



**THE DATASHEET OF  
CGA5L2X7R2A105K160AE**



# MULTILAYER CERAMIC CHIP CAPACITORS

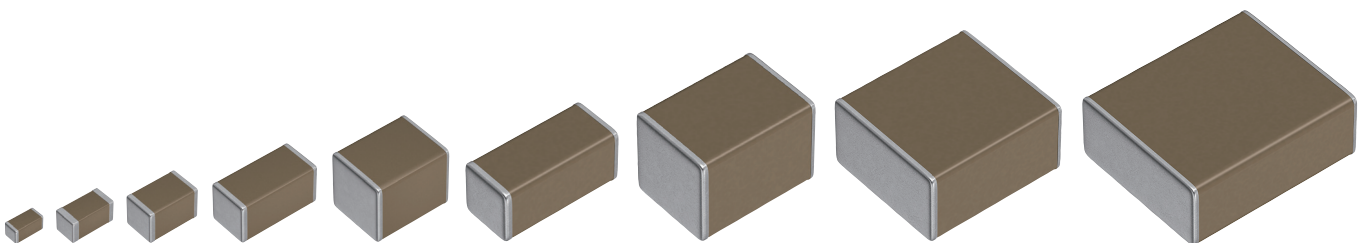
Automotive grade, soft termination

## CGA series

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<b>CGA2</b>	<b>1005 [0402 inch]</b>
<b>CGA3</b>	<b>1608 [0603 inch]</b>
<b>CGA4</b>	<b>2012 [0805 inch]</b>
<b>CGA5</b>	<b>3216 [1206 inch]</b>
<b>CGA6</b>	<b>3225 [1210 inch]</b>
<b>CGA7</b>	<b>4520 [1808 inch]</b>
<b>CGA8</b>	<b>4532 [1812 inch]</b>
<b>CGA9</b>	<b>5750 [2220 inch]</b>
<b>CGAD</b>	<b>7563 [3025 inch]</b>

\* Dimensions code: JIS[EIA]



## REMINDERS FOR USING THESE PRODUCTS

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

### SAFETY REMINDERS

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

### REMINDERS

1. The products listed in this specification are intended for use in automotive applications under normal operation and usage conditions. The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality requires a more stringent level of safety or reliability, or whose failure, malfunction or defect could cause serious damage to society, person or property.

Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below or for any other use exceeding the range or conditions set forth in this specification sheet. If you intend to use the products in the applications listed below or if you have special requirements exceeding the range or conditions set forth in this specification, please contact us.

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

When designing your equipment involving the Products, you are kindly requested to take into consideration securing protection circuit/equipment or providing backup circuits, etc. in your equipment, to ensure higher safety.

- We may modify products or discontinue production of a product listed in this catalog without prior notification.
- 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.
- 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.
- Any reproduction or transferring of the contents of this catalog is prohibited without prior permission from our company.
- 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.
- This catalog only applies to products purchased through our company or one of our company's official agencies. This catalog does not apply to products that are purchased through other third parties.

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

(Example)

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

# CGA series

## soft termination



Type: CGA2/1005 [0402 inch]、CGA3/1608 [0603 inch]、CGA4/2012 [0805 inch]、  
CGA5/3216 [1206 inch]、CGA6/3225 [1210 inch]、CGA7/4520 [1808 inch]、  
CGA8/4532 [1812 inch]、CGA9/5750 [2220 inch]、CGAD/7563 [3025 inch]

### SERIES OVERVIEW

Automotive grade Soft termination CGA series is a product incorporating a conductive resin layer into the terminal electrodes. The resin layer protects the ceramic body from cracks by relieving stress caused by thermal shock and board flexure.

### FEATURES

- High resistance to mechanical stress and thermal shock by resin layers
- X8R and X8L type whose maximum temperature are up to 150°C are available
- C0G type having excellent stable temperature and DC-bias characteristics is also available
- Qualified based on AEC-Q200
- Qualified based on VW80808-2 (Qualification of MLCCs with Soft Termination) \*Rated voltage is 100V or less

### SHAPE & DIMENSIONS



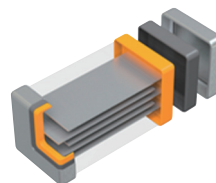
L	Body length
W	Body width
T	Body height
B	Terminal width
G	Terminal spacing

### APPLICATION

- Fail-safe design for battery line
- Prevention of ceramic element crack by board bending
- Prevention of solder crack by thermal shock
- Equipment such as mobile devices and smart key having a high possibility of drop

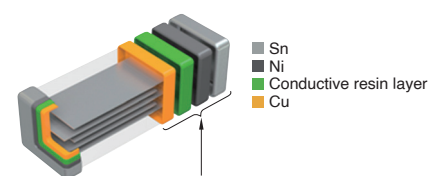
### TERMINAL ELECTRODE STRUCTURES

#### General type



3-layer structure of Cu, Ni and Sn.

#### Soft termination



4-layer structure including conductive resin layer.

Dimensions in mm

Type	L	W	T	B	G
CGA2	1.00+0.15,-0.05	0.50+0.10,-0.05	0.50+0.10,-0.05	0.10 min.	0.30 min.
CGA3	1.60+0.20,-0.10	0.80+0.15,-0.10	0.80+0.15,-0.10	0.20 min.	0.30 min.
CGA4	2.00+0.45,-0.20	1.25+0.25,-0.20	1.25+0.25,-0.20	0.20 min.	0.50 min.
CGA5	3.20+0.40,-0.20	1.60+0.30,-0.20	1.60+0.30,-0.20	0.20 min.	1.00 min.
CGA6	3.20+0.50,-0.40	2.50±0.30	2.50±0.30	0.20 min.	—
CGA7	4.50+0.50,-0.40	2.00+0.30,-0.20	1.30±0.20	0.20 min.	—
CGA8	4.50+0.50,-0.40	3.20±0.40	2.50±0.30	0.20 min.	—
CGA9	5.70+0.50,-0.40	5.00±0.40	2.50±0.30	0.20 min.	—
CGAD	7.50±0.50	6.30±0.50	2.50 max.	0.30 min.	—

\* Dimensional tolerances are typical values.

# MULTILAYER CERAMIC CHIP CAPACITORS



## CATALOG NUMBER CONSTRUCTION

<b>CGA</b>	<b>4</b>	<b>J</b>	<b>1</b>	<b>X7R</b>	<b>0J</b>	<b>106</b>	<b>K</b>	<b>125</b>	<b>A</b>	<b>E</b>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

### (1)Series

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

Code	EIA	Length	Width	端子 Width
2	CC0402	1.00	0.50	0.10
3	CC0603	1.60	0.80	0.20
4	CC0805	2.00	1.25	0.20
5	CC1206	3.20	1.60	0.20
6	CC1210	3.20	2.50	0.20
7	CC1808	4.50	2.00	0.20
8	CC1812	4.50	3.20	0.20
9	CC2220	5.70	5.00	0.20
D	CC3025	7.50	6.30	0.30

### (3)Thickness code

Code	Thickness
B	0.50 mm
C	0.60 mm
E	0.80 mm
F	0.85 mm
H	1.15 mm
J	1.25 mm
K	1.30 mm
L	1.60 mm
M	2.00 mm
N	2.30 mm
P	2.50 mm

### (4)Voltage condition for life test

Symbol	Condition
1	1 x R.V.
2	2 x R.V.
3	1.5 x R.V.
4	1.2 x R.V.

### (5)Temperature characteristics

Temperature characteristics	Temperature coefficient or capacitance change	Temperature range
C0G	0±30 ppm/°C	-55 to +125°C
X7R	±15%	-55 to +125°C
X7S	±22%	-55 to +125°C
X7T	+22, -33%	-55 to +125°C
X8R	±15%	-55 to +150°C
X8L	+15, -40%	-55 to +150°C

### (6)Rated voltage (DC)

Code	Voltage (DC)
0J	6.3V
1A	10V
1C	16V
1E	25V
1V	35V
1H	50V
2A	100V
2E	250V
2W	450V
2J	630V
3A	1000V
3D	2000V
3F	3000V

### (7)Nominal capacitance (pF)

The capacitance is expressed in three digit codes and in units of pico Farads (pF). The first and second digits identify the first and second significant figures of the capacitance. The third digit identifies the multiplier. R designates a decimal point.

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

### (8)Capacitance tolerance

Code	Tolerance
G	±2%
J	±5%
K	±10%
M	±20%

### (9)Thickness

Code	Thickness
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

### (10)Packaging style

Code	Style
A	178mm reel, 4mm pitch
B	178mm reel, 2mm pitch
K	178mm reel, 8mm pitch
L	330mm reel, 12mm pitch

### (11)Special reserved code

Code	Description
E	Soft termination

## Capacitance range chart

## CGA2/1005 [0402 inch]

Capacitance		COG		X7R				X7S		X8R			
(pF)	Code	2A (100V)	1H (50V)	1H (50V)	1V (35V)	1E (25V)	1C (16V)	1C (16V)	1A (10V)	2A (100V)	1H (50V)	1E (25V)	1C (16V)
100	101	■	■										
150	151	■	■							■	■		
220	221									■	■		
330	331									■	■		
470	471												
680	681												
1,000	102	■	■	■						■	■		
1,500	152												
2,200	222			■									
3,300	332			■						■	■		
4,700	472			■									
6,800	682											■	
10,000	103			■							■	■	
15,000	153												
22,000	223			■									
33,000	333											■	■
47,000	473			■									■
100,000	104			■									
220,000	224				■	■	■						
470,000	474							■	■				

Standard thickness ■ 0.50 mm

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

■ Click the charts for details.


■ For details such as the catalog numbers, please refer to the capacitance range table on page 11 and after.


# MULTILAYER CERAMIC CHIP CAPACITORS


## Capacitance range chart


## CGA3/1608 [0603 inch]

Capacitance		COG			X7R				X7S			X8R			
(pF)	Code	2E (250V)	2A (100V)	1H (50V)	2A (100V)	1H (50V)	1V (35V)	1E (25V)	2A (100V)	1C (16V)	1A (10V)	2A (100V)	1H (50V)	1E (25V)	1C (16V)
100	101														
330	331														
470	471														
680	681														
1,000	102														
1,200	122														
1,500	152														
1,800	182														
2,200	222														
2,700	272														
3,300	332														
3,900	392														
4,700	472														
5,600	562														
6,800	682														
8,200	822														
10,000	103														
15,000	153														
22,000	223														
33,000	333														
47,000	473														
68,000	683														
100,000	104														
150,000	154														
220,000	224														
330,000	334														
470,000	474														
1,000,000	105														
2,200,000	225														

Standard thickness  0.80 mm

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

 Click the charts for details.

 For details such as the catalog numbers, please refer to the capacitance range table on page 11 and after.




# MULTILAYER CERAMIC CHIP CAPACITORS


## Capacitance range chart


## CGA4/2012 [0805 inch]


Capacitance		COG				X7R						X7S				
(pF)	Code	2W (450V)	2E (250V)	2A (100V)	1H (50V)	2E (250V)	2A (100V)	1H (50V)	1V (35V)	1E (25V)	1C (16V)	0J (6.3V)	2A (100V)	1E (25V)	1C (16V)	1A (10V)
100	101	█														
150	151	█														
220	221	█														
330	331	█														
470	471	█														
680	681	█														
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		█													
10,000	103					█	█									
15,000	153					█	█									
22,000	223			█	█	█	█									
33,000	333			█	█											
47,000	473						█									
100,000	104						█	█								
220,000	224							█					█	█		
470,000	474												█	█		
1,000,000	105								█							
2,200,000	225								█	█						
4,700,000	475									█	█					
10,000,000	106										█	█	█	█	█	█

Capacitance		X7T		X8R				X8L			
(pF)	Code	2W (450V)	2E (250V)	2A (100V)	1H (50V)	1E (25V)	1C (16V)	1H (50V)	1V (35V)	1E (25V)	1A (10V)
10,000	103	█									
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					█	█				
2,200,000	225								█	█	
4,700,000	475									█	█
10,000,000	106										█

Standard thickness  0.60 mm  0.85 mm  1.25 mm

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

 Click the charts for details.

 For details such as the catalog numbers, please refer to the capacitance range table on page 11 and after.

# MULTILAYER CERAMIC CHIP CAPACITORS TDK

## Capacitance range chart

## CGA5/3216 [1206 inch]

Capacitance		COG					X7R						X7S	
(pF)	Code	2J (630V)	2W (450V)	2E (250V)	2A (100V)	1H (50V)	2J (630V)	2E (250V)	2A (100V)	1H (50V)	1V (35V)	1E (25V)	0J (6.3V)	2A (100V)
1,000	102						■							
2,200	222						■							
3,300	332						■							
3,900	392	■					■							
4,700	472						■							
5,600	562	■					■							
6,800	682		■											
8,200	822		■											
10,000	103	■					■							
15,000	153			■										
22,000	223						■	■						
33,000	333						■							
47,000	473					■	■	■						
68,000	683					■								
100,000	104					■		■						
220,000	224													
470,000	474													
1,000,000	105									■				
2,200,000	225									■			■	
4,700,000	475									■			■	
10,000,000	106									■			■	
22,000,000	226												■	

Capacitance		X7T				X8R			X8L
(pF)	Code	2J (630V)	2W (450V)	2E (250V)	2A (100V)	1H (50V)	1E (25V)	1C (16V)	1E (25V)
47,000	473	■							
100,000	104		■		■				
150,000	154				■				
220,000	224			■					
330,000	334				■	■			
470,000	474					■			
680,000	684								
1,000,000	105					■	■		
1,500,000	155						■		
2,200,000	225								
3,300,000	335							■	
4,700,000	475								■
10,000,000	106								■

Standard thickness ■ 0.85 mm ■ 1.15 mm ■ 1.30 mm ■ 1.60 mm

■ Click the charts for details.

■ For details such as the catalog numbers, please refer to the capacitance range table on page 11 and after.

MULTILAYER CERAMIC CHIP CAPACITORS TDK

Capacitance range chart

CGA6/3225 [1210 inch]

Capacitance		COG					X7R					X7S		X7T		
(pF)	Code	3A (1kV)	2J (630V)	2W (450V)	2E (250V)	2A (100V)	2J (630V)	2E (250V)	2A (100V)	1H (50V)	1E (25V)	2A (100V)	1H (50V)	2J (630V)	2W (450V)	2E (250V)
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	█														
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															
2,200,000	225									█						
3,300,000	335									█						
4,700,000	475										█					
10,000,000	106											█				
22,000,000	226												█			

Capacitance		X8R		
(pF)	Code	2A (100V)	1E (25V)	1C (16V)
470,000	474	█		
680,000	684	█		
3,300,000	335		█	
4,700,000	475		█	
10,000,000	106			█

Standard thickness  1.60 mm  2.00 mm  2.30 mm  2.50 mm

█ Click the charts for details.

█ For details such as the catalog numbers, please refer to the capacitance range table on page 11 and after.

## Capacitance range chart

CGA7/4520 [1808 inch]

Capacitance		X7R
(pF)	Code	3D (2kV)
1,000	102	

Standard thickness 1.30 mm

■ Click the charts for details.

■ For details such as the catalog numbers, please refer to the capacitance range table on page 11 and after.

## Capacitance range chart

CGA8/4532 [1812 inch]

Capacitance		COG		X7R			X7T		
(pF)	Code	3F (3kV)	2J (630V)	3D (2kV)	2J (630V)	2E (250V)	2J (630V)	2W (450V)	2E (250V)
330	331								
2,200	222								
33,000	333								
100,000	104								
220,000	224								
470,000	474								
1,000,000	105								

Standard thickness 1.30 mm 2.00 mm 2.30 mm 2.50 mm

■ Click the charts for details.

■ For details such as the catalog numbers, please refer to the capacitance range table on page 11 and after.

## Capacitance range chart

CGA9/5750 [2220 inch]

Capacitance		COG			X7R		X7S	X7T		
(pF)	Code	2J (630V)	2E (250V)	2A (100V)	2J (630V)	2E (250V)	2A (100V)	2J (630V)	2W (450V)	2E (250V)
68,000	683									
150,000	154									
220,000	224									
470,000	474									
1,000,000	105									
2,200,000	225									
10,000,000	106									

Standard thickness 2.30 mm 2.50 mm

■ Click the charts for details.

■ For details such as the catalog numbers, please refer to the capacitance range table on page 11 and after.

## Capacitance range chart

CGAD/7563 [3025 inch]

Capacitance		X7R
(pF)	Code	1E (25V)
47,000,000	476	

Standard thickness 2.30 mm

■ Click the charts for details.

■ For details such as the catalog numbers, please refer to the capacitance range table on page 11 and after.


# MULTILAYER CERAMIC CHIP CAPACITORS

## Capacitance range table

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

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number			
				Rated voltage Edc: 3kV	Rated voltage Edc: 1kV	Rated voltage Edc: 630V	Rated voltage Edc: 450V
100pF	2012	0.60±0.15	±5%				<a href="#">CGA4C4C0G2W101J060AE</a>
150pF	2012	0.60±0.15	±5%				<a href="#">CGA4C4C0G2W151J060AE</a>
220pF	2012	0.60±0.15	±5%				<a href="#">CGA4C4C0G2W221J060AE</a>
330pF	2012	0.60±0.15	±5%				<a href="#">CGA4C4C0G2W331J060AE</a>
	4532	2.50±0.30	±10%	<a href="#">CGA8P1C0G3F331K250KE</a>			
470pF	2012	0.60±0.15	±5%				<a href="#">CGA4C4C0G2W471J060AE</a>
680pF	2012	0.60±0.15	±5%				<a href="#">CGA4C4C0G2W681J060AE</a>
	2012	0.60±0.15	±5%				<a href="#">CGA4C4C0G2W102J060AE</a>
	3225	2.00+0.30,-0.20	±2%		<a href="#">CGA6M1C0G3A102G200AE</a>		
1nF	3225	2.00+0.30,-0.20	±5%		<a href="#">CGA6M1C0G3A102J200AE</a>		
			±5%			<a href="#">CGA4C4C0G2W122J060AE</a>	
1.2nF	3225	2.00+0.30,-0.20	±2%		<a href="#">CGA6M1C0G3A122G200AE</a>		
			±5%		<a href="#">CGA6M1C0G3A122J200AE</a>		<a href="#">CGA4C4C0G2W122J060AE</a>
1.5nF	3225	2.00+0.30,-0.20	±5%				<a href="#">CGA4F4C0G2W152J085AE</a>
			±2%		<a href="#">CGA6M1C0G3A152G200AE</a>		
1.8nF	3225	2.00+0.30,-0.20	±5%		<a href="#">CGA6M1C0G3A152J200AE</a>		
			±2%		<a href="#">CGA6M1C0G3A182G200AE</a>		<a href="#">CGA4F4C0G2W182J085AE</a>
2.2nF	3225	2.00+0.30,-0.20	±5%		<a href="#">CGA6M1C0G3A182J200AE</a>		
			±2%		<a href="#">CGA6M1C0G3A222G200AE</a>		<a href="#">CGA4F4C0G2W222J085AE</a>
2.7nF	3225	2.00+0.30,-0.20	±5%		<a href="#">CGA6M1C0G3A222J200AE</a>		<a href="#">CGA4J4C0G2W272J125AE</a>
			±2%		<a href="#">CGA6M1C0G3A272G200AE</a>		
3.3nF	3225	2.00+0.30,-0.20	±5%		<a href="#">CGA6M1C0G3A272J200AE</a>		<a href="#">CGA4J4C0G2W332J125AE</a>
			±2%		<a href="#">CGA6M1C0G3A332G200AE</a>		
3.9nF	3225	2.00+0.30,-0.20	±5%		<a href="#">CGA6M1C0G3A332J200AE</a>		
			±2%		<a href="#">CGA6M1C0G3A392G200AE</a>		<a href="#">CGA4J4C0G2W392J125AE</a>
4.7nF	3225	2.00+0.30,-0.20	±5%		<a href="#">CGA6M1C0G3A392J200AE</a>		
			±2%		<a href="#">CGA6M1C0G3A472G200AE</a>		<a href="#">CGA5F4C0G2J392G085AE</a>
5.6nF	3225	2.00+0.30,-0.20	±5%		<a href="#">CGA6M1C0G3A472J200AE</a>		<a href="#">CGA5F4C0G2J392J085AE</a>
			±2%		<a href="#">CGA6M1C0G3A562G200AE</a>		
6.8nF	3225	2.00+0.30,-0.20	±5%		<a href="#">CGA6M1C0G3A562J200AE</a>		<a href="#">CGA5H4C0G2J562G115AE</a>
			±2%		<a href="#">CGA6M1C0G3A682G200AE</a>		<a href="#">CGA5H4C0G2J562J115AE</a>
8.2nF	3225	2.00+0.30,-0.20	±5%		<a href="#">CGA6M1C0G3A682J200AE</a>		<a href="#">CGA5H4C0G2J682G115AE</a>
			±2%		<a href="#">CGA6M1C0G3A822G200AE</a>		<a href="#">CGA5H4C0G2W682J115AE</a>
10nF	3225	2.00+0.30,-0.20	±5%		<a href="#">CGA6M1C0G3A822J200AE</a>		<a href="#">CGA5L4C0G2J822G160AE</a>
			±2%		<a href="#">CGA6M1C0G3A822J230AE</a>		<a href="#">CGA5L4C0G2J822J160AE</a>
15nF	3225	2.00+0.30,-0.20	±5%		<a href="#">CGA6M1C0G3A822J230AE</a>		<a href="#">CGA5L4C0G2J103G160AE</a>
			±2%		<a href="#">CGA6M1C0G3A103G160AE</a>		<a href="#">CGA5L4C0G2W103J160AE</a>
33nF	3225	2.50±0.30	±5%		<a href="#">CGA6M1C0G3A103J160AE</a>		<a href="#">CGA6L4C0G2J153G160AE</a>
			±2%		<a href="#">CGA6M1C0G3A153J160AE</a>		<a href="#">CGA6L4C0G2J153J160AE</a>
68nF	5750	2.30+0.30,-0.20	±5%		<a href="#">CGA6P4C0G2J333G250AE</a>		<a href="#">CGA6P4C0G2J333J250AE</a>
			±2%		<a href="#">CGA6P4C0G2J333J250AE</a>		<a href="#">CGA6P4C0G2W333J250AE</a>
			±5%		<a href="#">CGA8M4C0G2J333J200KE</a>		<a href="#">CGA9N1C0G2J683G230KE</a>
			±5%		<a href="#">CGA9N1C0G2J683J230KE</a>		

Click the part numbers for details.

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

## MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance range table

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

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number		
				Rated voltage Edc: 250V	Rated voltage Edc: 100V	Rated voltage Edc: 50V
100pF	1005	0.50+0.10,-0.05	±5%		<a href="#">CGA2B2C0G2A101J050BE</a>	<a href="#">CGA2B2C0G1H101J050BE</a>
	1608	0.80+0.15,-0.10	±5%			<a href="#">CGA3E2C0G1H101J080AE</a>
150pF	1005	0.50+0.10,-0.05	±5%		<a href="#">CGA2B2C0G2A151J050BE</a>	<a href="#">CGA2B2C0G1H151J050BE</a>
	1005	0.50+0.10,-0.05	±5%		<a href="#">CGA2B2C0G2A221J050BE</a>	<a href="#">CGA2B2C0G1H221J050BE</a>
330pF	1005	0.50+0.10,-0.05	±5%		<a href="#">CGA2B2C0G2A331J050BE</a>	<a href="#">CGA2B2C0G1H331J050BE</a>
	1608	0.80+0.15,-0.10	±5%		<a href="#">CGA3E2C0G2A331J080AE</a>	<a href="#">CGA3E2C0G1H331J080AE</a>
470pF	1005	0.50+0.10,-0.05	±5%		<a href="#">CGA2B1C0G2A471J050BE</a>	<a href="#">CGA2B2C0G1H471J050BE</a>
	1608	0.80+0.15,-0.10	±5%		<a href="#">CGA3E2C0G2A471J080AE</a>	<a href="#">CGA3E2C0G1H471J080AE</a>
680pF	1005	0.50+0.10,-0.05	±5%		<a href="#">CGA2B1C0G2A681J050BE</a>	<a href="#">CGA2B2C0G1H681J050BE</a>
	1608	0.80+0.15,-0.10	±5%		<a href="#">CGA3E2C0G2A681J080AE</a>	<a href="#">CGA3E2C0G1H681J080AE</a>
1nF	1005	0.50+0.10,-0.05	±5%		<a href="#">CGA2B1C0G2A102J050BE</a>	<a href="#">CGA2B2C0G1H102J050BE</a>
	1608	0.80+0.15,-0.10	±5%	<a href="#">CGA3E3C0G2E102J080AE</a>	<a href="#">CGA3E2C0G2A102J080AE</a>	<a href="#">CGA3E2C0G1H102J080AE</a>
1.2nF	1608	0.80+0.15,-0.10	±5%	<a href="#">CGA3E3C0G2E122J080AE</a>	<a href="#">CGA3E2C0G2A122J080AE</a>	<a href="#">CGA3E2C0G1H122J080AE</a>
1.5nF	1608	0.80+0.15,-0.10	±5%	<a href="#">CGA3E3C0G2E152J080AE</a>	<a href="#">CGA3E2C0G2A152J080AE</a>	<a href="#">CGA3E2C0G1H152J080AE</a>
1.8nF	1608	0.80+0.15,-0.10	±5%	<a href="#">CGA3E3C0G2E182J080AE</a>	<a href="#">CGA3E2C0G2A182J080AE</a>	<a href="#">CGA3E2C0G1H182J080AE</a>
2.2nF	1608	0.80+0.15,-0.10	±5%		<a href="#">CGA3E2C0G2A222J080AE</a>	<a href="#">CGA3E2C0G1H222J080AE</a>
	1608	0.80+0.15,-0.10	±5%		<a href="#">CGA3E1C0G2A272J080AE</a>	<a href="#">CGA3E2C0G1H272J080AE</a>
3.3nF	1608	0.80+0.15,-0.10	±5%		<a href="#">CGA3E1C0G2A332J080AE</a>	<a href="#">CGA3E2C0G1H332J080AE</a>
	2012	0.85±0.15	±5%	<a href="#">CGA4F3C0G2E332J085AE</a>		
3.9nF	1608	0.80+0.15,-0.10	±5%		<a href="#">CGA3E1C0G2A392J080AE</a>	<a href="#">CGA3E2C0G1H392J080AE</a>
	2012	1.25+0.25,-0.20	±5%	<a href="#">CGA4J3C0G2E392J125AE</a>		
4.7nF	1608	0.80+0.15,-0.10	±5%		<a href="#">CGA3E1C0G2A472J080AE</a>	<a href="#">CGA3E2C0G1H472J080AE</a>
	2012	1.25+0.25,-0.20	±5%	<a href="#">CGA4J3C0G2E472J125AE</a>		
5.6nF	1608	0.80+0.15,-0.10	±5%		<a href="#">CGA3E1C0G2A562J080AE</a>	<a href="#">CGA3E2C0G1H562J080AE</a>
	2012	1.25+0.25,-0.20	±5%	<a href="#">CGA4J3C0G2E562J125AE</a>		
6.8nF	1608	0.80+0.15,-0.10	±5%		<a href="#">CGA3E1C0G2A682J080AE</a>	<a href="#">CGA3E2C0G1H682J080AE</a>
	2012	1.25+0.25,-0.20	±5%	<a href="#">CGA4J3C0G2E682J125AE</a>		
8.2nF	1608	0.80+0.15,-0.10	±5%		<a href="#">CGA3E1C0G2A822J080AE</a>	<a href="#">CGA3E2C0G1H822J080AE</a>
	1608	0.80+0.15,-0.10	±5%		<a href="#">CGA3E1C0G2A103J080AE</a>	<a href="#">CGA3E2C0G1H103J080AE</a>
10nF	3216	1.15±0.15	±5%	<a href="#">CGA5H3C0G2E103J115AE</a>		
	2012	0.85±0.15	±5%		<a href="#">CGA4F1C0G2A153J085AE</a>	<a href="#">CGA4F2C0G1H153J085AE</a>
15nF	3216	1.60+0.30,-0.20	±5%	<a href="#">CGA5L3C0G2E153J160AE</a>		
	2012	1.25+0.25,-0.20	±5%		<a href="#">CGA4J1C0G2A223J125AE</a>	<a href="#">CGA4J2C0G1H223J125AE</a>
22nF	3225	1.60+0.30,-0.20	±5%	<a href="#">CGA6L3C0G2E223J160AE</a>		
	2012	1.25+0.25,-0.20	±5%		<a href="#">CGA4J1C0G2A333J125AE</a>	<a href="#">CGA4J2C0G1H333J125AE</a>
33nF	3216	1.15±0.15	±5%	<a href="#">CGA5H1C0G2A473J115AE</a>		
	3216	1.60+0.30,-0.20	±5%	<a href="#">CGA5L1C0G2A683J160AE</a>	<a href="#">CGA5L2C0G1H683J160AE</a>	
47nF	3216	1.60+0.30,-0.20	±5%	<a href="#">CGA6N2C0G2A683J230AE</a>		
	3225	2.30+0.30,-0.20	±5%		<a href="#">CGA5L1C0G2A104J160AE</a>	<a href="#">CGA5L2C0G1H104J160AE</a>
100nF	3216	1.60+0.30,-0.20	±5%	<a href="#">CGA5L1C0G2A104J160AE</a>		
	5750	2.30+0.30,-0.20	±5%	<a href="#">CGA9N4C0G2E154J230KE</a>	<a href="#">CGA9N2C0G2A154J230KE</a>	

Click the part numbers for details.

# MULTILAYER CERAMIC CHIP CAPACITORS

## Capacitance range table

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

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number				
				Rated voltage Edc: 2kV	Rated voltage Edc: 630V	Rated voltage Edc: 250V	Rated voltage Edc: 100V	Rated voltage Edc: 50V
1nF	1005	0.50+0.10,-0.05	±10%					<a href="#">CGA2B2X7R1H102K050BE</a>
			±20%				<a href="#">CGA2B2X7R1H102M050BE</a>	
	1608	0.80 +0.15,-0.10	±10%				<a href="#">CGA3E2X7R2A102K080AE</a>	<a href="#">CGA3E2X7R1H102K080AE</a>
			±20%				<a href="#">CGA3E2X7R2A102M080AE</a>	<a href="#">CGA3E2X7R1H102M080AE</a>
	2012	0.85±0.15	±10%			<a href="#">CGA4F3X7R2E102K085AE</a>	<a href="#">CGA4F2X7R2A102K085AE</a>	
			±20%			<a href="#">CGA4F3X7R2E102M085AE</a>	<a href="#">CGA4F2X7R2A102M085AE</a>	
3216	1.15±0.15	±10%			<a href="#">CGA5H4X7R2J102K115AE</a>	<a href="#">CGA5H4X7R2J102M115AE</a>		
		±20%			<a href="#">CGA5H4X7R2J102M115AE</a>			
4520	1.30±0.20	±10%	<a href="#">CGA7K1X7R3D102K130KE</a>					
		±20%	<a href="#">CGA7K1X7R3D102M130KE</a>					
2.2nF	1005	0.50+0.10,-0.05	±10%					<a href="#">CGA2B2X7R1H222K050BE</a>
			±20%				<a href="#">CGA2B2X7R1H222M050BE</a>	
	1608	0.80+0.15,-0.10	±10%				<a href="#">CGA3E2X7R2A222K080AE</a>	<a href="#">CGA3E2X7R1H222K080AE</a>
			±20%				<a href="#">CGA3E2X7R2A222M080AE</a>	<a href="#">CGA3E2X7R1H222M080AE</a>
	2012	0.85±0.15	±10%			<a href="#">CGA4F3X7R2E222K085AE</a>	<a href="#">CGA4F2X7R2A222K085AE</a>	
			±20%			<a href="#">CGA4F3X7R2E222M085AE</a>	<a href="#">CGA4F2X7R2A222M085AE</a>	
3216	1.15±0.15	±10%			<a href="#">CGA5H4X7R2J222K115AE</a>	<a href="#">CGA5H4X7R2J222M115AE</a>		
		±20%			<a href="#">CGA5H4X7R2J222M115AE</a>			
4532	1.30±0.20	±10%	<a href="#">CGA8K1X7R3D222K130KE</a>					
		±20%	<a href="#">CGA8K1X7R3D222M130KE</a>					
3.3nF	3216	1.15±0.15	±10%			<a href="#">CGA5H4X7R2J332K115AE</a>		
			±20%			<a href="#">CGA5H4X7R2J332M115AE</a>		
4.7nF	1005	0.50+0.10,-0.05	±10%					<a href="#">CGA2B2X7R1H472K050BE</a>
			±20%				<a href="#">CGA2B2X7R1H472M050BE</a>	
	1608	0.80+0.15,-0.10	±10%				<a href="#">CGA3E2X7R2A472K080AE</a>	<a href="#">CGA3E2X7R1H472K080AE</a>
			±20%				<a href="#">CGA3E2X7R2A472M080AE</a>	<a href="#">CGA3E2X7R1H472M080AE</a>
	2012	0.85±0.15	±10%			<a href="#">CGA4F3X7R2E472K085AE</a>	<a href="#">CGA4F2X7R2A472K085AE</a>	
			±20%			<a href="#">CGA4F3X7R2E472M085AE</a>	<a href="#">CGA4F2X7R2A472M085AE</a>	
3216	1.15±0.15	±10%			<a href="#">CGA5H4X7R2J472K115AE</a>	<a href="#">CGA5H4X7R2J472M115AE</a>		
		±20%			<a href="#">CGA5H4X7R2J472M115AE</a>			
10nF	1005	0.50+0.10,-0.05	±10%					<a href="#">CGA2B3X7R1H103K050BE</a>
			±20%				<a href="#">CGA2B3X7R1H103M050BE</a>	
	1608	0.80 +0.15,-0.10	±10%				<a href="#">CGA3E2X7R2A103K080AE</a>	<a href="#">CGA3E2X7R1H103K080AE</a>
			±20%				<a href="#">CGA3E2X7R2A103M080AE</a>	<a href="#">CGA3E2X7R1H103M080AE</a>
	2012	0.85±0.15	±10%				<a href="#">CGA4F2X7R2A103K085AE</a>	<a href="#">CGA4F2X7R2A103M085AE</a>
			±20%				<a href="#">CGA4F2X7R2A103M085AE</a>	
3216	1.15±0.15	±10%			<a href="#">CGA4J3X7R2E103K125AE</a>	<a href="#">CGA4J3X7R2E103M125AE</a>		
		±20%			<a href="#">CGA4J3X7R2E103M125AE</a>			
22nF	1005	0.50+0.10,-0.05	±10%					<a href="#">CGA2B3X7R1H223K050BE</a>
			±20%				<a href="#">CGA2B3X7R1H223M050BE</a>	
	1608	0.80+0.15,-0.10	±10%				<a href="#">CGA3E2X7R2A223K080AE</a>	<a href="#">CGA3E2X7R1H223K080AE</a>
			±20%				<a href="#">CGA3E2X7R2A223M080AE</a>	<a href="#">CGA3E2X7R1H223M080AE</a>
	2012	1.25 +0.25,-0.20	±10%			<a href="#">CGA4J3X7R2E223K125AE</a>	<a href="#">CGA4J2X7R2A223K125AE</a>	
			±20%			<a href="#">CGA4J3X7R2E223M125AE</a>	<a href="#">CGA4J2X7R2A223M125AE</a>	
3216	1.15±0.15	±10%			<a href="#">CGA5H3X7R2E223K115AE</a>	<a href="#">CGA5H3X7R2E223M115AE</a>		
		±20%			<a href="#">CGA5H3X7R2E223M115AE</a>			
33nF	1005	0.50+0.10,-0.05	±10%					<a href="#">CGA2B3X7R1H223K050BE</a>
			±20%				<a href="#">CGA2B3X7R1H223M050BE</a>	
	1608	0.80+0.15,-0.10	±10%				<a href="#">CGA3E2X7R2A223K080AE</a>	<a href="#">CGA3E2X7R1H223K080AE</a>
			±20%				<a href="#">CGA3E2X7R2A223M080AE</a>	<a href="#">CGA3E2X7R1H223M080AE</a>
	2012	1.25 +0.25,-0.20	±10%			<a href="#">CGA4J3X7R2E223K125AE</a>	<a href="#">CGA4J2X7R2A223K125AE</a>	
			±20%			<a href="#">CGA4J3X7R2E223M125AE</a>	<a href="#">CGA4J2X7R2A223M125AE</a>	
3216	1.30±0.20	±10%			<a href="#">CGA5K4X7R2J223K130AE</a>	<a href="#">CGA5K4X7R2J223M130AE</a>		
		±20%			<a href="#">CGA5K4X7R2J223M130AE</a>			
33nF	3216	1.60+0.30,-0.20	±10%			<a href="#">CGA5L4X7R2J333K160AE</a>	<a href="#">CGA5L4X7R2J333M160AE</a>	
			±20%			<a href="#">CGA5L4X7R2J333M160AE</a>		

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

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


# MULTILAYER CERAMIC CHIP CAPACITORS

## Capacitance range table

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

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number			
				Rated voltage Edc: 630V	Rated voltage Edc: 250V	Rated voltage Edc: 100V	Rated voltage Edc: 50V
47nF	1005	0.50+0.10,-0.05	±10%				<a href="#">CGA2B3X7R1H473K050BE</a>
			±20%				<a href="#">CGA2B3X7R1H473M050BE</a>
	1608	0.80+0.15,-0.10	±10%				<a href="#">CGA3E2X7R1H473K080AE</a>
			±20%				<a href="#">CGA3E2X7R1H473M080AE</a>
	2012	1.25+0.25,-0.20	±10%			<a href="#">CGA4J2X7R2A473K125AE</a>	
			±20%			<a href="#">CGA4J2X7R2A473M125AE</a>	
3216	1.60+0.30,-0.20	±10%		<a href="#">CGA5L3X7R2E473K160AE</a>			
		±20%		<a href="#">CGA5L3X7R2E473M160AE</a>			
3225	2.00+0.30,-0.20	±10%	<a href="#">CGA6M4X7R2J473K200AE</a>				
		±20%	<a href="#">CGA6M4X7R2J473M200AE</a>				
68nF	3225	2.00+0.30,-0.20	±10%	<a href="#">CGA6M4X7R2J683K200AE</a>			
			±20%	<a href="#">CGA6M4X7R2J683M200AE</a>			
100nF	1005	0.50+0.10,-0.05	±10%				<a href="#">CGA2B3X7R1H104K050BE</a>
			±20%				<a href="#">CGA2B3X7R1H104M050BE</a>
	1608	0.80+0.15,-0.10	±10%				<a href="#">CGA3E2X7R1H104K080AE</a>
			±20%				<a href="#">CGA3E2X7R1H104M080AE</a>
	2012	1.25+0.25,-0.20	±10%			<a href="#">CGA4J2X7R2A104K125AE</a>	<a href="#">CGA4J2X7R1H104K125AE</a>
			±20%			<a href="#">CGA4J2X7R2A104M125AE</a>	<a href="#">CGA4J2X7R1H104M125AE</a>
3216	1.60+0.30,-0.20	±10%		<a href="#">CGA5L3X7R2E104K160AE</a>	<a href="#">CGA5L2X7R2A104K160AE</a>		
		±20%		<a href="#">CGA5L3X7R2E104M160AE</a>	<a href="#">CGA5L2X7R2A104M160AE</a>		
3225	2.00+0.30,-0.20	±10%		<a href="#">CGA6M3X7R2E104K200AE</a>	<a href="#">CGA6M3X7R2E104M200AE</a>		
		±20%		<a href="#">CGA6M3X7R2E104M200AE</a>			
4532	2.30+0.30,-0.20	±10%	<a href="#">CGA8N4X7R2J104K230KE</a>				
		±20%	<a href="#">CGA8N4X7R2J104M230KE</a>				
220nF	1608	0.80+0.15,-0.10	±10%				<a href="#">CGA3E3X7R1H224K080AE</a>
			±20%				<a href="#">CGA3E3X7R1H224M080AE</a>
	2012	1.25+0.25,-0.20	±10%				<a href="#">CGA4J2X7R1H224K125AE</a>
			±20%				<a href="#">CGA4J2X7R1H224M125AE</a>
	3216	1.15±0.15	±10%			<a href="#">CGA5H2X7R2A224K115AE</a>	
			±20%			<a href="#">CGA5H2X7R2A224M115AE</a>	
3225	2.00+0.30,-0.20	±10%		<a href="#">CGA6M3X7R2E224K200AE</a>			
		±20%		<a href="#">CGA6M3X7R2E224M200AE</a>			
5750	2.30+0.30,-0.20	±10%	<a href="#">CGA9N4X7R2J224K230KE</a>				
		±20%	<a href="#">CGA9N4X7R2J224M230KE</a>				
470nF	1608	0.80+0.15,-0.10	±10%				<a href="#">CGA3E3X7R1H474K080AE</a>
			±20%				<a href="#">CGA3E3X7R1H474M080AE</a>
	2012	1.25+0.25,-0.20	±10%				<a href="#">CGA4J3X7R1H474K125AE</a>
			±20%				<a href="#">CGA4J3X7R1H474M125AE</a>
	3216	1.60+0.30,-0.20	±10%			<a href="#">CGA5L2X7R2A474K160AE</a>	
			±20%			<a href="#">CGA5L2X7R2A474M160AE</a>	
3225	2.00+0.30,-0.20	±10%			<a href="#">CGA6M2X7R2A474K200AE</a>		
		±20%			<a href="#">CGA6M2X7R2A474M200AE</a>		
4532	2.30+0.30,-0.20	±10%		<a href="#">CGA8N3X7R2E474K230KE</a>			
		±20%		<a href="#">CGA8N3X7R2E474M230KE</a>			
1µF	2012	1.25+0.25,-0.20	±10%				<a href="#">CGA4J3X7R1H105K125AE</a>
			±20%				<a href="#">CGA4J3X7R1H105M125AE</a>
	3216	1.60+0.30,-0.20	±10%			<a href="#">CGA5L2X7R2A105K160AE</a>	<a href="#">CGA5L3X7R1H105K160AE</a>
			±20%			<a href="#">CGA5L2X7R2A105M160AE</a>	<a href="#">CGA5L3X7R1H105M160AE</a>
	3225	1.60+0.30,-0.20	±10%			<a href="#">CGA6L2X7R1H105K160AE</a>	<a href="#">CGA6L2X7R1H105M160AE</a>
			±20%			<a href="#">CGA6L2X7R1H105M160AE</a>	
3225	2.00+0.30,-0.20	±10%			<a href="#">CGA6M2X7R2A105K200AE</a>		
		±20%			<a href="#">CGA6M2X7R2A105M200AE</a>		
5750	2.30+0.30,-0.20	±10%		<a href="#">CGA9N3X7R2E105K230KE</a>			
		±20%		<a href="#">CGA9N3X7R2E105M230KE</a>			
2.2µF	2012	1.25+0.25,-0.20	±10%				<a href="#">CGA4J3X7R1H225K125AE</a>
			±20%				<a href="#">CGA4J3X7R1H225M125AE</a>
	3216	1.60+0.30,-0.20	±10%			<a href="#">CGA5L3X7R1H225K160AE</a>	
			±20%			<a href="#">CGA5L3X7R1H225M160AE</a>	
	3225	2.00+0.30,-0.20	±10%			<a href="#">CGA6M3X7R1H225K200AE</a>	
			±20%			<a href="#">CGA6M3X7R1H225M200AE</a>	
3225	2.30+0.30,-0.20	±10%			<a href="#">CGA6N3X7R2A225K230AE</a>		
		±20%			<a href="#">CGA6N3X7R2A225M230AE</a>		
4.7µF	2012	1.25+0.25,-0.20	±10%				<a href="#">CGA4J1X7R1H475K125AE</a>
			±20%				<a href="#">CGA5L3X7R1H475K160AE</a>
	3216	1.60+0.30,-0.20	±10%				<a href="#">CGA5L3X7R1H475M160AE</a>
±20%						<a href="#">CGA6P3X7R1H475K250AE</a>	
3225	2.50±0.30	±10%				<a href="#">CGA6P3X7R1H475K250AE</a>	
		±20%				<a href="#">CGA5L1X7R1H106K160AE</a>	
10µF	3216	1.60+0.30,-0.20	±10%				

■ Gray items: These products are not recommended for new designs.  
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# MULTILAYER CERAMIC CHIP CAPACITORS TDK

## Capacitance range table

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

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number			
				Rated voltage Edc: 35V	Rated voltage Edc: 25V	Rated voltage Edc: 16V	Rated voltage Edc: 6.3V
220nF	1005	0.50+0.10,-0.05	±10%	<a href="#">CGA2B1X7R1V224K050BE</a>	<a href="#">CGA2B3X7R1E224K050BE</a>	<a href="#">CGA2B2X7R1C224K050BE</a>	
			±20%	<a href="#">CGA2B1X7R1V224M050BE</a>	<a href="#">CGA2B3X7R1E224M050BE</a>	<a href="#">CGA2B2X7R1C224M050BE</a>	
	1608	0.80+0.15,-0.10	±10%	<a href="#">CGA3E3X7R1V224K080AE</a>			
			±20%	<a href="#">CGA3E3X7R1V224M080AE</a>			
470nF	1608	0.80+0.15,-0.10	±10%	<a href="#">CGA3E1X7R1V474K080AE</a>	<a href="#">CGA3E3X7R1E474K080AE</a>		
			±20%	<a href="#">CGA3E1X7R1V474M080AE</a>	<a href="#">CGA3E3X7R1E474M080AE</a>		
			±10%	<a href="#">CGA3E1X7R1V105K080AE</a>	<a href="#">CGA3E1X7R1E105K080AE</a>		
			±20%	<a href="#">CGA3E1X7R1V105M080AE</a>	<a href="#">CGA3E1X7R1E105M080AE</a>		
1µF	1608	0.80+0.15,-0.10	±10%	<a href="#">CGA4J3X7R1V105K125AE</a>			
			±20%	<a href="#">CGA4J3X7R1V105M125AE</a>			
	2012	1.25+0.25,-0.20	±10%	<a href="#">CGA4J1X7R1V105K125AE</a>			
			±20%	<a href="#">CGA4J1X7R1V105M125AE</a>			
2.2µF	2012	1.25+0.25,-0.20	±10%	<a href="#">CGA4J1X7R1V225K125AE</a>	<a href="#">CGA4J3X7R1E225K125AE</a>		
			±20%	<a href="#">CGA4J1X7R1V225M125AE</a>	<a href="#">CGA4J3X7R1E225M125AE</a>		
	3216	1.60+0.30,-0.20	±10%	<a href="#">CGA5L3X7R1V225K160AE</a>	<a href="#">CGA5L2X7R1E225K160AE</a>		
			±20%	<a href="#">CGA5L3X7R1V225M160AE</a>	<a href="#">CGA5L2X7R1E225M160AE</a>		
4.7µF	2012	1.25+0.25,-0.20	±10%	<a href="#">CGA4J1X7R1V475K125AE</a>	<a href="#">CGA4J1X7R1E475K125AE</a>	<a href="#">CGA4J3X7R1C475K125AE</a>	
			±20%	<a href="#">CGA4J1X7R1V475M125AE</a>	<a href="#">CGA4J1X7R1E475M125AE</a>	<a href="#">CGA4J3X7R1C475M125AE</a>	
	3216	1.60+0.30,-0.20	±10%	<a href="#">CGA5L1X7R1V475K160AE</a>			
			±20%	<a href="#">CGA5L1X7R1V475M160AE</a>			
10µF	2012	1.25±0.20	±10%				<a href="#">CGA4J1X7R0J106K125AE</a>
			±20%				
	3216	1.60+0.30,-0.20	±10%	<a href="#">CGA5L1X7R1V106K160AE</a>	<a href="#">CGA5L1X7R1E106K160AE</a>		
			±20%	<a href="#">CGA5L1X7R1V106M160AE</a>	<a href="#">CGA5L1X7R1E106M160AE</a>		
22µF	3225	2.50±0.30	±20%		<a href="#">CGA6P3X7R1E226M250AE</a>		<a href="#">CGA5L1X7R0J226M160AE</a>
			±20%				
47µF	7563	2.30 (2.50max.)	±20%		<a href="#">CGADN3X7R1E476M230LE</a>		

Click the part numbers for details.

## Capacitance range table

Temperature characteristic: X7S (-55 to +125°C, ±22%)

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number				
				Rated voltage Edc: 100V	Rated voltage Edc: 50V	Rated voltage Edc: 25V	Rated voltage Edc: 16V	Rated voltage Edc: 10V
47nF	1608	0.80+0.15,-0.10	±10%	<a href="#">CGA3E3X7S2A473K080AE</a>				
			±20%	<a href="#">CGA3E3X7S2A473M080AE</a>				
100nF	1608	0.80+0.15,-0.10	±10%	<a href="#">CGA3E3X7S2A104K080AE</a>				
			±20%	<a href="#">CGA3E3X7S2A104M080AE</a>				
220nF	2012	0.85±0.15	±10%	<a href="#">CGA4F3X7S2A224K085AE</a>				
			±20%	<a href="#">CGA4F3X7S2A224M085AE</a>				
470nF	1005	0.50+0.10,-0.05	±10%			<a href="#">CGA2B1X7S1C474K050BE</a>	<a href="#">CGA2B3X7S1A474K050BE</a>	
			±20%			<a href="#">CGA2B1X7S1C474M050BE</a>	<a href="#">CGA2B3X7S1A474M050BE</a>	
	2012	1.25+0.25,-0.20	±10%	<a href="#">CGA4J3X7S2A474K125AE</a>				
			±20%	<a href="#">CGA4J3X7S2A474M125AE</a>				
1µF	2012	1.25+0.25,-0.20	±10%	<a href="#">CGA4J3X7S2A105K125AE</a>				
			±20%	<a href="#">CGA4J3X7S2A105M125AE</a>				
2.2µF	1608	0.80+0.15,-0.10	±10%			<a href="#">CGA3E1X7S1C225K080AE</a>	<a href="#">CGA3E3X7S1A225K080AE</a>	
			±20%			<a href="#">CGA3E1X7S1C225M080AE</a>	<a href="#">CGA3E3X7S1A225M080AE</a>	
	3216	1.60+0.30,-0.20	±10%	<a href="#">CGA5L3X7S2A225K160AE</a>				
			±20%	<a href="#">CGA5L3X7S2A225M160AE</a>				
3.3µF	3225	2.00+0.30,-0.20	±10%	<a href="#">CGA6M3X7S2A335K200AE</a>				
			±20%	<a href="#">CGA6M3X7S2A335M200AE</a>				
4.7µF	3225	2.00+0.30,-0.20	±10%	<a href="#">CGA6M3X7S2A475K200AE</a>				
			±20%	<a href="#">CGA6M3X7S2A475M200AE</a>				
	2012	1.25+0.25,-0.20	±10%		<a href="#">CGA6N3X7S1H475K230AE</a>			
			±20%		<a href="#">CGA6N3X7S1H475M230AE</a>			
10µF	2012	1.25+0.25,-0.20	±10%			<a href="#">CGA4J1X7S1E106K125AE</a>	<a href="#">CGA4J1X7S1C106K125AE</a>	<a href="#">CGA4J3X7S1A106K125AE</a>
			±20%			<a href="#">CGA4J1X7S1C106M125AE</a>	<a href="#">CGA4J3X7S1A106M125AE</a>	
	3225	2.50±0.30	±10%		<a href="#">CGA6P3X7S1H106K250AE</a>			
			±20%		<a href="#">CGA6P3X7S1H106M250AE</a>			
5750	2.30+0.30,-0.20	±20%	±10%	<a href="#">CGA9N3X7S2A106K230KE</a>				
			±20%	<a href="#">CGA9N3X7S2A106M230KE</a>				

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## MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance range table

Temperature characteristic: X7T (-55 to +125°C,+22, -33%)

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number		
				Rated voltage Edc: 630V	Rated voltage Edc: 450V	Rated voltage Edc: 250V
10 nF	2012	0.85±0.15	± 10%	<a href="#">CGA4F4X7T2W103K085AE</a>		
			± 20%	<a href="#">CGA4F4X7T2W103M085AE</a>		
22 nF	2012	1.25+0.25,-0.20	± 10%	<a href="#">CGA4J4X7T2W223K125AE</a>		
			± 20%	<a href="#">CGA4J4X7T2W223M125AE</a>		
47 nF	2012	1.25+0.25,-0.20	± 10%	<a href="#">CGA4J4X7T2W473K125AE</a>	<a href="#">CGA4J3X7T2E473K125AE</a>	
			± 20%	<a href="#">CGA4J4X7T2W473M125AE</a>	<a href="#">CGA4J3X7T2E473M125AE</a>	
	3216	1.60+0.30,-0.20	± 10%	<a href="#">CGA5L1X7T2J473K160AE</a>		
			± 20%	<a href="#">CGA5L1X7T2J473M160AE</a>		
2012	1.25+0.25,-0.20	± 10%	<a href="#">CGA4J3X7T2E104K125AE</a>			
		± 20%	<a href="#">CGA4J3X7T2E104M125AE</a>			
100 nF	3216	1.60+0.30,-0.20	± 10%	<a href="#">CGA5L4X7T2W104K160AE</a>		
			± 20%	<a href="#">CGA5L4X7T2W104M160AE</a>		
	3225	1.60+0.30,-0.20	± 10%	<a href="#">CGA6L1X7T2J104K160AE</a>		
			± 20%	<a href="#">CGA6L1X7T2J104M160AE</a>		
150 nF	3225	2.00+0.30,-0.20	± 10%	<a href="#">CGA6M1X7T2J154K200AE</a>		
			± 20%	<a href="#">CGA6M1X7T2J154M200AE</a>		
	3216	1.60+0.30,-0.20	± 10%	<a href="#">CGA5L3X7T2E224K160AE</a>		
			± 20%	<a href="#">CGA5L3X7T2E224M160AE</a>		
220 nF	3225	2.00+0.30,-0.20	± 10%	<a href="#">CGA6M4X7T2W224K200AE</a>		
			± 20%	<a href="#">CGA6M4X7T2W224M200AE</a>		
	4532	2.00+0.30,-0.20	± 10%	<a href="#">CGA8M1X7T2J224K200KE</a>		
			± 20%	<a href="#">CGA8M1X7T2J224M200KE</a>		
330 nF	3225	2.00+0.30,-0.20	± 10%	<a href="#">CGA6M3X7T2E334K200AE</a>		
			± 20%	<a href="#">CGA6M3X7T2E334M200AE</a>		
	4532	2.30+0.30,-0.20	± 10%	<a href="#">CGA8N4X7T2W474K230KE</a>		
			± 20%	<a href="#">CGA8N4X7T2W474M230KE</a>		
470 nF	5750	2.50±0.30	± 10%	<a href="#">CGA9P1X7T2J474K250KE</a>		
			± 20%	<a href="#">CGA9P1X7T2J474M250KE</a>		
	4532	2.50±0.30	± 10%	<a href="#">CGA8P3X7T2E105K250KE</a>		
			± 20%	<a href="#">CGA8P3X7T2E105M250KE</a>		
1 µF	5750	2.50±0.30	± 10%	<a href="#">CGA9P4X7T2W105K250KE</a>		
			± 20%	<a href="#">CGA9P4X7T2W105M250KE</a>		
2.2 µF	5750	2.50±0.30	± 10%	<a href="#">CGA9P3X7T2E225K250KE</a>		
			± 20%	<a href="#">CGA9P3X7T2E225M250KE</a>		

Click the part numbers for details.

# MULTILAYER CERAMIC CHIP CAPACITORS TDK

## Capacitance range table

## Temperature characteristic: X8R (-55 to +150°C, ±15%)

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number			
				Rated voltage Edc: 100V	Rated voltage Edc: 50V	Rated voltage Edc: 25V	Rated voltage Edc: 16V
150pF	1005	0.50+0.10,-0.05	±10%	<a href="#">CGA2B2X8R2A151K050BE</a>	<a href="#">CGA2B2X8R1H151K050BE</a>		
			±20%	<a href="#">CGA2B2X8R2A151M050BE</a>	<a href="#">CGA2B2X8R1H151M050BE</a>		
220pF	1005	0.50+0.10,-0.05	±10%	<a href="#">CGA2B2X8R2A221K050BE</a>	<a href="#">CGA2B2X8R1H221K050BE</a>		
			±20%	<a href="#">CGA2B2X8R2A221M050BE</a>	<a href="#">CGA2B2X8R1H221M050BE</a>		
330pF	1005	0.50+0.10,-0.05	±10%	<a href="#">CGA2B2X8R2A331K050BE</a>	<a href="#">CGA2B2X8R1H331K050BE</a>		
			±20%	<a href="#">CGA2B2X8R2A331M050BE</a>	<a href="#">CGA2B2X8R1H331M050BE</a>		
470pF	1005	0.50+0.10,-0.05	±10%	<a href="#">CGA2B2X8R2A471K050BE</a>	<a href="#">CGA2B2X8R1H471K050BE</a>		
			±20%	<a href="#">CGA2B2X8R2A471M050BE</a>	<a href="#">CGA2B2X8R1H471M050BE</a>		
680pF	1005	0.50+0.10,-0.05	±10%	<a href="#">CGA2B2X8R2A681K050BE</a>	<a href="#">CGA2B2X8R1H681K050BE</a>		
			±20%	<a href="#">CGA2B2X8R2A681M050BE</a>	<a href="#">CGA2B2X8R1H681M050BE</a>		
1nF	1005	0.50+0.10,-0.05	±10%	<a href="#">CGA2B2X8R2A102K050BE</a>	<a href="#">CGA2B2X8R1H102K050BE</a>		
			±20%	<a href="#">CGA2B2X8R2A102M050BE</a>	<a href="#">CGA2B2X8R1H102M050BE</a>		
	1608	0.80+0.15,-0.10	±10%	<a href="#">CGA3E2X8R2A102K080AE</a>	<a href="#">CGA3E2X8R1H102K080AE</a>		
			±20%	<a href="#">CGA3E2X8R2A102M080AE</a>	<a href="#">CGA3E2X8R1H102M080AE</a>		
1.5nF	1005	0.50+0.10,-0.05	±10%	<a href="#">CGA2B2X8R2A152K050BE</a>	<a href="#">CGA2B2X8R1H152K050BE</a>		
			±20%	<a href="#">CGA2B2X8R2A152M050BE</a>	<a href="#">CGA2B2X8R1H152M050BE</a>		
	1608	0.80+0.15,-0.10	±10%	<a href="#">CGA3E2X8R2A152K080AE</a>	<a href="#">CGA3E2X8R1H152K080AE</a>		
			±20%	<a href="#">CGA3E2X8R2A152M080AE</a>	<a href="#">CGA3E2X8R1H152M080AE</a>		
2.2nF	1005	0.50+0.10,-0.05	±10%	<a href="#">CGA2B2X8R2A222K050BE</a>	<a href="#">CGA2B2X8R1H222K050BE</a>		
			±20%	<a href="#">CGA2B2X8R2A222M050BE</a>	<a href="#">CGA2B2X8R1H222M050BE</a>		
	1608	0.80+0.15,-0.10	±10%	<a href="#">CGA3E2X8R2A222K080AE</a>	<a href="#">CGA3E2X8R1H222K080AE</a>		
			±20%	<a href="#">CGA3E2X8R2A222M080AE</a>	<a href="#">CGA3E2X8R1H222M080AE</a>		
3.3nF	1005	0.50+0.10,-0.05	±10%	<a href="#">CGA2B3X8R2A332K050BE</a>	<a href="#">CGA2B3X8R1H332K050BE</a>		
			±20%	<a href="#">CGA2B3X8R2A332M050BE</a>	<a href="#">CGA2B3X8R1H332M050BE</a>		
	1608	0.80+0.15,-0.10	±10%	<a href="#">CGA3E2X8R2A332K080AE</a>	<a href="#">CGA3E2X8R1H332K080AE</a>		
			±20%	<a href="#">CGA3E2X8R2A332M080AE</a>	<a href="#">CGA3E2X8R1H332M080AE</a>		
4.7nF	1005	0.50+0.10,-0.05	±10%		<a href="#">CGA2B2X8R1H472K050BE</a>		
			±20%		<a href="#">CGA2B2X8R1H472M050BE</a>		
	1608	0.80+0.15,-0.10	±10%	<a href="#">CGA3E2X8R2A472K080AE</a>	<a href="#">CGA3E2X8R1H472K080AE</a>		
			±20%	<a href="#">CGA3E2X8R2A472M080AE</a>	<a href="#">CGA3E2X8R1H472M080AE</a>		
6.8nF	1005	0.50+0.10,-0.05	±10%		<a href="#">CGA2B3X8R1H682K050BE</a>	<a href="#">CGA2B2X8R1E682K050BE</a>	
			±20%		<a href="#">CGA2B3X8R1H682M050BE</a>	<a href="#">CGA2B2X8R1E682M050BE</a>	
	1608	0.80+0.15,-0.10	±10%	<a href="#">CGA3E2X8R2A682K080AE</a>	<a href="#">CGA3E2X8R1H682K080AE</a>		
			±20%	<a href="#">CGA3E2X8R2A682M080AE</a>	<a href="#">CGA3E2X8R1H682M080AE</a>		
10nF	1005	0.50+0.10,-0.05	±10%		<a href="#">CGA2B3X8R1H103K050BE</a>	<a href="#">CGA2B2X8R1E103K050BE</a>	
			±20%		<a href="#">CGA2B3X8R1H103M050BE</a>	<a href="#">CGA2B2X8R1E103M050BE</a>	
	1608	0.80+0.15,-0.10	±10%	<a href="#">CGA3E2X8R2A103K080AE</a>	<a href="#">CGA3E2X8R1H103K080AE</a>		
			±20%	<a href="#">CGA3E2X8R2A103M080AE</a>	<a href="#">CGA3E2X8R1H103M080AE</a>		
15nF	1005	0.50+0.10,-0.05	±10%			<a href="#">CGA2B3X8R1E153K050BE</a>	
			±20%			<a href="#">CGA2B3X8R1E153M050BE</a>	
	1608	0.80+0.15,-0.10	±10%	<a href="#">CGA3E2X8R2A153K080AE</a>	<a href="#">CGA3E2X8R1H153K080AE</a>		
			±20%	<a href="#">CGA3E2X8R2A153M080AE</a>	<a href="#">CGA3E2X8R1H153M080AE</a>		
22nF	1005	0.50+0.10,-0.05	±10%			<a href="#">CGA2B3X8R1E223K050BE</a>	
			±20%			<a href="#">CGA2B3X8R1E223M050BE</a>	
	1608	0.80+0.15,-0.10	±10%	<a href="#">CGA3E3X8R2A223K080AE</a>	<a href="#">CGA3E2X8R1H223K080AE</a>		
			±20%	<a href="#">CGA3E3X8R2A223M080AE</a>	<a href="#">CGA3E2X8R1H223M080AE</a>		
2012	1.25+0.25,-0.20	±10%	<a href="#">CGA4J2X8R2A223K125AE</a>				
		±20%	<a href="#">CGA4J2X8R2A223M125AE</a>				
33nF	1005	0.50+0.10,-0.05	±10%			<a href="#">CGA2B1X8R1E333K050BE</a>	<a href="#">CGA2B3X8R1C333K050BE</a>
			±20%			<a href="#">CGA2B1X8R1E333M050BE</a>	<a href="#">CGA2B3X8R1C333M050BE</a>
	1608	0.80+0.15,-0.10	±10%		<a href="#">CGA3E2X8R1H333K080AE</a>		
			±20%		<a href="#">CGA3E2X8R1H333M080AE</a>		
2012	1.25+0.25,-0.20	±10%	<a href="#">CGA4J3X8R2A333K125AE</a>				
		±20%	<a href="#">CGA4J3X8R2A333M125AE</a>				
47nF	1005	0.50+0.10,-0.05	±10%			<a href="#">CGA2B1X8R1E473K050BE</a>	<a href="#">CGA2B3X8R1C473K050BE</a>
			±20%			<a href="#">CGA2B1X8R1E473M050BE</a>	<a href="#">CGA2B3X8R1C473M050BE</a>
	1608	0.80+0.15,-0.10	±10%		<a href="#">CGA3E2X8R1H473K080AE</a>		
			±20%		<a href="#">CGA3E2X8R1H473M080AE</a>		
2012	1.25+0.25,-0.20	±10%	<a href="#">CGA4J3X8R2A473K125AE</a>				
		±20%	<a href="#">CGA4J3X8R2A473M125AE</a>				
68nF	1608	0.80+0.15,-0.10	±10%		<a href="#">CGA3E3X8R1H683K080AE</a>	<a href="#">CGA3E2X8R1E683K080AE</a>	
			±20%		<a href="#">CGA3E3X8R1H683M080AE</a>	<a href="#">CGA3E2X8R1E683M080AE</a>	
	2012	1.25+0.25,-0.20	±10%	<a href="#">CGA4J3X8R2A683K125AE</a>	<a href="#">CGA4J2X8R1H683K125AE</a>		
			±20%	<a href="#">CGA4J3X8R2A683M125AE</a>	<a href="#">CGA4J2X8R1H683M125AE</a>		

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

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

# MULTILAYER CERAMIC CHIP CAPACITORS

## Capacitance range table

Temperature characteristic: X8R (-55 to +150°C, ±15%)

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number			
				Rated voltage Edc: 100V	Rated voltage Edc: 50V	Rated voltage Edc: 25V	Rated voltage Edc: 16V
100nF	1608	0.80+0.15,-0.10	±10%		<a href="#">CGA3E3X8R1H104K080AE</a>	<a href="#">CGA3E2X8R1E104K080AE</a>	
			±20%		<a href="#">CGA3E3X8R1H104M080AE</a>	<a href="#">CGA3E2X8R1E104M080AE</a>	
	2012	1.25+0.25,-0.20	±10%		<a href="#">CGA4J2X8R1H104K125AE</a>		
			±20%		<a href="#">CGA4J2X8R1H104M125AE</a>		
3216	1.15±0.15	±10%	<a href="#">CGA5H2X8R2A104K115AE</a>				
		±20%	<a href="#">CGA5H2X8R2A104M115AE</a>				
150nF	1608	0.80+0.15,-0.10	±10%			<a href="#">CGA3E3X8R1E154K080AE</a>	
			±20%			<a href="#">CGA3E3X8R1E154M080AE</a>	
	2012	0.85±0.15	±10%			<a href="#">CGA4F2X8R1E154K085AE</a>	
			±20%			<a href="#">CGA4F2X8R1E154M085AE</a>	
3216	1.60+0.30,-0.20	±10%		<a href="#">CGA4J3X8R1H154K125AE</a>			
		±20%		<a href="#">CGA4J3X8R1H154M125AE</a>			
220nF	1608	0.80+0.15,-0.10	±10%			<a href="#">CGA3E3X8R1E224K080AE</a>	
			±20%			<a href="#">CGA3E3X8R1E224M080AE</a>	
	2012	1.25+0.25,-0.20	±10%		<a href="#">CGA4J3X8R1H224K125AE</a>	<a href="#">CGA4J2X8R1E224K125AE</a>	
			±20%		<a href="#">CGA4J3X8R1H224M125AE</a>	<a href="#">CGA4J2X8R1E224M125AE</a>	
3216	1.60+0.30,-0.20	±10%	<a href="#">CGA5L2X8R2A154K160AE</a>				
		±20%	<a href="#">CGA5L2X8R2A154M160AE</a>				
330nF	1608	0.80+0.15,-0.10	±10%			<a href="#">CGA3E1X8R1E334K080AE</a>	<a href="#">CGA3E3X8R1C334K080AE</a>
			±20%			<a href="#">CGA3E1X8R1E334M080AE</a>	<a href="#">CGA3E3X8R1C334M080AE</a>
	2012	1.25+0.25,-0.20	±10%			<a href="#">CGA4J2X8R1E334K125AE</a>	
			±20%			<a href="#">CGA4J2X8R1E334M125AE</a>	
3216	1.60+0.30,-0.20	±10%	<a href="#">CGA5L3X8R2A334K160AE</a>	<a href="#">CGA5L2X8R1H334K160AE</a>			
		±20%	<a href="#">CGA5L3X8R2A334M160AE</a>	<a href="#">CGA5L2X8R1H334M160AE</a>			
470nF	1608	0.80+0.15,-0.10	±10%			<a href="#">CGA3E3X8R1C474K080AE</a>	<a href="#">CGA3E3X8R1C474M080AE</a>
			±20%			<a href="#">CGA3E3X8R1C474K080AE</a>	<a href="#">CGA3E3X8R1C474M080AE</a>
	2012	1.25+0.25,-0.20	±10%			<a href="#">CGA4J3X8R1E474K125AE</a>	
			±20%			<a href="#">CGA4J3X8R1E474M125AE</a>	
3216	1.60+0.30,-0.20	±10%		<a href="#">CGA5L2X8R1H474K160AE</a>			
		±20%		<a href="#">CGA5L2X8R1H474M160AE</a>			
680nF	2012	1.25+0.25,-0.20	±10%			<a href="#">CGA4J1X8R1E684K125AE</a>	<a href="#">CGA4J3X8R1C684K125AE</a>
			±20%			<a href="#">CGA4J1X8R1E684M125AE</a>	<a href="#">CGA4J3X8R1C684M125AE</a>
	3216	1.60+0.30,-0.20	±10%		<a href="#">CGA5L3X8R1H684K160AE</a>		
			±20%		<a href="#">CGA5L3X8R1H684M160AE</a>		
3225	2.50±0.30	±10%	<a href="#">CGA6P3X8R2A684K250AE</a>				
		±20%	<a href="#">CGA6P3X8R2A684M250AE</a>				
1µF	2012	1.25+0.25,-0.20	±10%			<a href="#">CGA4J1X8R1E105K125AE</a>	<a href="#">CGA4J3X8R1C105K125AE</a>
			±20%			<a href="#">CGA4J1X8R1E105M125AE</a>	<a href="#">CGA4J3X8R1C105M125AE</a>
	3216	1.60+0.30,-0.20	±10%		<a href="#">CGA5L3X8R1H105K160AE</a>	<a href="#">CGA5L2X8R1E105K160AE</a>	
			±20%		<a href="#">CGA5L3X8R1H105M160AE</a>	<a href="#">CGA5L2X8R1E105M160AE</a>	
1.5µF	3216	1.60+0.30,-0.20	±10%			<a href="#">CGA5L3X8R1E155K160AE</a>	
			±20%			<a href="#">CGA5L3X8R1E155M160AE</a>	
	3216	1.60+0.30,-0.20	±10%			<a href="#">CGA5L3X8R1E225K160AE</a>	
			±20%			<a href="#">CGA5L3X8R1E225M160AE</a>	
3.3µF	3216	1.60+0.30,-0.20	±10%			<a href="#">CGA5L1X8R1E335K160AE</a>	<a href="#">CGA5L3X8R1C335K160AE</a>
			±20%			<a href="#">CGA5L1X8R1E335M160AE</a>	<a href="#">CGA5L3X8R1C335M160AE</a>
	3225	2.50±0.30	±10%			<a href="#">CGA6P2X8R1E335K250AE</a>	
			±20%			<a href="#">CGA6P2X8R1E335M250AE</a>	
4.7µF	3216	1.60+0.30,-0.20	±10%			<a href="#">CGA5L1X8R1E475K160AE</a>	<a href="#">CGA5L3X8R1C475K160AE</a>
			±20%			<a href="#">CGA5L1X8R1E475M160AE</a>	<a href="#">CGA5L3X8R1C475M160AE</a>
	3225	2.50±0.30	±10%			<a href="#">CGA6P3X8R1E475K250AE</a>	
			±20%			<a href="#">CGA6P3X8R1E475M250AE</a>	
10µF	3225	2.50±0.30	±10%			<a href="#">CGA6P1X8R1E106K250AE</a>	<a href="#">CGA6P3X8R1C106K250AE</a>
			±20%			<a href="#">CGA6P1X8R1E106M250AE</a>	<a href="#">CGA6P3X8R1C106M250AE</a>

Click the part numbers for details.

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## Capacitance range table

Temperature characteristic: X8L (-55 to +150°C,+15,-40%)

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number			
				Rated voltage Edc: 50V	Rated voltage Edc: 35V	Rated voltage Edc: 25V	Rated voltage Edc: 10V
470nF	2012	1.25+0.25,-0.20	±10%	<a href="#">CGA4J1X8L1H474K125AE</a>			
1µF	2012	1.25+0.25,-0.20	±10%	<a href="#">CGA4J1X8L1H105K125AE</a>			
2.2µF	2012	1.25+0.25,-0.20	±10%		<a href="#">CGA4J1X8L1V225K125AE</a>		
4.7µF	2012	1.25+0.25,-0.20	±10%			<a href="#">CGA4J1X8L1E475K125AE</a>	
10µF	2012	1.25+0.25,-0.20	±10%				<a href="#">CGA4J1X8L1A106K125AE</a>
	3216	1.60+0.30,-0.20	±10%			<a href="#">CGA5L1X8L1E106K160AE</a>	

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