1A154K030BB	C0603JB0J154K030BB	
			±20%	C0603JB1A154M030BB	C0603JB0J154M030BB	
220 nF	0603	0.30±0.03	±10%	C0603JB1A224K030BB	C0603JB0J224K030BB	
			±20%	C0603JB1A224M030BB	C0603JB0J224M030BB	
330 nF	0603	0.30±0.03	±20%		C0603JB0J334M030BC	
			±20%			
330 nF	0603	0.30±0.05	±10%	C0603JB1A334K030BC		
			±20%	C0603JB1A334M030BC		
470 nF	0603	0.30±0.03	±20%		C0603JB0J474M030BC	
			±20%	C0603JB1A474M030BC		

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS


**Capacitance range table      Temperature characteristics: JB (-25 to +85°C, ±10%)**

Capacitance Dimensions		Thickness (mm)	Capacitance tolerance	Catalog number		
				Rated voltage Edc: 10V	Rated voltage Edc: 6.3V	Rated voltage Edc: 4V
680 nF	1608	0.80±0.15, -0.10	±10%	C1608JB1A684K080AC		
			±20%	C1608JB1A684M080AC		
1 µF	1608	0.80±0.15, -0.10	±10%	C1608JB1A105K080AC		
			±20%	C1608JB1A105M080AC		
1.5 µF	1005	0.50±0.05	±10%	C1005JB1A155K050BC	C1005JB0J155K050BB	
			±20%	C1005JB1A155M050BC	C1005JB0J155M050BB	
2.2 µF	1005	0.50±0.05	±10%	C1005JB1A225K050BC	C1005JB0J225K050BC	C1005JB0G225K050BB
			±20%	C1005JB1A225M050BC	C1005JB0J225M050BC	C1005JB0G225M050BB
	2012	0.85±0.15	±10%	C2012JB1A225K085AA		
			±20%	C2012JB1A225M085AA		
3.3 µF	1005	0.50±0.10	±10%	C1005JB1A335K050BC	C1005JB0J335K050BC	C1005JB0G335K050BB
			±20%	C1005JB1A335M050BC	C1005JB0J335M050BC	C1005JB0G335M050BB
	1608	0.80±0.10	±10%	C1608JB1A335K080AB		
			±20%	C1608JB1A335M080AB		
	2012	1.25±0.20	±10%	C2012JB1A335K125AA		
			±20%	C2012JB1A335M125AA		
4.7 µF	1005	0.50±0.15, -0.10	±10%	C1005JB1A475K050BC	C1005JB0J475K050BC	C1005JB0G475K050BB
			±20%	C1005JB1A475M050BC	C1005JB0J475M050BC	C1005JB0G475M050BB
	1608	0.80±0.10	±10%	C1608JB1A475K080AB		
			±20%	C1608JB1A475M080AB		
	2012	0.60±0.15	±10%	C2012JB1A475K060AB		
			±20%	C2012JB1A475M060AB		
		1.25±0.20	±10%	C2012JB1A475K125AA		
			±20%	C2012JB1A475M125AA		
6.8 µF	1608	0.80±0.10	±10%	C1608JB1A685K080AC	C1608JB0J685K080AB	
			±20%	C1608JB1A685M080AC	C1608JB0J685M080AB	
	2012	0.60±0.15	±10%	C2012JB1A685K060AC		
			±20%	C2012JB1A685M060AC		
10 µF	1608	0.80±0.10	±10%	C1608JB1A106K080AC	C1608JB0J106K080AB	
			±20%	C1608JB1A106M080AC	C1608JB0J106M080AB	
	3216	1.60±0.20	±10%	C3216JB1A106K160AA		
			±20%	C3216JB1A106M160AA		
15 µF	1608	0.80±0.20, -0.10	±20%	C1608JB1A156M080AC	C1608JB0J156M080AC	C1608JB0G156M080AA
			±20%	C2012JB1A156M085AC	C2012JB0J156M085AB	
	2012	1.25±0.20	±20%	C2012JB1A156M125AB	C2012JB0J156M125AC	
			±20%	C3225JB1A156M230AA		
22 µF	1608	0.80±0.20, -0.10	±20%	C1608JB1A226M080AC	C1608JB0J226M080AC	C1608JB0G226M080AA
			±20%	C2012JB1A226M085AC	C2012JB0J226M085AB	
	2012	1.25±0.20	±20%	C2012JB1A226M125AB	C2012JB0J226M125AC	
			±20%	C3225JB1A226M250AA		
33 µF	2012	1.25±0.20	±20%	C2012JB1A336M125AC	C2012JB0J336M125AC	
			±20%	C3216JB1A336M130AC		
	3216	1.60±0.20	±20%	C3216JB1A336M160AB		
			±20%	C2012JB1A476M125AC	C2012JB0J476M125AC	
47 µF	3216	1.60±0.20	±20%	C3216JB1A476M160AB	C3216JB0J476M160AC	
			±20%	C3216JB1A686M160AC	C3216JB0J686M160AB	
68 µF	3225	2.00±0.20	±20%		C3225JB0J686M200AC	
			±20%	C3216JB1A107M160AC	C3216JB0J107M160AB	
100 µF	3225	2.50±0.30	±20%		C3225JB0J107M250AC	
			±20%			

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS


**Capacitance range table      Temperature characteristics: X5R (-55 to +85°C, ±15%)**

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

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS


**Capacitance range table      Temperature characteristics: 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% ±20%			C0603X5R1E222K030BA C0603X5R1E222M030BA	
	1005	0.50±0.05	±10% ±20%	C1005X5R1H222K050BA C1005X5R1H222M050BA			
3.3 nF	0603	0.30±0.03	±10% ±20%			C0603X5R1E332K030BA C0603X5R1E332M030BA	
	1005	0.50±0.05	±10% ±20%	C1005X5R1H332K050BA C1005X5R1H332M050BA			
4.7 nF	0603	0.30±0.03	±10% ±20%				C0603X5R1C472K030BA C0603X5R1C472M030BA
	1005	0.50±0.05	±10% ±20%	C1005X5R1H472K050BA C1005X5R1H472M050BA			
6.8 nF	1005	0.50±0.05	±10% ±20%	C1005X5R1H682K050BA C1005X5R1H682M050BA			
	0603	0.30±0.03	±10% ±20%				C0603X5R1C103K030BA C0603X5R1C103M030BA
10 nF	1005	0.50±0.05	±10% ±20%	C1005X5R1H103K050BB C1005X5R1H103M050BB		C1005X5R1E103K050BA C1005X5R1E103M050BA	
	1608	0.80±0.10	±10% ±20%	C1608X5R1H103K080AA C1608X5R1H103M080AA			
	1005	0.50±0.05	±10% ±20%	C1005X5R1H153K050BB C1005X5R1H153M050BB		C1005X5R1E153K050BA C1005X5R1E153M050BA	C1005X5R1C153K050BA C1005X5R1C153M050BA
15 nF	1608	0.80±0.10	±10% ±20%	C1608X5R1H153K080AA C1608X5R1H153M080AA			
	0603	0.30±0.03	±10% ±20%			C0603X5R1E223K030BB C0603X5R1E223M030BB	
22 nF	1005	0.50±0.05	±10% ±20%	C1005X5R1H223K050BB C1005X5R1H223M050BB		C1005X5R1E223K050BA C1005X5R1E223M050BA	C1005X5R1C223K050BA C1005X5R1C223M050BA
	1608	0.80±0.10	±10% ±20%	C1608X5R1H223K080AA C1608X5R1H223M080AA			
	1005	0.50±0.05	±10% ±20%	C1005X5R1H333K050BB C1005X5R1H333M050BB		C1005X5R1E333K050BA C1005X5R1E333M050BA	C1005X5R1C333K050BA C1005X5R1C333M050BA
33 nF	1608	0.80±0.10	±10% ±20%	C1608X5R1H333K080AA C1608X5R1H333M080AA			
	0603	0.30±0.03	±10% ±20%			C0603X5R1E473K030BB C0603X5R1E473M030BB	
47 nF	1005	0.50±0.05	±10% ±20%	C1005X5R1H473K050BB C1005X5R1H473M050BB		C1005X5R1E473K050BA C1005X5R1E473M050BA	C1005X5R1C473K050BA C1005X5R1C473M050BA
	1608	0.80±0.10	±10% ±20%	C1608X5R1H473K080AA C1608X5R1H473M080AA			
	1005	0.50±0.05	±10% ±20%	C1005X5R1H683K050BB C1005X5R1H683M050BB	C1005X5R1V683K050BB C1005X5R1V683M050BB	C1005X5R1E683K050BC C1005X5R1E683M050BC	C1005X5R1C683K050BA C1005X5R1C683M050BA
68 nF	1608	0.80±0.10	±10% ±20%	C1608X5R1H683K080AA C1608X5R1H683M080AA			
	0603	0.30±0.03	±10% ±20%			C0603X5R1E104K030BB C0603X5R1E104M030BB	C0603X5R1C104K030BC C0603X5R1C104M030BC
100 nF	1005	0.50±0.05	±10% ±20%	C1005X5R1H104K050BB C1005X5R1H104M050BB	C1005X5R1V104K050BB C1005X5R1V104M050BB	C1005X5R1E104K050BC C1005X5R1E104M050BC	C1005X5R1C104K050BA C1005X5R1C104M050BA
	1608	0.80±0.10	±10% ±20%	C1608X5R1H104K080AA C1608X5R1H104M080AA			
	2012	0.85±0.15	±10% ±20%	C2012X5R1H104K085AA C2012X5R1H104M085AA			
	0603	0.30±0.03	±10% ±20%			C0603X5R1E154K030BC C0603X5R1E154M030BC	C0603X5R1C154K030BC C0603X5R1C154M030BC
150 nF	1005	0.50±0.05	±10% ±20%			C0603X5R1E154K050BC C1005X5R1E154K050BC	C1005X5R1C154K050BB C1005X5R1C154M050BB
	1608	0.80±0.10	±10% ±20%	C1608X5R1H154K080AB C1608X5R1H154M080AB	C1608X5R1V154K080AB C1608X5R1V154M080AB	C1608X5R1E154K080AA C1608X5R1E154M080AA	
	2012	0.85±0.15	±10% ±20%	C2012X5R1H154K085AA C2012X5R1H154M085AA			
	0603	0.30±0.03	±10% ±20%				
	0603	0.30±0.05	±10% ±20%				

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS


**Capacitance range table      Temperature characteristics: 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	
		1.25±0.20	±10%	C2012X5R1H224K125AA			
			±20%	C2012X5R1H224M125AA			
330 nF	1005	0.50±0.05	±10%		C1005X5R1V334K050BC	C1005X5R1E334K050BB	
			±20%		C1005X5R1V334M050BC	C1005X5R1E334M050BB	
	1608	0.80±0.10	±10%	C1608X5R1H334K080AB	C1608X5R1V334K080AB	C1608X5R1E334K080AC	C1608X5R1C334K080AA
			±20%	C1608X5R1H334M080AB	C1608X5R1V334M080AB	C1608X5R1E334M080AC	C1608X5R1C334M080AA
	2012	1.25±0.20	±10%	C2012X5R1H334K125AA			
			±20%	C2012X5R1H334M125AA			
470 nF	1005	0.50±0.05	±10%		C1005X5R1V474K050BC	C1005X5R1E474K050BB	
			±20%		C1005X5R1V474M050BC	C1005X5R1E474M050BB	
	1608	0.80±0.10	±10%	C1608X5R1H474K080AB	C1608X5R1V474K080AB	C1608X5R1E474K080AC	C1608X5R1C474K080AA
			±20%	C1608X5R1H474M080AB	C1608X5R1V474M080AB	C1608X5R1E474M080AC	C1608X5R1C474M080AA
	2012	1.25±0.20	±10%	C2012X5R1H474K125AB			
			±20%	C2012X5R1H474M125AB			
680 nF	1005	0.50±0.05	±10%		C1005X5R1V684K050BC	C1005X5R1E684K050BC	C1005X5R1C684K050BC
			±20%		C1005X5R1V684M050BC	C1005X5R1E684M050BC	C1005X5R1C684M050BC
	1608	0.80±0.10	±10%	C1608X5R1H684K080AB	C1608X5R1V684K080AB	C1608X5R1E684K080AC	C1608X5R1C684K080AA
			±20%	C1608X5R1H684M080AB	C1608X5R1V684M080AB	C1608X5R1E684M080AC	C1608X5R1C684M080AA
	2012	1.25±0.20	±10%	C2012X5R1H684K125AB		C2012X5R1E684K125AA	
			±20%	C2012X5R1H684M125AB		C2012X5R1E684M125AA	
1 µF	1005	0.50±0.05	±10%		C1005X5R1V105K050BC	C1005X5R1E105K050BC	
			±20%		C1005X5R1V105M050BC	C1005X5R1E105M050BC	
	1608	0.80±0.10	±10%	C1608X5R1H105K080AB	C1608X5R1V105K080AB	C1608X5R1E105K080AC	C1608X5R1C105K080AA
			±20%	C1608X5R1H105M080AB	C1608X5R1V105M080AB	C1608X5R1E105M080AC	C1608X5R1C105M080AA
	2012	0.85±0.15	±10%	C2012X5R1H105K085AB	C2012X5R1V105K085AB	C2012X5R1E105K085AC	C2012X5R1C105K085AA
			±20%	C2012X5R1H105M085AB	C2012X5R1V105M085AB	C2012X5R1E105M085AC	C2012X5R1C105M085AA
		1.25±0.20	±10%	C2012X5R1H105K125AB		C2012X5R1E105K125AA	
			±20%	C2012X5R1H105M125AB		C2012X5R1E105M125AA	
	3216	1.60±0.20	±10%	C3216X5R1H105K160AA			
			±20%	C3216X5R1H105M160AA			
1.5 µF	1005	0.50±0.05	±10%				C1005X5R1C155K050BC
			±20%				C1005X5R1C155M050BC
		0.50±0.10	±10%			C1005X5R1E155K050BC	
			±20%			C1005X5R1E155M050BC	
	1608	0.50+0.15, -0.10	±10%		C1005X5R1V155K050BC		
			±20%		C1005X5R1V155M050BC		
		0.80±0.10	±10%		C1608X5R1E155K080AC	C1608X5R1E155K080AB	C1608X5R1C155K080AB
			±20%		C1608X5R1V155M080AC	C1608X5R1E155M080AB	C1608X5R1C155M080AB
		0.85±0.15	±10%			C2012X5R1E155K085AC	
			±20%			C2012X5R1E155M085AC	
		1.25±0.20	±10%	C2012X5R1H155K125AB	C2012X5R1V155K125AB	C2012X5R1E155K125AA	C2012X5R1C155K125AA
			±20%	C2012X5R1H155M125AB	C2012X5R1V155M125AB	C2012X5R1E155M125AA	C2012X5R1C155M125AA
	3216	1.60±0.20	±10%	C3216X5R1H155K160AB		C3216X5R1E155K160AA	
			±20%	C3216X5R1H155M160AB		C3216X5R1E155M160AA	
2.2 µF	1005	0.50±0.05	±10%				C1005X5R1C225K050BC
			±20%				C1005X5R1C225M050BC
		0.50±0.10	±10%			C1005X5R1E225K050BC	
			±20%			C1005X5R1E225M050BC	
	1608	0.50+0.15, -0.10	±10%		C1005X5R1V225K050BC		
			±20%		C1005X5R1V225M050BC		
		0.80±0.10	±10%		C1608X5R1V225K080AC	C1608X5R1E225K080AB	C1608X5R1C225K080AB
			±20%		C1608X5R1V225M080AC	C1608X5R1E225M080AB	C1608X5R1C225M080AB
		0.85±0.15	±10%	C2012X5R1H225K085AB	C2012X5R1V225K085AB	C2012X5R1E225K085AC	C2012X5R1C225K085AC
			±20%	C2012X5R1H225M085AB	C2012X5R1V225M085AB	C2012X5R1E225M085AC	C2012X5R1C225M085AC
		1.25±0.20	±10%	C2012X5R1H225K125AB	C2012X5R1V225K125AB	C2012X5R1E225K125AC	C2012X5R1C225K125AA
			±20%	C2012X5R1H225M125AB	C2012X5R1V225M125AB	C2012X5R1E225M125AC	C2012X5R1C225M125AA

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS


**Capacitance range table      Temperature characteristics: 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, -0.10	±10%		C1608X5R1V335K080AC		
			±20%		C1608X5R1V335M080AC		
	2012	0.60±0.15	±10%				C2012X5R1C335K060AC
			±20%				C2012X5R1C335M060AC
		0.85±0.15	±10%			C2012X5R1E335K085AC	C2012X5R1C335K085AB
			±20%			C2012X5R1E335M085AC	C2012X5R1C335M085AB
		1.25±0.20	±10%	C2012X5R1H335K125AB	C2012X5R1V335K125AC	C2012X5R1E335K125AB	C2012X5R1C335K125AC
			±20%	C2012X5R1H335M125AB	C2012X5R1V335M125AC	C2012X5R1E335M125AB	C2012X5R1C335M125AC
		3216	±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, -0.10	±10%		C1608X5R1V475K080AC		
			±20%		C1608X5R1V475M080AC		
	2012	0.60±0.15	±10%				C2012X5R1C475K060AC
			±20%				C2012X5R1C475M060AC
		0.85±0.15	±10%			C2012X5R1E475K085AC	C2012X5R1C475K085AB
			±20%			C2012X5R1E475M085AC	C2012X5R1C475M085AB
		1.25±0.20	±10%	C2012X5R1H475K125AB	C2012X5R1V475K125AC	C2012X5R1E475K125AB	C2012X5R1C475K125AC
			±20%	C2012X5R1H475M125AB	C2012X5R1V475M125AC	C2012X5R1E475M125AB	C2012X5R1C475M125AC
		3216	±10%	C3216X5R1H475K085AB	C3216X5R1V475K085AB	C3216X5R1E475K085AB	
			±20%	C3216X5R1H475M085AB	C3216X5R1V475M085AB	C3216X5R1E475M085AB	
	3225	1.15±0.15	±10%				C3216X5R1C475K115AA
			±20%				C3216X5R1C475M115AA
		1.60±0.20	±10%	C3216X5R1H475K160AB	C3216X5R1V475K160AB	C3216X5R1E475K160AA	
			±20%	C3216X5R1H475M160AB	C3216X5R1V475M160AB	C3216X5R1E475M160AA	
		2.50±0.30	±10%	C3225X5R1H475K250AB			
			±20%	C3225X5R1H475M250AB			
6.8 µF	1608	0.80+0.20, -0.10	±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	
10 µF	4532	2.50±0.30	±10%	C4532X5R1H685K250KA			
			±20%	C4532X5R1H685M250KA			
	1608	0.80+0.20, -0.10	±10%			C1608X5R1E106M080AC	C1608X5R1C106M080AB
			±20%				
	2012	0.85±0.15	±10%		C2012X5R1V106K085AC	C2012X5R1E106K085AC	C2012X5R1C106K085AC
			±20%		C2012X5R1V106M085AC	C2012X5R1E106M085AC	C2012X5R1C106M085AC
		1.25±0.20	±10%		C2012X5R1V106K125AC	C2012X5R1E106K125AB	
			±20%		C2012X5R1V106M125AC	C2012X5R1E106M125AB	
	3216	0.85±0.15	±10%			C3216X5R1E106K085AC	
			±20%			C3216X5R1E106M085AC	
		1.60±0.20	±10%	C3216X5R1H106K160AB	C3216X5R1V106K160AB	C3216X5R1E106K160AB	C3216X5R1C106K160AA
			±20%	C3216X5R1H106M160AB	C3216X5R1V106M160AB	C3216X5R1E106M160AB	C3216X5R1C106M160AA

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS


**Capacitance range table      Temperature characteristics: 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	±20%		C2012X5R1V156M125AC	C2012X5R1E156M125AC	C2012X5R1C156M125AC
			±20%		C3216X5R1V156M160AC	C3216X5R1E156M160AB	C3216X5R1C156M160AB
	3216	1.60±0.20	±20%				
			±20%				
22 µF	3225	2.50±0.30	±20%			C4532X5R1E156M250KA	C3225X5R1C156M250AA
			±20%			C4532X5R1E156M280KA	
	4532	2.80±0.30	±20%				
			±20%				
	5750	2.30±0.20	±20%				
			±20%				
33 µF	2012	1.25±0.20	±10%				C2012X5R1C226M085AC
			±20%				C2012X5R1C226K125AC
	3216	1.60±0.20	±20%		C2012X5R1V226M125AC	C2012X5R1E226M125AC	C2012X5R1C226M125AC
			±20%		C3216X5R1V226M160AC	C3216X5R1E226M160AB	C3216X5R1C226M160AB
	3225	2.50±0.30	±10%				C3225X5R1C226K250AA
			±20%				C3225X5R1C226M250AA
47 µF	4532	2.00±0.20	±20%				C4532X5R1C226M200KA
			±20%				C4532X5R1C226M200KA
	5750	2.30±0.20	±20%			C4532X5R1E226M250KA	
			±20%			C5750X5R1E226M230KA	
	3216	1.60±0.20	±20%			C5750X5R1E226M250KA	
			±20%				
33 µF	4532	2.50±0.30	±20%			C3216X5R1E336M160AC	C3216X5R1C336M160AB
			±20%				C4532X5R1C336M250KA
			±20%				C5750X5R1C336M200KA
47 µF	3216	1.60±0.20	±20%			C3216X5R1E476M160AB	C3216X5R1C476M160AB
			±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	
22 nF	0402	0.20±0.02	±20%		C0402X5R0J223M020BC	C0402X5R0G223M020BC

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS


**Capacitance range table      Temperature characteristics: 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	0402	0.20±0.02	±20%		C0402X5R0J473M020BC	C0402X5R0G473M020BC
	1005	0.50±0.05	±10% ±20%	C1005X5R1A473K050BA C1005X5R1A473M050BA		
68 nF	1005	0.50±0.05	±10% ±20%	C1005X5R1A683K050BA C1005X5R1A683M050BA		
100 nF	0402	0.20±0.02	±20%		C0402X5R0J104M020BC	C0402X5R0G104M020BC
	0603	0.30±0.03	±10% ±20%	C0603X5R1A104K030BC 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	0402	0.20±0.03	±20%			C0402X5R0G224M020BC
	0603	0.30±0.03	±10%	C0603X5R1A224K030BB	C0603X5R0J224K030BB	
			±20%	C0603X5R1A224M030BB	C0603X5R0J224M030BB	
330 nF	0603	0.30±0.03	±20%		C0603X5R0J334M030BC	
		0.30±0.05	±10%	C0603X5R1A334K030BC		
			±20%	C0603X5R1A334M030BC		
470 nF	0603	0.30±0.03	±10%		C0603X5R0J474K030BC	
			±20%		C0603X5R0J474M030BC	
			±20%	C0603X5R1A474M030BC		
	1608	0.80+0.15, -0.10	±10%	C1608X5R1A474K080AA		
680 nF	1005	0.50±0.05	±10%	C1005X5R1A684K050BB	C1005X5R0J684K050BB	
			±20%	C1005X5R1A684M050BB	C1005X5R0J684M050BB	
	1608	0.80+0.15, -0.10	±10%	C1608X5R1A684K080AC		
			±20%	C1608X5R1A684M080AC		
1 µF	0603	0.30±0.05	±20%		C0603X5R0J105M030BC	C0603X5R0G105M030BC
	1608	0.80+0.15, -0.10	±10%	C1608X5R1A105K080AC		
			±20%	C1608X5R1A105M080AC		
1.5 µF	1005	0.50±0.05	±10%	C1005X5R1A155K050BC	C1005X5R0J155K050BB	
			±20%	C1005X5R1A155M050BC	C1005X5R0J155M050BB	
2.2 µF	1005	0.50±0.05	±10%	C1005X5R1A225K050BC	C1005X5R0J225K050BC	C1005X5R0G225K050BB
			±20%	C1005X5R1A225M050BC	C1005X5R0J225M050BC	C1005X5R0G225M050BB
	2012	0.85±0.15	±10%	C2012X5R1A225K085AA	C2012X5R0J225K085AA	
			±20%	C2012X5R1A225M085AA	C2012X5R0J225M085AA	
3.3 µF	1005	0.50±0.10	±10%	C1005X5R1A335K050BC	C1005X5R0J335K050BC	C1005X5R0G335K050BB
			±20%	C1005X5R1A335M050BC	C1005X5R0J335M050BC	C1005X5R0G335M050BB
	2012	1.25±0.20	±10%	C2012X5R1A335K125AA		
			±20%	C2012X5R1A335M125AA		
4.7 µF	1005	0.50+0.15, -0.10	±10%	C1005X5R1A475K050BC	C1005X5R0J475K050BC	C1005X5R0G475K050BB
			±20%	C1005X5R1A475M050BC	C1005X5R0J475M050BC	C1005X5R0G475M050BB

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS


**Capacitance range table      Temperature characteristics: 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	
		0.60±0.15	±10%	C2012X5R1A685K060AC		
			±20%	C2012X5R1A685M060AC		
6.8 µF	2012	0.85±0.15	±10%	C2012X5R1A685K085AB	C2012X5R0J685K085AB	
			±20%	C2012X5R1A685M085AB	C2012X5R0J685M085AB	
		0.80±0.10	±10%	C1608X5R1A106K080AC	C1608X5R0J106K080AB	
			±20%	C1608X5R1A106M080AC	C1608X5R0J106M080AB	
10 µF	1608	0.85±0.15	±10%	C2012X5R1A106K085AB	C2012X5R0J106K085AB	
			±20%	C2012X5R1A106M085AB	C2012X5R0J106M085AB	
	2012	0.80±0.20, -0.10	±20%	C1608X5R1A156M080AC	C1608X5R0J156M080AC	C1608X5R0G156M080AA
			±20%	C2012X5R1A156M085AC	C2012X5R0J156M085AB	
15 µF	2012	1.25±0.20	±20%	C2012X5R1A156M125AB	C2012X5R0J156M125AC	
			±20%	C3225X5R1A156M230AA		
	3225	0.80±0.20, -0.10	±20%	C1608X5R1A226M080AC	C1608X5R0J226M080AC	C1608X5R0G226M080AA
			±20%	C2012X5R1A226M085AC	C2012X5R0J226M085AB	
22 µF	2012	1.25±0.20	±10%	C2012X5R1A226K125AB	C2012X5R0J226K125AB	
			±20%	C2012X5R1A226M125AB	C2012X5R0J226M125AC	
	3216	0.85±0.15	±20%		C3216X5R0J226M085AC	
			±10%		C3225X5R0J226K200AA	
22 µF	3225	2.00±0.20	±20%		C3225X5R0J226M200AA	
			±20%			
		2.30±0.20	±20%	C3225X5R1A226M230AA		
			±20%	C4532X5R1A226M230KA		
33 µF	2012	1.25±0.20	±20%	C2012X5R1A336M125AC	C2012X5R0J336M125AC	
			±20%		C3216X5R0J336M130AC	
	3216	1.60±0.20	±20%	C3216X5R1A336M160AB		
			±20%	C3225X5R1A336M200AC	C3225X5R0J336M200AA	
33 µF	3225	2.50±0.30	±20%		C3225X5R0J336M250AA	
			±20%			
	4532	2.30±0.20	±20%	C4532X5R1A336M230KA		
			±20%			
47 µF	2012	1.25±0.20	±20%	C2012X5R1A476M125AC	C2012X5R0J476M125AC	C2012X5R0G476M125AB
			±20%			
	3216	1.60±0.20	±20%	C3216X5R1A476M160AB	C3216X5R0J476M160AC	
			±20%			
47 µF	3225	2.50±0.30	±20%	C3225X5R1A476M250AC	C3225X5R0J476M250AA	
			±20%			
	4532	2.50±0.30	±20%		C4532X5R0J476M250KA	
			±20%	C4532X5R1A476M280KA		
68 µF	3216	1.60±0.30, -0.10	±20%	C3216X5R1A686M160AC	C3216X5R0J686M160AB	
			±20%			
	3225	2.00±0.20	±20%		C3225X5R0J686M200AC	
			±20%			
68 µF	4532	2.80±0.30	±20%		C4532X5R0J686M280KA	
			±20%			
	5750	2.30±0.20	±20%	C5750X5R1A686M230KA		
			±20%			
100 µF	3216	1.60±0.30, -0.10	±20%	C3216X5R1A107M160AC	C3216X5R0J107M160AB	C3216X5R0G107M160AB
			±20%			
	3225	2.50±0.30	±20%		C3225X5R0J107M250AC	
			±20%			
100 µF	4532	2.80±0.30	±20%	C4532X5R1A107M280KC	C4532X5R0J107M280KA	
			±20%			
100 µF	5750	2.80±0.30	±20%	C5750X5R1A107M280KC	C5750X5R0J107M280KA	
			±20%			

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance range table      Temperature characteristics: X6S (-55 to +105°C, ±22%)

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

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance range table      Temperature characteristics: 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, -0.10	±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, -0.10	±10%				C1608X6S1C475K080AC
			±20%				C1608X6S1C475M080AC
	2012	0.85±0.15	±10%				C2012X6S1C475K085AC
			±20%				C2012X6S1C475M085AC
		1.25±0.20	±10%	C2012X6S1H475K125AC	C2012X6S1V475K125AB	C2012X6S1E475K125AC	C2012X6S1C475K125AC
			±20%	C2012X6S1H475M125AC	C2012X6S1V475M125AB	C2012X6S1E475M125AC	C2012X6S1C475M125AC
	3216	0.85±0.15	±10%		C3216X6S1V475K085AC	C3216X6S1E475K085AB	
			±20%		C3216X6S1V475M085AC	C3216X6S1E475M085AB	
		1.60±0.20	±10%	C3216X6S1H475K160AB	C3216X6S1V475K160AB	C3216X6S1E475K160AB	
			±20%	C3216X6S1H475M160AB	C3216X6S1V475M160AB	C3216X6S1E475M160AB	
	3225	2.50±0.30	±10%	C3225X6S1H475K250AB			
			±20%	C3225X6S1H475M250AB			
6.8 µF	2012	1.25±0.20	±10%				C2012X6S1C685K125AC
			±20%				C2012X6S1C685M125AC
	3216	1.60±0.20	±10%		C3216X6S1V685K160AC	C3216X6S1E685K160AB	C3216X6S1C685K160AC
			±20%		C3216X6S1V685M160AC	C3216X6S1E685M160AB	C3216X6S1C685M160AC
	3225	2.50±0.30	±10%	C3225X6S1H685K250AC	C3225X6S1V685K250AC	C3225X6S1E685K250AB	
			±20%	C3225X6S1H685M250AC	C3225X6S1V685M250AC	C3225X6S1E685M250AB	
10 µF	2012	0.85±0.15	±10%				C2012X6S1C106K085AC
			±20%				C2012X6S1C106M085AC
		1.25±0.20	±10%				C2012X6S1C106K125AC
			±20%				C2012X6S1C106M125AC
	3216	0.85±0.15	±10%				C3216X6S1C106K085AC
			±20%				C3216X6S1C106M085AC
		1.60±0.20	±10%		C3216X6S1V106K160AC	C3216X6S1E106K160AB	C3216X6S1C106K160AB
			±20%		C3216X6S1V106M160AC	C3216X6S1E106M160AB	C3216X6S1C106M160AB
	3225	2.50±0.30	±10%	C3225X6S1H106K250AC	C3225X6S1V106K250AC	C3225X6S1E106K250AC	
			±20%	C3225X6S1H106M250AC	C3225X6S1V106M250AC	C3225X6S1E106M250AC	
15 µF	2012	1.25±0.20	±20%				C2012X6S1C156M125AC
	3216	1.60±0.20	±20%				C3216X6S1C156M160AC
	2012	1.25±0.20	±20%				C2012X6S1C226M125AC
22 µF	3216	1.60±0.20	±20%				C3216X6S1C226M160AC
	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 item: The product which is not recommended to a new design.

⚠ 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.

## MULTILAYER CERAMIC CHIP CAPACITORS


**Capacitance range table      Temperature characteristics: 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
	0603	0.30±0.05	±10%	C0603X6S1A154K030BC		
			±20%	C0603X6S1A154M030BC		
220 nF	0603	0.30±0.03	±10%		C0603X6S0J224K030BC	C0603X6S0G224K030BB
			±20%		C0603X6S0J224M030BC	C0603X6S0G224M030BB
	0603	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		C1005X6S0G474K050BB
			±20%	C1005X6S1A474M050BC		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
	1005	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%	C1608X6S1A475K080AC	C1608X6S0J475K080AB	
			±20%	C1608X6S1A475M080AC	C1608X6S0J475M080AB	

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS


**Capacitance range table      Temperature characteristics: 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, -0.10	±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		
10 µF	3216	0.85±0.15	±10%	C3216X6S1A685K085AB		
			±20%	C3216X6S1A685M085AB		
	1608	0.80±0.10	±10%			C1608X6S0G106K080AB
			±20%			C1608X6S0G106M080AC
		0.80+0.20, -0.10	±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	2012	0.85±0.15	±20%			C2012X6S0G156M085AC
			±10%	C2012X6S1A156M125AC	C2012X6S0J156M125AB	
	3216	1.60±0.20	±20%	C3216X6S1A156M160AB	C3216X6S0J156M160AB	
			±10%		C2012X6S0J226M085AC	C2012X6S0G226M085AC
22 µF	2012	1.25±0.20	±20%	C2012X6S1A226M125AC	C2012X6S0J226M125AB	C2012X6S0G226M125AC
			±10%	C3216X6S1A226M160AB	C3216X6S0J226M160AB	
33 µF	2012	1.25±0.20	±20%			C2012X6S0G336M125AC
	3216	1.60±0.20	±20%	C3216X6S1A336M160AC	C3216X6S0J336M160AB	
	2012	1.25±0.20	±20%			C2012X6S0G476M125AC
47 µF	3216	1.60±0.20	±20%	C3216X6S1A476M160AC	C3216X6S0J476M160AB	C3216X6S0G476M160AC
	3225	2.50±0.30	±20%		C3225X6S0J476M250AC	
68 µF	3216	1.60+0.30, -0.10	±20%			C3216X6S0G686M160AC
	3216	1.60+0.30, -0.10	±20%			C3216X6S0G107M160AC
100 µF	3225	2.50±0.30	±20%		C3225X6S0J107M250AC	C3225X6S0G107M250AC
	4532	2.80±0.30	±20%		C4532X6S0J107M280KC	

■ Gray item: The product which is not recommended to a new design.

**Capacitance range table      Temperature characteristics: 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 item: The product which is not recommended to a new design.

⚠ 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.

## MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance range table      Temperature characteristics: 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	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	
	2012	0.85±0.15	±10%	C2012X7R1H104K085AA			
			±20%	C2012X7R1H104M085AA			
150 nF	1005	0.50±0.05	±10%		C1005X7R1V154K050BC	C1005X7R1E154K050BB	C1005X7R1C154K050BC
			±20%		C1005X7R1V154M050BC	C1005X7R1E154M050BB	C1005X7R1C154M050BC
	1608	0.80±0.10	±10%	C1608X7R1H154K080AB	C1608X7R1V154K080AB	C1608X7R1E154K080AA	
			±20%	C1608X7R1H154M080AB	C1608X7R1V154M080AB	C1608X7R1E154M080AA	
	2012	0.85±0.15	±10%	C2012X7R1H154K085AA			
			±20%	C2012X7R1H154M085AA			

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance range table      Temperature characteristics: 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
150 nF	2012	1.25±0.20	±10%	C2012X7R1H154K125AA				
			±20%	C2012X7R1H154M125AA				
220 nF	1005	0.50±0.05	±10%			C1005X7R1V224K050BC	C1005X7R1E224K050BB	C1005X7R1C224K050BC
			±20%			C1005X7R1V224M050BC	C1005X7R1E224M050BB	C1005X7R1C224M050BC
	1608	0.80±0.10	±10%	C1608X7R1H224K080AB	C1608X7R1V224K080AB	C1608X7R1E224K080AC	C1608X7R1C224K080AC	
			±20%	C1608X7R1H224M080AB	C1608X7R1V224M080AB	C1608X7R1E224M080AC	C1608X7R1C224M080AC	
	2012	1.25±0.20	±10%	C2012X7R1H224K125AA				
			±20%	C2012X7R1H224M125AA				
330 nF	3216	1.15±0.15	±10%	C3216X7R1H224K115AA				
			±20%	C3216X7R1H224M115AA				
	1608	0.80±0.10	±10%	C1608X7R1H334K080AC	C1608X7R1V334K080AB	C1608X7R1E334K080AC	C1608X7R1C334K080AC	
			±20%	C1608X7R1H334M080AC	C1608X7R1V334M080AB	C1608X7R1E334M080AC	C1608X7R1C334M080AC	
	2012	1.25±0.20	±10%	C2012X7R1H334K125AA				
			±20%	C2012X7R1H334M125AA				
470 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	
	2012	1.25±0.20	±10%	C2012X7R1H474K125AB	C2012X7R1V474K125AB	C2012X7R1E474K125AA		
			±20%	C2012X7R1H474M125AB	C2012X7R1V474M125AB	C2012X7R1E474M125AA		
680 nF	3216	1.60±0.20	±10%	C3216X7R1H474K160AA				
			±20%	C3216X7R1H474M160AA				
	1608	0.80±0.10	±10%		C1608X7R1V684K080AC	C1608X7R1E684K080AB	C1608X7R1C684K080AC	
			±20%		C1608X7R1V684M080AC	C1608X7R1E684M080AB	C1608X7R1C684M080AC	
	2012	1.25±0.20	±10%	C2012X7R1H684K125AB	C2012X7R1V684K125AB	C2012X7R1E684K125AB	C2012X7R1C684K125AA	
			±20%	C2012X7R1H684M125AB	C2012X7R1V684M125AB	C2012X7R1E684M125AB	C2012X7R1C684M125AA	
1 µF	3216	1.60±0.20	±10%	C3216X7R1H684K160AA				
			±20%	C3216X7R1H684M160AA				
	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	
		1.25±0.20	±10%	C2012X7R1H105K125AB	C2012X7R1V105K125AB	C2012X7R1E105K125AB	C2012X7R1C105K125AA	
			±20%	C2012X7R1H105M125AB	C2012X7R1V105M125AB	C2012X7R1E105M125AB	C2012X7R1C105M125AA	
	3216	0.85±0.15	±10%			C3216X7R1E105K085AA		
			±20%			C3216X7R1E105M085AA		
	3216	1.60±0.20	±10%	C3216X7R1H105K160AB		C3216X7R1E105K160AA		
			±20%	C3216X7R1H105M160AB		C3216X7R1E105M160AA		
1.5 µF	3225	1.60±0.20	±10%	C3225X7R1H105K160AA				
			±20%	C3225X7R1H105M160AA				
	4532	1.60±0.20	±10%	C4532X7R1H105K160KA				
			±20%	C4532X7R1H105M160KA				
	2012	1.25±0.20	±10%	C2012X7R1H155K125AC	C2012X7R1V155K125AB	C2012X7R1E155K125AC	C2012X7R1C155K125AB	
			±20%	C2012X7R1H155M125AC	C2012X7R1V155M125AB	C2012X7R1E155M125AC	C2012X7R1C155M125AB	
	3216	1.60±0.20	±10%	C3216X7R1H155K160AB	C3216X7R1V155K160AB	C3216X7R1E155K160AA		
			±20%	C3216X7R1H155M160AB	C3216X7R1V155M160AB	C3216X7R1E155M160AA		
	3225	2.00±0.20	±10%	C3225X7R1H155K200AA				
			±20%	C3225X7R1H155M200AA				
2.2 µF	2012	0.85±0.15	±10%		C2012X7R1V225K085AC	C2012X7R1E225K085AB	C2012X7R1C225K085AB	
			±20%		C2012X7R1V225M085AC	C2012X7R1E225M085AB	C2012X7R1C225M085AB	
	3216	1.60±0.20	±10%	C2012X7R1H225K125AC	C2012X7R1V225K125AB	C2012X7R1E225K125AB	C2012X7R1C225K125AB	
			±20%	C2012X7R1H225M125AC	C2012X7R1V225M125AB	C2012X7R1E225M125AB	C2012X7R1C225M125AB	
	3216	1.60±0.20	±10%	C3216X7R1H225K160AB	C3216X7R1V225K160AB	C3216X7R1E225K160AA		
			±20%	C3216X7R1H225M160AB	C3216X7R1V225M160AB	C3216X7R1E225M160AA		
	3225	2.00±0.20	±10%	C3225X7R1H225K200AB				
			±20%	C3225X7R1H225M200AB				
	4532	1.60±0.20	±10%	C4532X7R1H225K250AB				
			±20%	C4532X7R1H225M250AB				

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance range table      Temperature characteristics: 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
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%	C4532X7R1H335K200KA			
			±20%	C4532X7R1H335M200KA			
4.7 µF	2012	1.25±0.20	±10%		C2012X7R1V475K125AC	C2012X7R1E475K125AB	C2012X7R1C475K125AB
			±20%		C2012X7R1V475M125AC	C2012X7R1E475M125AB	C2012X7R1C475M125AB
	3216	0.85±0.15	±10%		C3216X7R1V475K085AC	C3216X7R1E475K085AB	C3216X7R1C475K085AB
			±20%		C3216X7R1V475M085AC	C3216X7R1E475M085AB	C3216X7R1C475M085AB
		1.60±0.20	±10%	C3216X7R1H475K160AC	C3216X7R1V475K160AB	C3216X7R1E475K160AC	C3216X7R1C475K160AB
			±20%	C3216X7R1H475M160AC	C3216X7R1V475M160AB	C3216X7R1E475M160AC	C3216X7R1C475M160AB
	3225	2.00±0.20	±10%			C3225X7R1E475K200AA	
			±20%			C3225X7R1E475M200AA	
		2.50±0.30	±10%	C3225X7R1H475K250AB			
			±20%	C3225X7R1H475M250AB			
	4532	2.00±0.20	±10%	C4532X7R1H475K200KB			
			±20%	C4532X7R1H475M200KB		C4532X7R1E475M200KA	
6.8 µF	3216	1.60±0.20	±10%		C3216X7R1V685K160AC	C3216X7R1E685K160AB	C3216X7R1C685K160AC
			±20%		C3216X7R1V685M160AC	C3216X7R1E685M160AB	C3216X7R1C685M160AC
	3225	2.50±0.30	±10%			C3225X7R1E685K250AB	
			±20%			C3225X7R1E685M250AB	
	4532	2.50±0.30	±10%	C4532X7R1H685K250KB			
			±20%	C4532X7R1H685M250KB			
	5750	2.50±0.30	±10%	C5750X7R1H685K250KA			
			±20%	C5750X7R1H685M250KA			
10 µF	3216	1.60±0.20	±10%		C3216X7R1V106K160AC	C3216X7R1E106K160AB	C3216X7R1C106K160AC
			±20%		C3216X7R1V106M160AC	C3216X7R1E106M160AB	C3216X7R1C106M160AC
	3225	2.00±0.20	±10%				C3225X7R1C106K200AB
			±20%				C3225X7R1C106M200AB
		2.50±0.30	±10%			C3225X7R1E106K250AC	
			±20%	C3225X7R1H106M250AC		C3225X7R1E106M250AC	
	4532	2.30±0.20	±10%				C4532X7R1C106K230KA
			±20%				C4532X7R1C106M230KA
		2.50±0.30	±10%			C4532X7R1E106K250KA	
			±20%			C4532X7R1E106M250KA	
	5750	2.00±0.20	±10%			C5750X7R1E106M200KA	
			±20%				
15 µF	3225	2.50±0.30	±10%				C3225X7R1C156M250AB
			±20%				
	4532	2.80±0.30	±10%			C4532X7R1E156M250KC	
			±20%			C4532X7R1E156M280KB	
	5750	2.30±0.20	±10%			C5750X7R1E156M230KA	
			±20%				
	3225	2.50±0.30	±10%				C3225X7R1C226K250AC
			±20%				C3225X7R1C226M250AC
	4532	2.00±0.20	±10%				C4532X7R1C226M200KC
			±20%				C4532X7R1C226M230KB
22 µF	3225	2.00±0.20	±10%				
			±20%				
		2.30±0.20	±10%				
			±20%				
	4532	2.50±0.30	±10%			C4532X7R1E226M250KC	
			±20%			C5750X7R1E226M250KA	
	5750	2.50±0.30	±10%				
			±20%				
33 µF	4532	2.50±0.30	±10%				C4532X7R1C336M250KC
			±20%				C5750X7R1C336M200KB
47 µF	5750	2.30±0.20	±20%				C5750X7R1C476M230KB

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS


**Capacitance range table      Temperature characteristics: 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	
	2012	1.25±0.20	±10%	C2012X7R1A106K125AC	C2012X7R0J106K125AB	
			±20%	C2012X7R1A106M125AC	C2012X7R0J106M125AB	
10 µF	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		

■ Gray item: The product which is not recommended to a new design.

## MULTILAYER CERAMIC CHIP CAPACITORS


**Capacitance range table      Temperature characteristics: X7S (-55 to +125°C, ±22%)**

Capacitance Dimensions		Thickness (mm)	Capacitance tolerance	Catalog number	Rated voltage Edc: 50V	Rated voltage Edc: 16V	Rated voltage Edc: 10V	Rated voltage Edc: 6.3V	Rated voltage Edc: 4V
22 nF	0603	0.30±0.03	±10% ±20%				C0603X7S1A223K030BC C0603X7S1A223M030BC	C0603X7S0J223K030BB C0603X7S0J223M030BB	
47 nF	0603	0.30±0.03	±10% ±20%				C0603X7S1A473K030BC C0603X7S1A473M030BC	C0603X7S0J473K030BB C0603X7S0J473M030BB	
100 nF	0603	0.30±0.03	±10% ±20%				C0603X7S1A104K030BC C0603X7S1A104M030BC		C0603X7S0G104K030BC C0603X7S0G104M030BC
150 nF	0603	0.30±0.05	±10% ±20%					C0603X7S0J154K030BC C0603X7S0J154M030BC	
220 nF	0603	0.30±0.03	±10% ±20%						C0603X7S0G224K030BC C0603X7S0G224M030BC
		0.30±0.05	±10% ±20%					C0603X7S0J224K030BC C0603X7S0J224M030BC	
330 nF	1005	0.50±0.05	±10% ±20%			C1005X7S1C334K050BC C1005X7S1C334M050BC	C1005X7S1A334K050BC C1005X7S1A334M050BC	C1005X7S0J334K050BC C1005X7S0J334M050BC	
470 nF	1005	0.50±0.05	±10% ±20%			C1005X7S1C474K050BC C1005X7S1C474M050BC	C1005X7S1A474K050BC C1005X7S1A474M050BC	C1005X7S0J474K050BB C1005X7S0J474M050BB	
680 nF	1005	0.50±0.05	±10% ±20%			C1005X7S1A684K050BC C1005X7S1A684M050BC	C1005X7S0J684K050BC C1005X7S0J684M050BC	C1005X7S0G684K050BC C1005X7S0G684M050BC	
1 µF	1005	0.50±0.05	±10% ±20%				C1005X7S1A105K050BC C1005X7S1A105M050BC	C1005X7S0J105K050BC C1005X7S0J105M050BC	C1005X7S0G105K050BC C1005X7S0G105M050BC
1.5 µF	1005	0.50±0.05	±10% ±20%						C1005X7S0G155K050BC C1005X7S0G155M050BC
		0.50±0.10	±10% ±20%					C1005X7S0J155K050BC C1005X7S0J155M050BC	
		0.50±0.15, -0.10	±10% ±20%			C1005X7S1A155K050BC C1005X7S1A155M050BC			
2.2 µF	1005	0.50±0.05	±10% ±20%						C1005X7S0G225K050BC C1005X7S0G225M050BC
		0.50±0.10	±10% ±20%					C1005X7S0J225K050BC C1005X7S0J225M050BC	
		0.50±0.15, -0.10	±10% ±20%			C1005X7S1A225K050BC C1005X7S1A225M050BC			
3.3 µF	1608	0.80±0.10	±10% ±20%			C1608X7S1C225K080AC C1608X7S1C225M080AC	C1608X7S1A225K080AC C1608X7S1A225M080AC	C1608X7S0J225K080AB C1608X7S0J225M080AB	C1608X7S0G225K080AB C1608X7S0G225M080AB
		0.80±0.20, -0.10	±10% ±20%				C1608X7S1A335K080AC C1608X7S1A335M080AC		
4.7 µF	1608	0.80±0.10	±10% ±20%					C1608X7S0J475K080AC C1608X7S0J475M080AC	C1608X7S0G475K080AB C1608X7S0G475M080AB
		0.80±0.20, -0.10	±10% ±20%				C1608X7S1A475K080AC C1608X7S1A475M080AC		
6.8 µF	1608	0.80±0.20, -0.10	±10% ±20%					C1608X7S0J685K080AC C1608X7S0J685M080AC	C1608X7S0G685K080AB C1608X7S0G685M080AB
10 µF	2012	1.25±0.20	±10% ±20%			C2012X7S1C685K125AC C2012X7S1C685M125AC			
		2.50±0.30	±10% ±20%			C3225X7S1H685K250AB C3225X7S1H685M250AB			
15 µF	2012	1.25±0.20	±10% ±20%				C2012X7S1A156M125AC C2012X7S1A156M160AC	C2012X7S0J156M125AC C2012X7S0J156M160AB	C2012X7S0G156M125AC C2012X7S0G156M160AB
		1.60±0.20	±10% ±20%				C2012X7S1A226M125AC C2012X7S1A226M160AC	C2012X7S0J226M125AC C2012X7S0J226M160AB	C2012X7S0G226M125AC C2012X7S0G226M160AB
22 µF	3216	1.60±0.20	±20%					C3216X7S0J336M160AC C3216X7S0J476M160AC	C3216X7S0G336M160AB C3216X7S0G476M160AB
33 µF	3216	1.60±0.20	±20%						
47 µF	3216	1.60±0.20	±20%						
	3225	2.50±0.30	±20%					C3225X7S0J476M250AC	

■ Gray item: The product which is not recommended to a new design.