

## MULTILAYER CERAMIC CHIP CAPACITORS



### **C Series Commercial Grade General (Up to 50V)**

**Type:**

**C0402 [EIA CC01005]  
C0603 [EIA CC0201]  
C1005 [EIA CC0402]  
C1608 [EIA CC0603]  
C2012 [EIA CC0805]  
C3216 [EIA CC1206]  
C3225 [EIA CC1210]  
C4532 [EIA CC1812]  
C5750 [EIA CC2220]**



# REMINDERS

Please read before using this product

## SAFETY REMINDERS

### REMINDERS

1. If you intend to use a product listed in this catalog for a purpose that may cause loss of life or other damage, you must contact our company’s sales window.
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

# MULTILAYER CERAMIC CHIP CAPACITORS



## C Series General (Up to 50V)

Type: C0402 [EIA CC01005], C0603 [EIA CC0201], C1005 [EIA CC0402], C1608 [EIA CC0603], C2012 [EIA CC0805], C3216 [EIA CC1206], C3225 [EIA CC1210], C4532 [EIA CC1812], C5750 [EIA CC2220]

### Features

- High capacitance has been achieved through precision technologies that enable the use of multiple thinner ceramic dielectric layers.
- A monolithic structure ensures superior mechanical strength and reliability.
- Low 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.

### Applications

- General electronic equipment
- Mobile communication equipment
- Power supply circuit
- Office automation equipment
- TV, LED displays
- Servers, PCs, Notebooks, Tablets

### Shape & Dimensions



L	Body Length
W	Body Width
T	Body Height
B	Terminal Width
G	Terminal Spacing

### Catalog Number Construction

C • 3225 • X7R • 1H • 106 • M • 250 • A • C

#### Series Name

#### Dimensions L x W (mm)

Code	Length	Width	Terminal
C0402	0.40 ± 0.02	0.20 ± 0.02	0.07 min.
C0603	0.60 ± 0.03	0.30 ± 0.03	0.10 min.
C1005	1.00 ± 0.05	0.50 ± 0.05	0.10 min.
C1608	1.60 ± 0.10	0.80 ± 0.10	0.20 min.
C2012	2.00 ± 0.20	1.25 ± 0.20	0.20 min.
C3216	3.20 ± 0.20	1.60 ± 0.20	0.20 min.
C3225	3.20 ± 0.40	2.50 ± 0.30	0.20 min.
C4532	4.50 ± 0.40	3.20 ± 0.40	0.20 min.
C5750	5.70 ± 0.40	5.00 ± 0.40	0.20 min.

\*Dimension tolerance are typical values

#### Temperature Characteristics

Temperature Characteristics	Temperature Coefficient of Capacitance Change	Temperature Range	Code	Rated Voltage (DC)
CH	0±60 ppm/°C	-25 to +85°C	0G	4V
C0G	0±30 ppm/°C	-55 to +125°C	0J	6.3V
JB	±10%	-25 to +85°C	1A	10V
X5R	±15%	-55 to +85°C	1C	16V
X6S	±22%	-55 to +105°C	1E	25V
X7R	±15%	-55 to +125°C	1V	35V
X7S	±22%	-55 to +125°C	1H	50V

#### 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.

Ex. 0R2 = 0.2pF; 103 = 10,000pF; 105 = 1,000,000pF = 1,000nF = 1µF

#### Capacitance Tolerance

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

#### Nominal Thickness

Code	Thickness	Code	Thickness
020	0.20 mm	130	1.30 mm
030	0.30 mm	160	1.60 mm
050	0.50 mm	200	2.00 mm
060	0.60 mm	230	2.30 mm
080	0.80 mm	250	2.50 mm
085	0.85 mm	280	2.80 mm
115	1.15 mm	320	3.20 mm
125	1.25 mm		

#### Packaging Style

Code	Style
A	178 mm Reel, 4 mm Pitch
B	178 mm Reel, 2 mm Pitch
K	178 mm Reel, 8 mm Pitch

#### Special Reserved Code

Code	Description
A, B, C	TDK Internal Code

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

# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Chart

## EIA CC01005 [C0402]

### Capacitance Range Chart

Temperature Characteristics: C0G (0±30ppm/°C), CH (0±60ppm/°C), JB (±10%)

Rated Voltage: 16V (1C), 10V (1A), 6.3V (0J), 4.0V (0G)

Capacitance		Tolerance	C0G		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							
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				█	█	█	

Standard Thickness  
█ 0.20 mm

- █ Background gray: The product which is not recommended to a new design
- █ Background red: The product which is planning to stop production \* Please confirm the schedule on product details information.
- █ Please refer to a capacitance range table after P-21 for the details such as product thickness, a capacitance tolerance.

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# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Chart

## EIA CC01005 [C0402]

### Capacitance Range Chart

Temperature Characteristics: X5R (±15%), X6S (±22%), X7R (±15%)

Rated Voltage: 16V (1C), 10V (1A), 6.3V (0J), 4V (0G)

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%	█				█	█	█	█	█	█	
150	151		█				█	█	█	█	█	█	
220	221		█				█	█	█	█	█	█	
330	331		█				█	█	█	█	█	█	
470	471		█				█	█	█	█	█	█	
680	681		█				█	█	█	█	█	█	
1,000	102	M:±20%		█	█	█				█			
1,500	152			█	█	█							
2,200	222			█	█	█							
3,300	332			█	█	█							
4,700	472			█	█	█							
6,800	682			█	█	█							
10,000	103			█	█	█							
22,000	223		M:±20%										
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

█ Background red: The product which is planning to stop production \* Please confirm the schedule on product details information.

█ Please refer to a capacitance range table after P-21 for the details such as product thickness, a capacitance tolerance.

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# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Chart

## EIA CC0201 [C0603]

### Capacitance Range Chart

Temperature Characteristics: C0G (0±30ppm/°C), CH (0±60ppm/°C), JB (±10%), X5R (±15%)

Rated Voltage: 50V (1H), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J), 4V (0G)

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	D:±0.50pF	█	█	█	█									
6	060		█	█	█	█									
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	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														
6,800	682														
10,000	103														
15,000	153														
22,000	223														
33,000	333														
47,000	473														
68,000	683														
100,000	104														
150,000	154														
220,000	224														
330,000	334														
470,000	474														
1,000,000	105	M:±20%													
2,200,000	225														

Standard Thickness 0.30 mm

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

Background red: The product which is planning to stop production \* Please confirm the schedule on product details information.

Please refer to a capacitance range table after P-21 for the details such as product thickness, a capacitance tolerance.

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# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Chart

## EIA CC0201 [C0603]

### Capacitance Range Chart

Temperature Characteristics: X6S (±22%), X7R (±15%), X7S (±22%)

Rated Voltage: 25V (1E), 16V (1C), 10V (1A), 6.3V (0J), 4V (0G)

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														
68,000	683														
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

Background red: The product which is planning to stop production \* Please confirm the schedule on product details information.

█ Please refer to a capacitance range table after P-21 for the details such as product thickness, a capacitance tolerance.

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## Capacitance Range Chart

## EIA CC0402 [C1005]

### Capacitance Range Chart

Temperature Characteristics: C0G ( $0\pm 30\text{ppm}/^\circ\text{C}$ ), CH ( $0\pm 60\text{ppm}/^\circ\text{C}$ )

Rated Voltage: 50V (1H), 25V (1E)

Capacitance		Tolerance	C0G		CH
(pF)	Code		1H (50V)	1E (25V)	1H (50V)
0.5	0R5	B: $\pm 0.10\text{pF}$ C: $\pm 0.25\text{pF}$			
0.75	R75				
1	010				
1.5	1R5				
2	020				
3	030	C: $\pm 0.25\text{pF}$ D: $\pm 0.50\text{pF}$			
4	040				
5	050				
6	060				
7	070				
8	080	F: $\pm 1\%$ G: $\pm 2\%$ J: $\pm 5\%$			
9	090				
10	100				
12	120				
15	150				
18	180				
22	220				
27	270				
33	330				
39	390				
47	470	F: $\pm 1\%$ G: $\pm 2\%$ J: $\pm 5\%$ K: $\pm 10\%$			
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 a capacitance range table after P-21 for the details such as product thickness, a capacitance tolerance.



# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Chart

## EIA CC0402 [C1005]

### Capacitance Range Chart

Temperature Characteristics: JB ( $\pm 10\%$ )

Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J), 4V (0G)

Capacitance		Tolerance	JB							
(pF)	Code		1H (50V)	1V (35V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)	0G (4V)	
220	221	K: $\pm 10\%$ M: $\pm 20\%$	Standard							
330	331		Standard							
470	471									
680	681									
1,000	102									
1,500	152									
2,200	222									
3,300	332									
4,700	472									
6,800	682									
10,000	103									
15,000	153									
22,000	223									
33,000	333									
47,000	473									
68,000	683									
100,000	104									
150,000	154									
220,000	224									
330,000	334									
470,000	474									
680,000	684									
1,000,000	105									
1,500,000	155									
2,200,000	225									
3,300,000	335									
4,700,000	475									

Standard Thickness 0.50 mm

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

 Background red: The product which is planning to stop production \* Please confirm the schedule on product details information.

 Please refer to a capacitance range table after P-21 for the details such as product thickness, a capacitance tolerance.

# MULTILAYER CERAMIC CHIP CAPACITORS TDK

## Capacitance Range Chart

## EIA CC0402 [C1005]

### Capacitance Range Chart

Temperature Characteristics: X5R (±15%)

Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V (1C), 10V (1A), 6.3V(0J), 4V (0G)



### Capacitance Range Chart

Temperature Characteristics: X6S (±22%)

Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V (1C), 10V (1A), 6.3V(0J), 4V (0G)



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

Background red: The product which is planning to stop production \* Please confirm the schedule on product details information.

Please refer to a capacitance range table after P-21 for the details such as product thickness, a capacitance tolerance.

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# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Chart

## EIA CC0402 [C1005]

### Capacitance Range Chart

Temperature Characteristics: X7R(±15%), X7S(±22%)

Rated Voltage: 50V(1H), 35V(1V), 25V(1E), 16V(1C), 10V (1A), 6.3V(0J), 4V (0G)



Standard Thickness  
█ 0.50 mm

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

█ Please refer to a capacitance range table after P-21 for the details such as product thickness, a capacitance tolerance.

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# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Chart

## EIA CC0603 [C1608]

### Capacitance Range Chart

Temperature Characteristics: C0G (0±30ppm/°C), CH(0±60ppm/°C)

Rated Voltage: 50V (1H), 35V(1V), 25V (1E)

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						
4	040						
5	050						
6	060	C:±0.25pF D:±0.50pF					
7	070						
8	080						
9	090						
10	100						
12	120	F:±1% G:±2% J:±5% K:±10%					
15	150						
18	180						
22	220						
27	270						
33	330						
39	390						
47	470						
56	560						
68	680						
82	820						
100	101						
120	121						
150	151						
180	181						
220	221						
270	271						
330	331						
390	391						
470	471						
560	561						
680	681						
820	821						
1,000	102	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						

Standard Thickness

0.80 mm

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

Please refer to a capacitance range table after P-21 for the details such as product thickness, a capacitance tolerance.

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# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Chart

## EIA CC0603 [C1608]

### Capacitance Range Chart

Temperature Characteristics: JB(±10%)

Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J), 4V (0G)

Capacitance		Tolerance	JB						
(pF)	Code		1H (50V)	1V (35V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)	0G (4V)
10,000	103	K:±10% M:±20%	█						
15,000	153								
22,000	223								
33,000	333								
47,000	473								
68,000	683								
100,000	104								
150,000	154			█					
220,000	224				█				
330,000	334					█			
470,000	474						█		
680,000	684							█	
1,000,000	105								█
1,500,000	155								
2,200,000	225								
3,300,000	335								
4,700,000	475								
6,800,000	685								
10,000,000	106	M:±20%							
15,000,000	156								
22,000,000	226								

Standard Thickness  
█ 0.80 mm

### Capacitance Range Chart

Temperature Characteristics: X5R (±15%)

Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J), 4V (0G)

Capacitance		Tolerance	X5R						
(pF)	Code		1H (50V)	1V (35V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)	0G (4V)
10,000	103	K:±10% M:±20%	█						
15,000	153								
22,000	223								
33,000	333								
47,000	473								
68,000	683								
100,000	104								
150,000	154			█					
220,000	224				█				
330,000	334					█			
470,000	474						█		
680,000	684							█	
1,000,000	105								█
1,500,000	155								
2,200,000	225								
3,300,000	335								
4,700,000	475								
6,800,000	685								
10,000,000	106	M:±20%							
15,000,000	156								
22,000,000	226								

Standard Thickness  
█ 0.80 mm

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

█ Background red: The product which is planning to stop production \* Please confirm the schedule on product details information.

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⚠ 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 Chart

## EIA CC0603 [C1608]

### Capacitance Range Chart

Temperature Characteristics: X6S ( $\pm 22\%$ )

Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J), 4V (0G)



### Capacitance Range Chart

Temperature Characteristics: X7R ( $\pm 15\%$ ), X7S ( $\pm 22\%$ )

Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J), 4V (0G)



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

■ Please refer to a capacitance range table after P-21 for the details such as product thickness, a capacitance tolerance.

# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Chart

## EIA CC0805 [C2012]

### Capacitance Range Chart

Temperature Characteristics: C0G (0±30ppm/°C), CH (0±60ppm/°C), JB (±10%)

Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J)

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							█					
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 █ 0.60 mm █ 0.85 mm █ 1.25 mm

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

█ Background red: The product which is planning to stop production \* Please confirm the schedule on product details information.

█ Please refer to a capacitance range table after P-21 for the details such as product thickness, a capacitance tolerance.

⚠ 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 Chart

## EIA CC0805 [C2012]

### Capacitance Range Chart

Temperature Characteristics: X5R ( $\pm 15\%$ )

Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J), 4V (0G)



Standard Thickness

0.85 mm

1.25 mm

### Capacitance Range Chart

Temperature Characteristics: X6S ( $\pm 22\%$ )

Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J), 4V (0G)



Standard Thickness

0.85 mm

1.25 mm

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

Background red: The product which is planning to stop production \* Please confirm the schedule on product details information.

■ Please refer to a capacitance range table after P-21 for the details such as product thickness, a capacitance tolerance.



# MULTILAYER CERAMIC CHIP CAPACITORS TDK

## Capacitance Range Chart

## EIA CC0805 [C2012]

### Capacitance Range Chart

Temperature Characteristics: X7R (±15%), X7S (±22%)

Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J), 4V (0G)

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%										
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		M:±20%									
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 a capacitance range table after P-21 for the details such as product thickness, a capacitance tolerance.

**⚠** 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 Chart

## EIA CC1206 [C3216]

### Capacitance Range Chart

Temperature Characteristics: C0G (0±30ppm/°C), CH (0±60ppm/°C), JB (±10%)

Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J)



### Capacitance Range Chart

Temperature Characteristics: X5R (±15%)

Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J), 4V (0G)



█ Background red: The product which is planning to stop production \* Please confirm the schedule on product details information.

█ Please refer to a capacitance range table after P-21 for the details such as product thickness, a capacitance tolerance.

⚠ 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 Chart

## EIA CC1206 [C3216]

### Capacitance Range Chart

Temperature Characteristics: X6S ( $\pm 22\%$ )

Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J), 4V (0G)



### Capacitance Range Chart

Temperature Characteristics: X7R ( $\pm 15\%$ ), X7S ( $\pm 22\%$ )

Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J), 4V (0G)



■ Please refer to a capacitance range table after P-21 for the details such as product thickness, a capacitance tolerance.

# MULTILAYER CERAMIC CHIP CAPACITORS TDK

## Capacitance Range Chart

## EIA CC1210 [C3225]

### Capacitance Range Chart

Temperature Characteristics: C0G (0±30ppm/°C), CH (0±60ppm/°C), JB (±10%), X5R (±15%)

Rated Voltage: 50V (1H), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J)

Capacitance		Tolerance	C0G		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 Range Chart

Temperature Characteristics: X6S (±22%), X7R (±15%), X7S (±22%)

Rated Voltage: 50V (1H), 35V (1V), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J), 4V (0G)

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

■ Please refer to a capacitance range table after P-21 for the details such as product thickness, a capacitance tolerance.

⚠ 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 Chart

## EIA CC1812 [C4532]

### Capacitance Range Chart

Temperature Characteristics: C0G (0±30ppm/°C), CH (0±60ppm/°C), JB (±10%)

Rated Voltage: 50V (1H), 25V (1E), 16V (1C)



### Capacitance Range Chart

Temperature Characteristics: X5R (±15%), X6S (±22%), X7R (±15%)

Rated Voltage: 50V (1H), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J)



■ Please refer to a capacitance range table after P-21 for the details such as product thickness, a capacitance tolerance.

⚠ 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 Chart

## EIA CC2220 [C5750]

### Capacitance Range Chart

Temperature Characteristics: JB ( $\pm 10\%$ ), X5R ( $\pm 15\%$ ), X7R ( $\pm 15\%$ )

Rated Voltage: 50V (1H), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J)

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: $\pm 10\%$									
6,800,000	685										
10,000,000	106	M: $\pm 20\%$									
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

■ Please refer to a capacitance range table after P-21 for the details such as product thickness, a capacitance tolerance.

 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

### Class 1 (Temperature Compensating)

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

Capacitance	Size	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		
			±0.25pF	C1005C0G1H0R5C050BA		
1608	0.80±0.10	±0.25pF	C1608C0G1H0R5C080AA			
0.75 pF	0402	0.20±0.02	±0.25pF			C0402C0G1CR75C020BC
	0603	0.30±0.03	±0.25pF	C0603C0G1HR75C030BA	C0603C0G1ER75C030BA	
	1005	0.50±0.05	±0.10pF	C1005C0G1HR75B050BA		
			±0.25pF	C1005C0G1HR75C050BA		
1608	0.80±0.10	±0.25pF	C1608C0G1HR75C080AA			
1 pF	0402	0.20±0.02	±0.25pF			C0402C0G1C010C020BC
	0603	0.30±0.03	±0.25pF	C0603C0G1H010C030BA	C0603C0G1E010C030BA	
	1005	0.50±0.05	±0.10pF	C1005C0G1H010B050BA		
			±0.25pF	C1005C0G1H010C050BA		
1608	0.80±0.10	±0.25pF	C1608C0G1H010C080AA			
1.5 pF	0402	0.20±0.02	±0.25pF			C0402C0G1C1R5C020BC
	0603	0.30±0.03	±0.25pF	C0603C0G1H1R5C030BA	C0603C0G1E1R5C030BA	
	1005	0.50±0.05	±0.10pF	C1005C0G1H1R5B050BA		
			±0.25pF	C1005C0G1H1R5C050BA		
1608	0.80±0.10	±0.25pF	C1608C0G1H1R5C080AA			
2 pF	0402	0.20±0.02	±0.25pF			C0402C0G1C020C020BC
	0603	0.30±0.03	±0.25pF	C0603C0G1H020C030BA	C0603C0G1E020C030BA	
	1005	0.50±0.05	±0.10pF	C1005C0G1H020B050BA		
			±0.25pF	C1005C0G1H020C050BA		
1608	0.80±0.10	±0.25pF	C1608C0G1H020C080AA			
2.2 pF	0402	0.20±0.02	±0.25pF			C0402C0G1C2R2C020BC
	0603	0.30±0.03	±0.25pF	C0603C0G1H2R2C030BA	C0603C0G1E2R2C030BA	
3 pF	0402	0.20±0.02	±0.25pF			C0402C0G1C030C020BC
	0603	0.30±0.03	±0.25pF	C0603C0G1H030C030BA	C0603C0G1E030C030BA	
	1005	0.50±0.05	±0.10pF	C1005C0G1H030B050BA		
			±0.25pF	C1005C0G1H030C050BA		
1608	0.80±0.10	±0.25pF	C1608C0G1H030C080AA			
3.3 pF	0402	0.20±0.02	±0.25pF			C0402C0G1C3R3C020BC
	0603	0.30±0.03	±0.25pF	C0603C0G1H3R3C030BA	C0603C0G1E3R3C030BA	
4 pF	0402	0.20±0.02	±0.25pF			C0402C0G1C040C020BC
	0603	0.30±0.03	±0.25pF	C0603C0G1H040C030BA	C0603C0G1E040C030BA	
	1005	0.50±0.05	±0.10pF	C1005C0G1H040B050BA		
			±0.25pF	C1005C0G1H040C050BA		
1608	0.80±0.10	±0.25pF	C1608C0G1H040C080AA			
4.7 pF	0402	0.20±0.02	±0.25pF			C0402C0G1C4R7C020BC
	0603	0.30±0.03	±0.25pF	C0603C0G1H4R7C030BA	C0603C0G1E4R7C030BA	
5 pF	0402	0.20±0.02	±0.25pF			C0402C0G1C050C020BC
	0603	0.30±0.03	±0.25pF	C0603C0G1H050C030BA	C0603C0G1E050C030BA	
	1005	0.50±0.05	±0.10pF	C1005C0G1H050B050BA		
			±0.25pF	C1005C0G1H050C050BA		
1608	0.80±0.10	±0.25pF	C1608C0G1H050C080AA			
6 pF	0402	0.20±0.02	±0.50pF			C0402C0G1C060D020BC
	0603	0.30±0.03	±0.50pF	C0603C0G1H060D030BA	C0603C0G1E060D030BA	
	1005	0.50±0.05	±0.25pF	C1005C0G1H060C050BA		
			±0.50pF	C1005C0G1H060D050BA		
1608	0.80±0.10	±0.25pF	C1608C0G1H060C080AA			
6.8 pF	0402	0.20±0.02	±0.50pF			C0402C0G1C6R8D020BC
	0603	0.30±0.03	±0.50pF	C0603C0G1H6R8D030BA	C0603C0G1E6R8D030BA	
7 pF	0402	0.20±0.02	±0.50pF			C0402C0G1C070D020BC
	0603	0.30±0.03	±0.50pF	C0603C0G1H070D030BA	C0603C0G1E070D030BA	
	1005	0.50±0.05	±0.25pF	C1005C0G1H070C050BA		
			±0.50pF	C1005C0G1H070D050BA		
1608	0.80±0.10	±0.25pF	C1608C0G1H070C080AA			
			±0.50pF	C1608C0G1H070D080AA		

■ The gray items are non-recommended products in the 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

### Class 1 (Temperature Compensating)

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

Capacitance	Size	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		
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		
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			

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# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Table

### Class 1 (Temperature Compensating)

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

Capacitance	Size	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		
±1%			C1608C0G1H330F080AA			
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		
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		
±1%			C1608C0G1H470F080AA			
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			
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		
±1%			C1608C0G1H680F080AA			
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		
100 pF	0402	0.20±0.02	±10%			C0402C0G1C101K020BC
			±5%			C0402C0G1C101J020BC
	0603	0.30±0.03	±10%	C0603C0G1H101K030BA	C0603C0G1E101K030BA	
			±5%	C0603C0G1H101J030BA	C0603C0G1E101J030BA	
	1005	0.50±0.05	±1%	C1005C0G1H101F050BA		
			±10%	C1005C0G1H101K050BA		
			±2%	C1005C0G1H101G050BA		
			±5%	C1005C0G1H101J050BA		
	1608	0.80±0.10	±1%	C1608C0G1H101F080AA		
			±10%	C1608C0G1H101K080AA		
±2%			C1608C0G1H101G080AA			
±5%	C1608C0G1H101J080AA					

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# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Table

### Class 1 (Temperature Compensating)

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

Capacitance	Size	Thickness (mm)	Capacitance Tolerance	Catalog Number
				Rated Voltage Edc: 50V
120 pF	1005	0.50±0.05	±10%	C1005C0G1H121K050BA
			±5%	C1005C0G1H121J050BA
			±10%	C1608C0G1H121K080AA
	1608	0.80±0.10	±5%	C1608C0G1H121J080AA
			±1%	C1005C0G1H151F050BA
			±10%	C1005C0G1H151K050BA
150 pF	1005	0.50±0.05	±2%	C1005C0G1H151G050BA
			±5%	C1005C0G1H151J050BA
			±1%	C1608C0G1H151F080AA
	1608	0.80±0.10	±10%	C1608C0G1H151K080AA
			±2%	C1608C0G1H151G080AA
			±5%	C1608C0G1H151J080AA
180 pF	1005	0.50±0.05	±10%	C1005C0G1H181K050BA
			±5%	C1005C0G1H181J050BA
			±10%	C1608C0G1H181K080AA
	1608	0.80±0.10	±5%	C1608C0G1H181J080AA
			±1%	C1005C0G1H221F050BA
			±10%	C1005C0G1H221K050BA
220 pF	1005	0.50±0.05	±2%	C1005C0G1H221G050BA
			±5%	C1005C0G1H221J050BA
			±1%	C1608C0G1H221F080AA
	1608	0.80±0.10	±10%	C1608C0G1H221K080AA
			±2%	C1608C0G1H221G080AA
			±5%	C1608C0G1H221J080AA
270 pF	1005	0.50±0.05	±10%	C1005C0G1H271K050BA
			±5%	C1005C0G1H271J050BA
			±10%	C1608C0G1H271K080AA
	1608	0.80±0.10	±5%	C1608C0G1H271J080AA
			±1%	C1005C0G1H331F050BA
			±10%	C1005C0G1H331K050BA
330 pF	1005	0.50±0.05	±2%	C1005C0G1H331G050BA
			±5%	C1005C0G1H331J050BA
			±1%	C1608C0G1H331F080AA
	1608	0.80±0.10	±10%	C1608C0G1H331K080AA
			±2%	C1608C0G1H331G080AA
			±5%	C1608C0G1H331J080AA
390 pF	1005	0.50±0.05	±10%	C1005C0G1H391K050BA
			±5%	C1005C0G1H391J050BA
			±10%	C1608C0G1H391K080AA
	1608	0.80±0.10	±5%	C1608C0G1H391J080AA
			±1%	C1005C0G1H471F050BA
			±10%	C1005C0G1H471K050BA
470 pF	1005	0.50±0.05	±2%	C1005C0G1H471G050BA
			±5%	C1005C0G1H471J050BA
			±1%	C1608C0G1H471F080AA
	1608	0.80±0.10	±10%	C1608C0G1H471K080AA
			±2%	C1608C0G1H471G080AA
			±5%	C1608C0G1H471J080AA
560 pF	1005	0.50±0.05	±10%	C1005C0G1H561K050BA
			±5%	C1005C0G1H561J050BA
			±10%	C1608C0G1H561K080AA
	1608	0.80±0.10	±5%	C1608C0G1H561J080AA
			±1%	C1005C0G1H681F050BA
			±10%	C1005C0G1H681K050BA
680 pF	1005	0.50±0.05	±2%	C1005C0G1H681G050BA
			±5%	C1005C0G1H681J050BA
			±1%	C1608C0G1H681F080AA
	1608	0.80±0.10	±10%	C1608C0G1H681K080AA
			±2%	C1608C0G1H681G080AA
			±5%	C1608C0G1H681J080AA

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# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Table

### Class 1 (Temperature Compensating)

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

Capacitance	Size	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	
			±5%	C2012C0G1H122J060AA	
1.5 nF	1608	0.80±0.10	±10%	C1608C0G1H152K080AA	
			±5%	C1608C0G1H152J080AA	
	2012	0.60±0.15	±10%	C2012C0G1H152K060AA	
			±5%	C2012C0G1H152J060AA	
1.8 nF	1608	0.80±0.10	±10%	C1608C0G1H182K080AA	
			±5%	C1608C0G1H182J080AA	
	2012	0.60±0.15	±10%	C2012C0G1H182K060AA	
			±5%	C2012C0G1H182J060AA	
2.2 nF	1608	0.80±0.10	±10%	C1608C0G1H222K080AA	
			±5%	C1608C0G1H222J080AA	
	2012	0.60±0.15	±10%	C2012C0G1H222K060AA	
			±5%	C2012C0G1H222J060AA	
2.7 nF	1608	0.80±0.10	±10%	C1608C0G1H272K080AA	
			±5%	C1608C0G1H272J080AA	
	2012	0.60±0.15	±10%	C2012C0G1H272K060AA	
			±5%	C2012C0G1H272J060AA	
3.3 nF	1608	0.80±0.10	±10%	C1608C0G1H332K080AA	
			±5%	C1608C0G1H332J080AA	
	2012	0.60±0.15	±10%	C2012C0G1H332K060AA	
			±5%	C2012C0G1H332J060AA	
	1.25±0.20		±5%	C2012C0G1H332J125AA	
			±10%	C1608C0G1H392K080AA	
3.9 nF	1608	0.80±0.10	±5%	C1608C0G1H392J080AA	C1608C0G1E392J080AA
			±10%	C2012C0G1H392K060AA	
	2012	0.60±0.15	±5%	C2012C0G1H392J060AA	
			±10%	C3216C0G1H392K060AA	
4.7 nF	3216	0.60±0.15	±5%	C3216C0G1H392J060AA	
			±10%	C1608C0G1H472K080AA	
	1608	0.80±0.10	±5%	C1608C0G1H472J080AA	C1608C0G1E472J080AA
			±10%	C2012C0G1H472K060AA	
2012	0.60±0.15	±5%	C2012C0G1H472J060AA		
		±10%	C3216C0G1H472K060AA		
5.6 nF	3216	0.60±0.15	±5%	C3216C0G1H472J060AA	
			±10%	C1608C0G1H562K080AA	
	1608	0.80±0.10	±5%	C1608C0G1H562J080AA	C1608C0G1E562J080AA
			±10%	C2012C0G1H562K060AA	
2012	0.60±0.15	±5%	C2012C0G1H562J060AA		
		±10%	C3216C0G1H562K060AA		
3216	0.60±0.15	±10%	C3216C0G1H562K060AA		
		±5%	C3216C0G1H562J060AA		

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# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Table

### Class 1 (Temperature Compensating)

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

Capacitance	Size	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		
	2012	0.60±0.15	±10%		C2012C0G1V223K060AC		
			±5%		C2012C0G1V223J060AC		
22 nF	2012	1.25±0.20	±10%	C2012C0G1H223K125AA			
			±5%	C2012C0G1H223J125AA		C2012C0G1E223J125AA	
	3216	0.60±0.15	±10%	C3216C0G1H223K060AA			
			±5%	C3216C0G1H223J060AA			
	3225	1.25±0.20	±10%	C3225C0G1H223K125AA			
			±5%	C3225C0G1H223J125AA			
27 nF	2012	0.60±0.15	±10%		C2012C0G1V273K060AC		
			±5%		C2012C0G1V273J060AC		
30 nF	2012	0.60±0.15	±10%		C2012C0G1V303K060AC		
			±5%		C2012C0G1V303J060AC		
	2012	1.25±0.20	±10%	C2012C0G1H333K125AA			
			±5%	C2012C0G1H333J125AA		C2012C0G1E333J125AA	
	3216	0.85±0.15	±10%	C3216C0G1H333K085AA			
			±5%	C3216C0G1H333J085AA			
47 nF	3225	1.60±0.20	±10%	C3225C0G1H333K160AA			
			±5%	C3225C0G1H333J160AA			
	3216	1.15±0.15	±10%	C3216C0G1H473K115AA			
			±5%	C3216C0G1H473J115AA			
	3225	2.00±0.20	±10%	C3225C0G1H473K200AA			
			±5%	C3225C0G1H473J200AA			
68 nF	4532	1.60±0.20	±10%	C4532C0G1H473K160KA			
			±5%	C4532C0G1H473J160KA			
	3216	1.60±0.20	±10%	C3216C0G1H683K160AA			
			±5%	C3216C0G1H683J160AA			
	3225	2.00±0.20	±10%	C3225C0G1H683K200AA			
			±5%	C3225C0G1H683J200AA			
100 nF	4532	1.60±0.20	±10%	C4532C0G1H683K160KA			
			±5%	C4532C0G1H683J160KA			
	3216	1.60±0.20	±10%	C3216C0G1H104K160AA			
			±5%	C3216C0G1H104J160AA			
	3225	2.50±0.30	±10%	C3225C0G1H104K250AA			
			±5%	C3225C0G1H104J250AA			
150 nF	4532	2.00±0.20	±10%	C4532C0G1H104K200KA			
			±5%	C4532C0G1H104J200KA			
	4532	2.50±0.30	±10%	C4532C0G1H154K250KA			
			±5%	C4532C0G1H154J250KA			
	220 nF	4532	3.20±0.30	±10%	C4532C0G1H224K320KA		
				±5%	C4532C0G1H224J320KA		

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# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Table

### Class 1 (Temperature Compensating)

Temperature Characteristics: CH(-25 to +85°C, 0±60 ppm/°C)

Capacitance	Size	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		
			±0.25pF	C1005CH1H0R5C050BA		
1608	0.80±0.10	±0.25pF	C1608CH1H0R5C080AA			
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		
			±0.25pF	C1005CH1HR75C050BA		
1608	0.80±0.10	±0.25pF	C1608CH1HR75C080AA			
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		
			±0.25pF	C1005CH1H010C050BA		
1608	0.80±0.10	±0.25pF	C1608CH1H010C080AA			
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		
			±0.25pF	C1005CH1H1R5C050BA		
1608	0.80±0.10	±0.25pF	C1608CH1H1R5C080AA			
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		
			±0.25pF	C1005CH1H020C050BA		
1608	0.80±0.10	±0.25pF	C1608CH1H020C080AA			
2.2 pF	0402	0.20±0.02	±0.25pF			C0402CH1C2R2C020BC
	0603	0.30±0.03	±0.25pF	C0603CH1H2R2C030BA	C0603CH1E2R2C030BA	
3 pF	0402	0.20±0.02	±0.25pF			C0402CH1C030C020BC
	0603	0.30±0.03	±0.25pF	C0603CH1H030C030BA	C0603CH1E030C030BA	
	1005	0.50±0.05	±0.10pF	C1005CH1H030B050BA		
			±0.25pF	C1005CH1H030C050BA		
1608	0.80±0.10	±0.25pF	C1608CH1H030C080AA			
3.3 pF	0402	0.20±0.02	±0.25pF			C0402CH1C3R3C020BC
	0603	0.30±0.03	±0.25pF	C0603CH1H3R3C030BA	C0603CH1E3R3C030BA	
4 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		
			±0.25pF	C1005CH1H040C050BA		
1608	0.80±0.10	±0.25pF	C1608CH1H040C080AA			
4.7 pF	0402	0.20±0.02	±0.25pF			C0402CH1C4R7C020BC
	0603	0.30±0.03	±0.25pF	C0603CH1H4R7C030BA	C0603CH1E4R7C030BA	
5 pF	0402	0.20±0.02	±0.25pF			C0402CH1C050C020BC
	0603	0.30±0.03	±0.25pF	C0603CH1H050C030BA	C0603CH1E050C030BA	
	1005	0.50±0.05	±0.10pF	C1005CH1H050B050BA		
			±0.25pF	C1005CH1H050C050BA		
1608	0.80±0.10	±0.25pF	C1608CH1H050C080AA			
6 pF	0402	0.20±0.02	±0.50pF			C0402CH1C060D020BC
	0603	0.30±0.03	±0.50pF	C0603CH1H060D030BA	C0603CH1E060D030BA	
	1005	0.50±0.05	±0.25pF	C1005CH1H060C050BA		
			±0.50pF	C1005CH1H060D050BA		
1608	0.80±0.10	±0.25pF	C1608CH1H060C080AA			
6.8 pF	0402	0.20±0.02	±0.50pF			C0402CH1C6R8D020BC
	0603	0.30±0.03	±0.50pF	C0603CH1H6R8D030BA	C0603CH1E6R8D030BA	
7 pF	0402	0.20±0.02	±0.50pF			C0402CH1C070D020BC
	0603	0.30±0.03	±0.50pF	C0603CH1H070D030BA	C0603CH1E070D030BA	
	1005	0.50±0.05	±0.25pF	C1005CH1H070C050BA		
			±0.50pF	C1005CH1H070D050BA		
1608	0.80±0.10	±0.25pF	C1608CH1H070C080AA			
			±0.50pF	C1608CH1H070D080AA		

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# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Table

### Class 1 (Temperature Compensating)

Temperature Characteristics: CH(-25 to +85°C, 0±60 ppm/°C)

Capacitance	Size	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		
1608	0.80±0.10	±0.50pF	C1608CH1H080D080AA			
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		
1608	0.80±0.10	±0.50pF	C1608CH1H090D080AA			
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		
1608	0.80±0.10	±0.50pF	C1608CH1H100D080AA			
12 pF	0402	0.20±0.02	±10%			C0402CH1C120K020BC
	0603	0.30±0.03	±5%			C0402CH1C120J020BC
			±10%	C0603CH1H120K030BA	C0603CH1E120K030BA	
			±5%	C0603CH1H120J030BA	C0603CH1E120J030BA	
			±5%	C1005CH1H120J050BA		
1608	0.80±0.10	±5%	C1608CH1H120J080AA			
15 pF	0402	0.20±0.02	±10%			C0402CH1C150K020BC
	0603	0.30±0.03	±5%			C0402CH1C150J020BC
			±10%	C0603CH1H150K030BA	C0603CH1E150K030BA	
			±5%	C0603CH1H150J030BA	C0603CH1E150J030BA	
			±5%	C1005CH1H150J050BA		
1608	0.80±0.10	±5%	C1608CH1H150J080AA			
18 pF	0402	0.20±0.02	±10%			C0402CH1C180K020BC
	0603	0.30±0.03	±5%			C0402CH1C180J020BC
			±10%	C0603CH1H180K030BA	C0603CH1E180K030BA	
			±5%	C0603CH1H180J030BA	C0603CH1E180J030BA	
			±5%	C1005CH1H180J050BA		
1608	0.80±0.10	±5%	C1608CH1H180J080AA			
22 pF	0402	0.20±0.02	±10%			C0402CH1C220K020BC
	0603	0.30±0.03	±5%			C0402CH1C220J020BC
			±10%	C0603CH1H220K030BA	C0603CH1E220K030BA	
			±5%	C0603CH1H220J030BA	C0603CH1E220J030BA	
			±5%	C1005CH1H220J050BA		
1608	0.80±0.10	±5%	C1608CH1H220J080AA			
27 pF	0402	0.20±0.02	±10%			C0402CH1C270K020BC
	0603	0.30±0.03	±5%			C0402CH1C270J020BC
			±10%	C0603CH1H270K030BA	C0603CH1E270K030BA	
			±5%	C0603CH1H270J030BA	C0603CH1E270J030BA	
			±5%	C1005CH1H270J050BA		
1608	0.80±0.10	±5%	C1608CH1H270J080AA			
33 pF	0402	0.20±0.02	±10%			C0402CH1C330K020BC
	0603	0.30±0.03	±5%			C0402CH1C330J020BC
			±10%	C0603CH1H330K030BA	C0603CH1E330K030BA	
			±5%	C0603CH1H330J030BA	C0603CH1E330J030BA	
			±5%	C1005CH1H330J050BA		
1608	0.80±0.10	±5%	C1608CH1H330J080AA			
39 pF	0402	0.20±0.02	±10%			C0402CH1C390K020BC
	0603	0.30±0.03	±5%			C0402CH1C390J020BC
			±10%	C0603CH1H390K030BA	C0603CH1E390K030BA	
			±5%	C0603CH1H390J030BA	C0603CH1E390J030BA	
			±5%	C1005CH1H390J050BA		
1608	0.80±0.10	±5%	C1608CH1H390J080AA			

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# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Table

### Class 1 (Temperature Compensating)

Temperature Characteristics: CH(-25 to +85°C, 0±60 ppm/°C)

Capacitance	Size	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	
1005	0.50±0.05	±10%	C1005CH1H470J050BA			
		±5%	C1608CH1H470J080AA			
56 pF	0402	0.20±0.02	±10%			C0402CH1C560K020BC
			±5%			C0402CH1C560J020BC
	0603	0.30±0.03	±10%	C0603CH1H560K030BA	C0603CH1E560K030BA	
			±5%	C0603CH1H560J030BA	C0603CH1E560J030BA	
1005	0.50±0.05	±10%	C1005CH1H560J050BA			
		±5%	C1608CH1H560J080AA			
68 pF	0402	0.20±0.02	±10%			C0402CH1C680K020BC
			±5%			C0402CH1C680J020BC
	0603	0.30±0.03	±10%	C0603CH1H680K030BA	C0603CH1E680K030BA	
			±5%	C0603CH1H680J030BA	C0603CH1E680J030BA	
1005	0.50±0.05	±10%	C1005CH1H680J050BA			
		±5%	C1608CH1H680J080AA			
82 pF	0402	0.20±0.02	±10%			C0402CH1C820K020BC
			±5%			C0402CH1C820J020BC
	0603	0.30±0.03	±10%	C0603CH1H820K030BA	C0603CH1E820K030BA	
			±5%	C0603CH1H820J030BA	C0603CH1E820J030BA	
1005	0.50±0.05	±10%	C1005CH1H820J050BA			
		±5%	C1608CH1H820J080AA			
100 pF	0402	0.20±0.02	±10%			C0402CH1C101K020BC
			±5%			C0402CH1C101J020BC
	0603	0.30±0.03	±10%	C0603CH1H101K030BA	C0603CH1E101K030BA	
			±5%	C0603CH1H101J030BA	C0603CH1E101J030BA	
1005	0.50±0.05	±10%	C1005CH1H101K050BA			
		±5%	C1005CH1H101J050BA			
120 pF	1608	0.80±0.10	±10%	C1608CH1H101K080AA		
			±5%	C1608CH1H101J080AA		
	1005	0.50±0.05	±10%	C1005CH1H121K050BA		
			±5%	C1005CH1H121J050BA		
1608	0.80±0.10	±10%	C1608CH1H121K080AA			
		±5%	C1608CH1H121J080AA			
150 pF	1005	0.50±0.05	±10%	C1005CH1H151K050BA		
			±5%	C1005CH1H151J050BA		
	1608	0.80±0.10	±10%	C1608CH1H151K080AA		
			±5%	C1608CH1H151J080AA		
180 pF	1005	0.50±0.05	±10%	C1005CH1H181K050BA		
			±5%	C1005CH1H181J050BA		
	1608	0.80±0.10	±10%	C1608CH1H181K080AA		
			±5%	C1608CH1H181J080AA		
220 pF	1005	0.50±0.05	±10%	C1005CH1H221K050BA		
			±5%	C1005CH1H221J050BA		
	1608	0.80±0.10	±10%	C1608CH1H221K080AA		
			±5%	C1608CH1H221J080AA		
270 pF	1005	0.50±0.05	±10%	C1005CH1H271K050BA		
			±5%	C1005CH1H271J050BA		
	1608	0.80±0.10	±10%	C1608CH1H271K080AA		
			±5%	C1608CH1H271J080AA		
330 pF	1005	0.50±0.05	±10%	C1005CH1H331K050BA		
			±5%	C1005CH1H331J050BA		
	1608	0.80±0.10	±10%	C1608CH1H331K080AA		
			±5%	C1608CH1H331J080AA		
390 pF	1005	0.50±0.05	±10%	C1005CH1H391K050BA		
			±5%	C1005CH1H391J050BA		
	1608	0.80±0.10	±10%	C1608CH1H391K080AA		
			±5%	C1608CH1H391J080AA		

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# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Table

### Class 1 (Temperature Compensating)

Temperature Characteristics: CH(-25 to +85°C, 0±60 ppm/°C)

Capacitance	Size	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
2012	0.60±0.15	±10%	C2012CH1H102K060AA	
		±5%	C2012CH1H102J060AA	
1.2 nF	1608	0.80±0.10	±10%	C1608CH1H122K080AA
			±5%	C1608CH1H122J080AA
	2012	0.60±0.15	±10%	C2012CH1H122K060AA
			±5%	C2012CH1H122J060AA
1.5 nF	1608	0.80±0.10	±10%	C1608CH1H152K080AA
			±5%	C1608CH1H152J080AA
	2012	0.60±0.15	±10%	C2012CH1H152K060AA
			±5%	C2012CH1H152J060AA
1.8 nF	1608	0.80±0.10	±10%	C1608CH1H182K080AA
			±5%	C1608CH1H182J080AA
	2012	0.60±0.15	±10%	C2012CH1H182K060AA
			±5%	C2012CH1H182J060AA
2.2 nF	1608	0.80±0.10	±10%	C1608CH1H222K080AA
			±5%	C1608CH1H222J080AA
	2012	0.60±0.15	±10%	C2012CH1H222K060AA
			±5%	C2012CH1H222J060AA
2.7 nF	1608	0.80±0.10	±10%	C1608CH1H272K080AA
			±5%	C1608CH1H272J080AA
	2012	0.60±0.15	±10%	C2012CH1H272K060AA
			±5%	C2012CH1H272J060AA
3.3 nF	1608	0.80±0.10	±10%	C1608CH1H332K080AA
			±5%	C1608CH1H332J080AA
	2012	0.60±0.15	±10%	C2012CH1H332K060AA
			±5%	C2012CH1H332J060AA
3.9 nF	1608	0.80±0.10	±10%	C1608CH1H392K080AA
			±5%	C1608CH1H392J080AA
	2012	0.60±0.15	±10%	C2012CH1H392K060AA
			±5%	C2012CH1H392J060AA
4.7 nF	1608	0.80±0.10	±10%	C1608CH1H472K080AA
			±5%	C1608CH1H472J080AA
	2012	0.60±0.15	±10%	C2012CH1H472K060AA
			±5%	C2012CH1H472J060AA
3216	0.60±0.15	±10%	C3216CH1H472K060AA	
		±5%	C3216CH1H472J060AA	

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# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Table

### Class 1 (Temperature Compensating)

Temperature Characteristics: CH(-25 to +85°C, 0±60 ppm/°C)

Capacitance	Size	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
±10%			C2012CH1H223K125AA		
±5%			C2012CH1H223J125AA		
3216	0.60±0.15	±10%	C3216CH1H223K060AA		
		±5%	C3216CH1H223J060AA		
		±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	

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# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Table

### Class 1 (Temperature Compensating)

Temperature Characteristics: CH(-25 to +85°C, 0±60 ppm/°C)

Capacitance	Size	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	
4532	2.00±0.20	±10%	C4532CH1H104K200KA		
		±5%	C4532CH1H104J200KA		
150 nF	4532	2.50±0.30	±10%	C4532CH1H154K250KA	
			±5%	C4532CH1H154J250KA	
220 nF	4532	3.20±0.30	±10%	C4532CH1H224K320KA	
			±5%	C4532CH1H224J320KA	

### Class 2 (Temperature Stable)

Temperature Characteristics: JB(-25 to +85°C, ±10%)

Capacitance	Size	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	0402	0.20±0.02	±10%			C0402JB1C331K020BC
			±20%			C0402JB1C331M020BC
	0603	0.30±0.03	±10%		C0603JB1E331K030BA	
			±20%		C0603JB1E331M030BA	
470 pF	0402	0.20±0.02	±10%			C0402JB1C471K020BC
			±20%			C0402JB1C471M020BC
	0603	0.30±0.03	±10%		C0603JB1E471K030BA	
			±20%		C0603JB1E471M030BA	
680 pF	0402	0.20±0.02	±10%			C0402JB1C681K020BC
			±20%			C0402JB1C681M020BC
	0603	0.30±0.03	±10%		C0603JB1E681K030BA	
			±20%		C0603JB1E681M030BA	
1 nF	0603	0.30±0.03	±10%			C0603JB1E102K030BA
			±20%			C0603JB1E102M030BA
	1005	0.50±0.05	±10%		C1005JB1H102K050BA	
			±20%		C1005JB1H102M050BA	
1.5 nF	0603	0.30±0.03	±10%			C0603JB1E152K030BA
			±20%			C0603JB1E152M030BA
	1005	0.50±0.05	±10%		C1005JB1H152K050BA	
			±20%		C1005JB1H152M050BA	
2.2 nF	0603	0.30±0.03	±10%			C0603JB1E222K030BA
			±20%			C0603JB1E222M030BA
	1005	0.50±0.05	±10%		C1005JB1H222K050BA	
			±20%		C1005JB1H222M050BA	
3.3 nF	0603	0.30±0.03	±10%			C0603JB1E332K030BA
			±20%			C0603JB1E332M030BA
	1005	0.50±0.05	±10%		C1005JB1H332K050BA	
			±20%		C1005JB1H332M050BA	
4.7 nF	0603	0.30±0.03	±10%			C0603JB1C472K030BA
			±20%			C0603JB1C472M030BA
	1005	0.50±0.05	±10%		C1005JB1H472K050BA	
			±20%		C1005JB1H472M050BA	

■ The gray items are non-recommended products in the new design.

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# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Table

### Class 2 (Temperature Stable)

Temperature Characteristics: JB(-25 to +85°C, ±10%)

Capacitance	Size	Thickness (mm)	Capacitance Tolerance	Catalog Number		
				Rated Voltage Edc: 10V	Rated Voltage Edc: 6.3V	Rated Voltage Edc: 4V
680 nF	1005	0.50±0.05	±10%	C1005JB1A684K050BC	C1005JB0J684K050BB	
			±20%	C1005JB1A684M050BC	C1005JB0J684M050BB	
	1608	0.80+0.15/-0.10	±10%	C1608JB1A684K080AC		
1 µF	1005	0.50±0.05	±10%	C1005JB1A105K050BB	C1005JB0J105K050BB	
			±20%	C1005JB1A105M050BB	C1005JB0J105M050BB	
	1608	0.80+0.15/-0.10	±10%	C1608JB1A105K080AC		
1.5 µF	1005	0.50±0.05	±10%	C1005JB1A155K050BC	C1005JB0J155K050BB	
			±20%	C1005JB1A155M050BC	C1005JB0J155M050BB	
	1608	0.80±0.10	±10%	C1608JB1A155K080AC	C1608JB0J155K080AB	
2.2 µF	1005	0.50±0.05	±10%	C1005JB1A225K050BC	C1005JB0J225K050BC	C1005JB0G225K050BB
			±20%	C1005JB1A225M050BC	C1005JB0J225M050BC	C1005JB0G225M050BB
	1608	0.80±0.10	±10%	C1608JB1A225K080AC	C1608JB0J225K080AB	
3.3 µF	1005	0.50±0.05	±10%	C1005JB1A335K050BC	C1005JB0J335K050BC	C1005JB0G335K050BB
			±20%	C1005JB1A335M050BC	C1005JB0J335M050BC	C1005JB0G335M050BB
	1608	0.80+0.15, -0.10	±10%	C1608JB1A335K080AB	C1608JB0J335K080AB	
4.7 µF	1005	0.50+0.15/-0.10	±10%	C1005JB1A475K050BC	C1005JB0J475K050BC	C1005JB0G475K050BB
			±20%	C1005JB1A475M050BC	C1005JB0J475M050BC	C1005JB0G475M050BB
	1608	0.80+0.15, -0.10	±10%	C1608JB1A475K080AB	C1608JB0J475K080AB	
6.8 µF	1005	0.50±0.15/-0.10	±10%	C1005JB1A685K050BC	C1005JB0J685K050BC	
			±20%	C1005JB1A685M050BC	C1005JB0J685M050BC	
	1608	0.80±0.10	±10%	C1608JB1A685K080AC	C1608JB0J685K080AB	
10 µF	1005	0.50±0.15/-0.10	±10%	C1005JB1A106K050BC	C1005JB0J106K050BC	
			±20%	C1005JB1A106M050BC	C1005JB0J106M050BC	
	1608	0.80±0.10	±10%	C1608JB1A106K080AC	C1608JB0J106K080AB	
15 µF	1005	0.50±0.15/-0.10	±10%	C1005JB1A156K050BC	C1005JB0J156K050BC	
			±20%	C1005JB1A156M050BC	C1005JB0J156M050BC	
	1608	0.80±0.10	±10%	C1608JB1A156K080AC	C1608JB0J156K080AB	

■ The red items are products of the production will be stopped. Please confirm the schedule on product details information.

# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Table

### Class 2 (Temperature Stable)

Temperature Characteristics: JB(-25 to +85°C, ±10%)

Capacitance	Size	Thickness (mm)	Capacitance Tolerance	Catalog Number		
				Rated Voltage Edc: 10V	Rated Voltage Edc: 6.3V	Rated Voltage Edc: 4V
22 µF	1608	0.80±0.20, -0.10	±20%	C1608JB1A226M080AC	C1608JB0J226M080AC	C1608JB0G226M080AA
	2012	0.85±0.15	±20%	C2012JB1A226M085AC	C2012JB0J226M085AB	
		1.25±0.20	±20%	C2012JB1A226M125AB	C2012JB0J226M125AC	
	3216	1.60±0.20	±20%	C3216JB1A226M160AC		
33 µF	3225	2.50±0.30	±20%	C3225JB1A226M250AA		
	2012	1.25±0.20	±20%	C2012JB1A336M125AC	C2012JB0J336M125AC	
		1.30±0.20	±20%		C3216JB0J336M130AC	
	3216	1.60±0.20	±20%	C3216JB1A336M160AB		
47 µF	2012	1.25±0.20	±20%	C2012JB1A476M125AC	C2012JB0J476M125AC	
	3216	1.60±0.20	±20%	C3216JB1A476M160AB	C3216JB0J476M160AC	
68 µF	3216	1.60±0.30/-0.10	±20%	C3216JB1A686M160AC	C3216JB0J686M160AB	
	3225	2.00±0.20	±20%		C3225JB0J686M200AC	
100 µF	3216	1.60±0.30/-0.10	±20%	C3216JB1A107M160AC	C3216JB0J107M160AB	
	3225	2.50±0.30	±20%		C3225JB0J107M250AC	

### Class 2 (Temperature Stable)

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

Capacitance	Size	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
			±10%		C0603X5R1E101K030BA	
150 pF	0603	0.30±0.03	±20%		C0603X5R1E101M030BA	
			±10%			C0402X5R1C151K020BC
			±20%			C0402X5R1C151M020BC
220 pF	0402	0.20±0.02	±10%			C0402X5R1C221K020BC
			±20%			C0402X5R1C221M020BC
			±10%		C0603X5R1E221K030BA	
330 pF	0603	0.30±0.03	±20%		C0603X5R1E221M030BA	
			±10%	C1005X5R1H221K050BA		
			±20%	C1005X5R1H221M050BA		
470 pF	1005	0.50±0.05	±10%			C0402X5R1C331K020BC
			±20%			C0402X5R1C331M020BC
			±10%		C0603X5R1E331K030BA	
680 pF	0603	0.30±0.03	±20%		C0603X5R1E331M030BA	
			±10%	C1005X5R1H331K050BA		
			±20%	C1005X5R1H331M050BA		
1 nF	0402	0.20±0.02	±10%			C0402X5R1C471K020BC
			±20%			C0402X5R1C471M020BC
			±10%		C0603X5R1E471K030BA	
1.5 nF	0603	0.30±0.03	±20%		C0603X5R1E471M030BA	
			±10%	C1005X5R1H471K050BA		
			±20%	C1005X5R1H471M050BA		
1.5 nF	1005	0.50±0.05	±10%			C0402X5R1C681K020BC
			±20%			C0402X5R1C681M020BC
			±10%		C0603X5R1E681K030BA	
1.5 nF	0603	0.30±0.03	±20%		C0603X5R1E681M030BA	
			±10%	C1005X5R1H681K050BA		
			±20%	C1005X5R1H681M050BA		
1.5 nF	1005	0.50±0.05	±10%			
			±20%		C0603X5R1E102K030BA	
			±10%	C1005X5R1H102K050BA		
1.5 nF	0603	0.30±0.03	±20%		C0603X5R1E102M030BA	
			±10%			C0603X5R1E152K030BA
			±20%			C0603X5R1E152M030BA
1.5 nF	1005	0.50±0.05	±10%			
			±20%			
			±10%	C1005X5R1H152K050BA		
1.5 nF	0603	0.30±0.03	±20%			
			±10%			
			±20%	C1005X5R1H152M050BA		

■ The gray items are non-recommended products in the new design.

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# MULTILAYER CERAMIC CHIP CAPACITORS TDK

## Capacitance Range Table

**Class 2 (Temperature Stable)**

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

Capacitance	Size	Thickness (mm)	Capacitance Tolerance	Catalog Number			
				Rated Voltage Edc: 50V	Rated Voltage Edc: 35V	Rated Voltage Edc: 25V	Rated Voltage Edc: 16V
2.2 nF	0603	0.30±0.03	±10%			C0603X5R1E222K030BA	
			±20%			C0603X5R1E222M030BA	
	±10%	C1005X5R1H222K050BA					
	±20%	C1005X5R1H222M050BA					
3.3 nF	0603	0.30±0.03	±10%			C0603X5R1E332K030BA	
			±20%			C0603X5R1E332M030BA	
	±10%	C1005X5R1H332K050BA					
	±20%	C1005X5R1H332M050BA					
4.7 nF	0603	0.30±0.03	±10%				C0603X5R1C472K030BA
			±20%				C0603X5R1C472M030BA
	±10%	C1005X5R1H472K050BA					
	±20%	C1005X5R1H472M050BA					
6.8 nF	1005	0.50±0.05	±10%	C1005X5R1H682K050BA			
			±20%	C1005X5R1H682M050BA			
10 nF	0603	0.30±0.03	±10%				C0603X5R1C103K030BA
			±20%				C0603X5R1C103M030BA
	±10%	C1005X5R1H103K050BB		C1005X5R1E103K050BA			
	±20%	C1005X5R1H103M050BB		C1005X5R1E103M050BA			
15 nF	1005	0.50±0.05	±10%	C1608X5R1H103K080AA		C1005X5R1E153K050BA	C1005X5R1C153K050BA
			±20%	C1608X5R1H103M080AA		C1005X5R1E153M050BA	C1005X5R1C153M050BA
	±10%	C1005X5R1H153K050BB		C1005X5R1E153K050BA			
	±20%	C1005X5R1H153M050BB		C1005X5R1E153M050BA			
22 nF	1608	0.80±0.10	±10%	C1608X5R1H153K080AA			
			±20%	C1608X5R1H153M080AA			
	±10%	C1005X5R1H223K050BB		C1005X5R1E223K030BB	C1005X5R1C223K050BA		
	±20%	C1005X5R1H223M050BB		C1005X5R1E223M030BB	C1005X5R1C223M050BA		
33 nF	1005	0.50±0.05	±10%	C1608X5R1H223K080AA			
			±20%	C1608X5R1H223M080AA			
	±10%	C1005X5R1H333K050BB		C1005X5R1E333K050BA	C1005X5R1C333K050BA		
	±20%	C1005X5R1H333M050BB		C1005X5R1E333M050BA	C1005X5R1C333M050BA		
47 nF	1608	0.80±0.10	±10%	C1608X5R1H333K080AA			
			±20%	C1608X5R1H333M080AA			
	±10%	C1005X5R1H473K050BB		C1005X5R1E473K030BB	C1005X5R1C473K050BA		
	±20%	C1005X5R1H473M050BB		C1005X5R1E473M030BB	C1005X5R1C473M050BA		
68 nF	1005	0.50±0.05	±10%	C1608X5R1H473K080AA			
			±20%	C1608X5R1H473M080AA			
	±10%	C1005X5R1H683K050BB	C1005X5R1V683K050BB	C1005X5R1E683K050BC	C1005X5R1C683K050BA		
	±20%	C1005X5R1H683M050BB	C1005X5R1V683M050BB	C1005X5R1E683M050BC	C1005X5R1C683M050BA		
100 nF	1608	0.80±0.10	±10%	C1608X5R1H683K080AA			
			±20%	C1608X5R1H683M080AA			
	±10%	C1005X5R1H104K050BB	C1005X5R1V104K050BB	C1005X5R1E104K050BC	C1005X5R1C104K050BA		
	±20%	C1005X5R1H104M050BB	C1005X5R1V104M050BB	C1005X5R1E104M050BC	C1005X5R1C104M050BA		
150 nF	2012	0.85±0.15	±10%	C2012X5R1H104K085AA			
			±20%	C2012X5R1H104M085AA			
	±10%				C0603X5R1C154K030BC		
	±20%				C0603X5R1C154M030BC		
150 nF	0603	0.30±0.03	±10%			C0603X5R1E154K030BC	
			±20%			C0603X5R1E154M030BC	
	±10%			C1005X5R1E154K050BC	C1005X5R1C154K050BB		
	±20%			C1005X5R1E154M050BC	C1005X5R1C154M050BB		
150 nF	1005	0.50±0.05	±10%	C1608X5R1H154K080AB	C1608X5R1V154K080AB	C1608X5R1E154K080AA	
			±20%	C1608X5R1H154M080AB	C1608X5R1V154M080AB	C1608X5R1E154M080AA	
	±10%	C2012X5R1H154K085AA					
	±20%	C2012X5R1H154M085AA					

■ The gray items are non-recommended products in the new design.

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# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Table

### Class 2 (Temperature Stable)

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

Capacitance	Size	Thickness (mm)	Capacitance Tolerance	Catalog Number			
				Rated Voltage Edc: 50V	Rated Voltage Edc: 35V	Rated Voltage Edc: 25V	Rated Voltage Edc: 16V
2.2 $\mu$ F	3216	1.60±0.20	±10%	C3216X5R1H225K160AB		C3216X5R1E225K160AA	
			±20%	C3216X5R1H225M160AB		C3216X5R1E225M160AA	
			±10%	C3225X5R1H225K250AB			
	3225	2.50±0.30	±20%	C3225X5R1H225M250AB			
			±10%			C1608X5R1E335K080AC	C1608X5R1C335K080AC
			±20%	C3225X5R1H225M250AB		C1608X5R1E335M080AC	C1608X5R1C335M080AC
3.3 $\mu$ F	1608	0.80±0.10	±10%		C1608X5R1V335K080AC		
			±20%		C1608X5R1V335M080AC		
			±10%				
	2012	0.85±0.15	±10%	C2012X5R1E335K085AC		C2012X5R1C335K085AB	
			±20%	C2012X5R1E335M085AC		C2012X5R1C335M085AB	
			±10%				
4.7 $\mu$ F	3216	1.60±0.20	±10%	C3216X5R1H335K125AB	C2012X5R1V335K125AC	C2012X5R1E335K125AB	C2012X5R1C335K125AC
			±20%	C3216X5R1H335M125AB	C2012X5R1V335M125AC	C2012X5R1E335M125AB	C2012X5R1C335M125AC
			±10%	C3216X5R1H335K160AB	C3216X5R1V335K160AB	C3216X5R1E335K160AA	
	3225	2.50±0.30	±20%	C3225X5R1H335K250AB			
			±10%	C3225X5R1H335M250AB			
			±20%			C1608X5R1E475K080AC	C1608X5R1C475K080AC
6.8 $\mu$ F	1608	0.80±0.10	±10%		C1608X5R1V475K080AC		
			±20%		C1608X5R1V475M080AC		
			±10%				
	2012	0.85±0.15	±10%	C2012X5R1E475K085AC		C2012X5R1C475K085AB	
			±20%	C2012X5R1E475M085AC		C2012X5R1C475M085AB	
			±10%				
10 $\mu$ F	3216	1.60±0.20	±10%	C3216X5R1H475K125AB	C2012X5R1V475K125AC	C2012X5R1E475K125AB	C2012X5R1C475K125AC
			±20%	C3216X5R1H475M125AB	C2012X5R1V475M125AC	C2012X5R1E475M125AB	C2012X5R1C475M125AC
			±10%	C3216X5R1H475K085AB	C3216X5R1V475K085AB	C3216X5R1E475K085AB	
	3225	2.50±0.30	±20%	C3225X5R1H475K250AB			
			±10%	C3225X5R1H475M250AB			
			±20%			C1608X5R1E685K080AC	C1608X5R1C685K080AB
10 $\mu$ F	1608	0.80±0.20, -0.10	±10%			C1608X5R1E685M080AC	C1608X5R1C685M080AB
			±20%			C1608X5R1E685M080AC	C1608X5R1C685M080AB
			±10%				
	2012	1.25±0.20	±10%		C2012X5R1V685K125AC	C2012X5R1E685K125AC	C2012X5R1C685K125AC
			±20%		C2012X5R1V685M125AC	C2012X5R1E685M125AC	C2012X5R1C685M125AC
			±10%				
10 $\mu$ F	3216	1.60±0.20	±10%	C3216X5R1H685K160AB	C3216X5R1V685K160AB	C3216X5R1E685K160AA	C3216X5R1C685K160AA
			±20%	C3216X5R1H685M160AB	C3216X5R1V685M160AB	C3216X5R1E685M160AA	C3216X5R1C685M160AA
			±10%				
	3225	2.50±0.30	±10%	C3225X5R1H685K250AB			
			±20%	C3225X5R1H685M250AB			
			±10%			C3225X5R1E685K200AA	C3225X5R1C685K200AA
10 $\mu$ F	1608	0.80±0.20, -0.10	±20%				
			±10%			C1608X5R1E106M080AC	C1608X5R1C106M080AB
			±20%				
	2012	1.25±0.20	±10%	C2012X5R1V106K125AC		C2012X5R1E106K125AC	C2012X5R1C106K125AC
			±20%	C2012X5R1V106M125AC		C2012X5R1E106M125AC	C2012X5R1C106M125AC
			±10%				
3216	1.60±0.20	±10%	C3216X5R1H106K160AB	C3216X5R1V106K160AB	C3216X5R1E106K160AA	C3216X5R1C106K160AA	
		±20%	C3216X5R1H106M160AB	C3216X5R1V106M160AB	C3216X5R1E106M160AA	C3216X5R1C106M160AA	
		±10%					

■ The red items are products of the production will be stopped. Please confirm the schedule on product details information.

**⚠** 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

### Class 2 (Temperature Stable)

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

Capacitance	Size	Thickness (mm)	Capacitance Tolerance	Catalog Number		
				Rated Voltage Edc: 10V	Rated Voltage Edc : 6.3V	Rated Voltage Edc : 4V
4.7 $\mu$ F	1608	0.80±0.10	±10%	C1608X5R1A475K080AC	C1608X5R0J475K080AB	
			±20%	C1608X5R1A475M080AC	C1608X5R0J475M080AB	
			±10%	C2012X5R1A475K060AB		
	2012	0.60±0.15	±20%	C2012X5R1A475M060AB		
			±10%	C2012X5R1A475K085AC	C2012X5R0J475K085AB	
			±20%	C2012X5R1A475M085AC	C2012X5R0J475M085AB	
	1.25±0.20	±10%	C2012X5R1A475K125AA	C2012X5R0J475K125AA		
		±20%	C2012X5R1A475M125AA	C2012X5R0J475M125AA		
6.8 $\mu$ F	1608	0.80±0.10	±10%	C1608X5R1A685K080AC	C1608X5R0J685K080AB	
			±20%	C1608X5R1A685M080AC	C1608X5R0J685M080AB	
			±10%	C2012X5R1A685K060AC		
	2012	0.60±0.15	±20%	C2012X5R1A685M060AC		
			±10%	C2012X5R1A685K085AB	C2012X5R0J685K085AB	
			±20%	C2012X5R1A685M085AB	C2012X5R0J685M085AB	
	1.25±0.20	±10%	C2012X5R1A685K125AB	C2012X5R0J685K125AB		
		±20%	C2012X5R1A685M125AB	C2012X5R0J685M125AB		
10 $\mu$ F	1005	0.50+0.20/-0.10	±20%		C1005X5R0J106M050BC	C1005X5R0G106M050BB
	1608	0.80±0.10	±10%	C1608X5R1A106K080AC	C1608X5R0J106K080AB	
			±20%	C1608X5R1A106M080AC	C1608X5R0J106M080AB	
			±10%	C2012X5R1A106K085AB	C2012X5R0J106K085AB	
	2012	0.85±0.15	±20%	C2012X5R1A106M085AB	C2012X5R0J106M085AB	
			±10%	C2012X5R1A106K125AB	C2012X5R0J106K125AB	
±20%			C2012X5R1A106M125AB	C2012X5R0J106M125AB		
3216	1.60±0.20	±10%	C3216X5R1A106K160AB			
		±20%	C3216X5R1A106M160AB			
15 $\mu$ F	1608	0.80+0.20, -0.10	±20%	C1608X5R1A156M080AC	C1608X5R0J156M080AC	C1608X5R0G156M080AA
	2012	0.85±0.15	±20%	C2012X5R1A156M085AC	C2012X5R0J156M085AB	
			±20%	C2012X5R1A156M125AB	C2012X5R0J156M125AC	
			±10%			
	3216	1.60±0.20	±20%	C3216X5R1A156M160AB		
3225	2.30±0.20	±20%	C3225X5R1A156M230AA			
22 $\mu$ F	1608	0.80+0.20, -0.10	±20%	C1608X5R1A226M080AC	C1608X5R0J226M080AC	C1608X5R0G226M080AA
			±20%	C2012X5R1A226M085AC	C2012X5R0J226M085AB	
			±10%	C2012X5R1A226K125AB	C2012X5R0J226K125AB	
	2012	1.25±0.20	±20%	C2012X5R1A226M125AB	C2012X5R0J226M125AC	
			±20%			
			±20%	C3216X5R0J226M085AC		
	3216	1.60±0.20	±20%	C3216X5R1A226M160AC	C3216X5R0J226M160AA	
±10%				C3225X5R0J226K200AA		
3225	2.00±0.20	±20%		C3225X5R0J226M200AA		
	2.30±0.20	±20%	C3225X5R1A226M230AA			
4532	2.30±0.20	±20%	C4532X5R1A226M230KA			
33 $\mu$ F	2012	1.25±0.20	±20%	C2012X5R1A336M125AC	C2012X5R0J336M125AC	
	3216	1.30±0.20	±20%		C3216X5R0J336M130AC	
			±20%	C3216X5R1A336M160AB		
	3225	2.00±0.20	±20%	C3225X5R1A336M200AC	C3225X5R0J336M200AA	
			±20%		C3225X5R0J336M250AA	
4532	2.30±0.20	±20%	C4532X5R1A336M230KA			
47 $\mu$ F	2012	1.25±0.20	±20%	C2012X5R1A476M125AC	C2012X5R0J476M125AC	C2012X5R0G476M125AB
			±20%	C3216X5R1A476M160AB	C3216X5R0J476M160AC	
	3225	2.50±0.30	±20%	C3225X5R1A476M250AC	C3225X5R0J476M250AA	
			±20%		C4532X5R0J476M250KA	
4532	2.80±0.30	±20%	C4532X5R1A476M280KA			
68 $\mu$ F	3216	1.60+0.30, -0.10	±20%	C3216X5R1A686M160AC	C3216X5R0J686M160AB	
	3225	2.00±0.20	±20%		C3225X5R0J686M200AC	
	4532	2.80±0.30	±20%		C4532X5R0J686M280KA	
100 $\mu$ F	5750	2.30±0.20	±20%	C5750X5R1A686M230KA		
	3216	1.60+0.30, -0.10	±20%	C3216X5R1A107M160AC	C3216X5R0J107M160AB	C3216X5R0G107M160AB
			±20%		C3225X5R0J107M250AC	
	4532	2.80±0.30	±20%	C4532X5R1A107M280KC	C4532X5R0J107M280KA	
5750	2.80±0.30	±20%	C5750X5R1A107M280KC	C5750X5R0J107M280KA		

■ The red items are products of the production will be stopped. Please confirm the schedule on product details information.









MULTILAYER CERAMIC CHIP CAPACITORS



Capacitance Range Table

Class 2 (Temperature Stable)

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

Table with columns: Capacitance, Size, Thickness (mm), Capacitance Tolerance, Catalog Number (Rated Voltage Edc: 10V, 6.3V, 4V). Rows include values for 4.7 µF, 6.8 µF, 10 µF, 15 µF, 22 µF, 33 µF, 47 µF, 68 µF, and 100 µF.

Class 2 (Temperature Stable)

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

Table with columns: Capacitance, Size, Thickness (mm), Capacitance Tolerance, Catalog Number (Rated Voltage Edc: 50V, 25V). Rows include values for 100 pF, 150 pF, 220 pF, 330 pF, and 470 pF.

- The gray items are non-recommended products in the new design.
■ The red items are products of the production will be stopped. Please confirm the schedule on product details information.

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