TDK

August 2019

MULTILAYER CERAMIC CHIP CAPACITORS

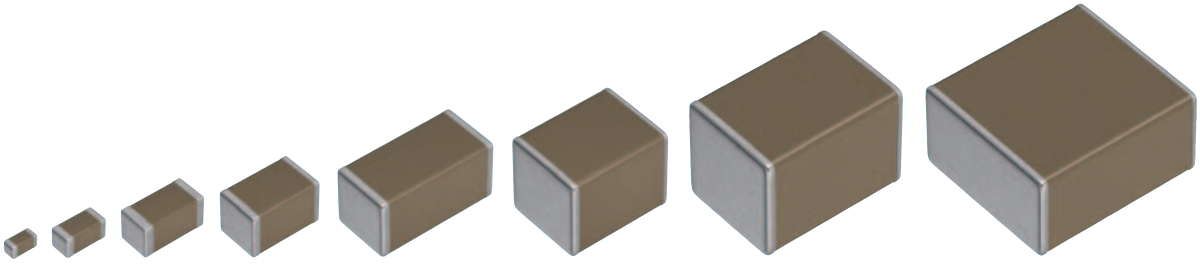
Automotive grade, general (Up to 75V)

CGA series

Datasheet.Live

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

*** Dimensions code: JIS[EIA]**



REMINDERS FOR USING THESE PRODUCTS

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

SAFETY REMINDERS

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

⚠ REMINDERS

1. The products listed in this specification are intended for use in automotive applications under normal operation and usage conditions.
   The products are not designed or warranted to meet the requirements of the applications listed below, whose performance and/or quality requires a more stringent level of safety or reliability, or whose failure, malfunction or defect could cause serious damage to society, person or property.
   Please understand that we are not responsible for any damage or liability caused by use of the products in any of the applications below or for any other use exceeding the range or conditions set forth in this specification sheet. If you intend to use the products in the applications listed below or if you have special requirements exceeding the range or conditions set forth in this specification, please contact us.

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

   When designing your equipment even for general-purpose applications, you are kindly requested to take into consideration securing protection circuit/device or providing backup circuits in your equipment.

   In addition, although the products listed in this specification are intended for use in automotive applications as described above, they are not prohibited to use in general electronic equipment, whose performance and/or quality doesn't require a more stringent level of safety or reliability, or whose failure, malfunction or defect could not cause serious damage to society, person or property. Therefore, the description of this caution will be applied, when the products are used in general electronic equipment under a normal operation and usage conditions.
2. We may modify products or discontinue production of a product listed in this catalog without prior notification.
3. We provide "Delivery Specification" that explain precautions for the specifications and safety of each product listed in this catalog. We strongly recommend that you exchange these delivery specifications with customers that use one of these products.
4. If you plan to export a product listed in this catalog, keep in mind that it may be a restricted item according to the "Foreign Exchange and Foreign Trade Control Law". In such cases, it is necessary to acquire export permission in harmony with this law.
5. Any reproduction or transferring of the contents of this catalog is prohibited without prior permission from our company.
6. We are not responsible for problems that occur related to the intellectual property rights or other rights of our company or a third party when you use a product listed in this catalog. We do not grant license of these rights.
7. This catalog only applies to products purchased through our company or one of our company's official agencies. This catalog does not apply to products that are purchased through other third parties.

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

(Example)

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

CGA series

General (Up to 75V)

RoHS REACH SVHC-Free Halogen Free Lead Free

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

SERIES OVERVIEW

TDK multilayer ceramic chip capacitor automotive grade CGA series is a product for surface mount which multiple sheets of dielectric and conductive material are layered alternately. The monolithic structure ensures superior mechanical strength and reliability.
Also the lower ESR, ESL and better frequency characteristics are offered by the simple structure than other capacitors. The capacitance range is up to 47μF and the line-up has been expanding to the region of the film capacitor or electrolytic capacitor.

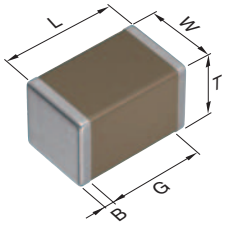
FEATURES

- The superior mechanical strength and reliability due to the monolithic structure.
- Low ESR, ESL and excellent frequency characteristics allow for a circuit design that closely conforms to theoretical values.
- Low self-heating and high ripple resistance due to low ESR.
- No polarity.
- AEC-Q200 compliant.

APPLICATIONS

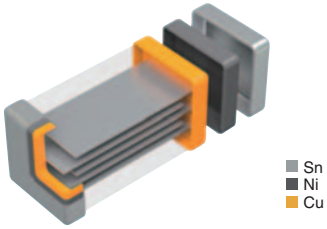
- Automotive electronic equipment (Engine control units, Sensor modules and Battery line smoothing)
- LC resonance circuit (C0G).
- Applications requiring higher reliability

SHAPE & DIMENSIONS



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

PRODUCT STRUCTURE



The structure which multiple sheets of dielectric and conductive material are layered alternately. The superior mechanical strength and reliability are realized by the monolithic and simple structure.

Dimensions in mm

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

*Dimensional tolerances are typical values.

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

CATALOG NUMBER CONSTRUCTION

CGA	6	P	1	X7R	1N	106	M	250	A	C
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

(1) Series

(2) Dimensions L x W (mm)

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

(3) Thickness code

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

(4) Voltage condition for life test

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

(5) Temperature characteristics

Temperature characteristics	Temperature coefficient or capacitance change	Temperature range
C0G	0±30 ppm/°C	–55 to +125°C
X5R	±15%	–55 to +85°C
X7R	±15%	–55 to +125°C
X7S	±22%	–55 to +125°C
X7T	+22,-33%	–55 to +125°C

(6) Rated voltage (DC)

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

(7) Nominal capacitance (pF)

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

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

(8) Capacitance tolerance

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

(9) Thickness

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

(10) Packaging style

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

(11) Special reserved code

Code	Description
A,B,C	TDK internal code

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

Capacitance range chart

CGA1/0603 [0201 inch]

Capacitance		C0G		X7R					X7T
(pF)	Code	1H (50V)	1E (25V)	1H (50V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)	0G (4V)
1	010								
1.5	1R5								
2	020								
2.2	2R2								
3	030								
3.3	3R3								
4	040								
4.7	4R7								
5	050								
6	060								
6.8	6R8								
7	070								
8	080								
9	090								
10	100								
12	120								
15	150								
18	180								
22	220								
27	270								
33	330								
39	390								
47	470								
56	560								
68	680								
82	820								
100	101								
150	151								
220	221								
330	331								
470	471								
680	681								
1,000	102								
1,500	152								
2,200	222								
3,300	332								
4,700	472								
6,800	682								
10,000	103								
100,000	104								

Standard thickness 0.30mm

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

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Capacitance range chart

CGA2/1005 [0402 inch]

Capacitance		C0G	X5R					X7R						X7S		X7T
(pF)	Code	1H (50V)	1H (50V)	1V (35V)	1E (25V)	1C (16V)	1A (10V)	1H (50V)	1V (35V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)	1C (16V)	1A (10V)	0G (4V)
1	010															
1.5	1R5															
2	020															
2.2	2R2															
3	030															
3.3	3R3															
4	040															
4.7	4R7															
5	050															
6	060															
6.8	6R8															
7	070															
8	080															
9	090															
10	100															
12	120															
15	150															
18	180															
22	220															
27	270															
33	330															
39	390															
47	470															
56	560															
68	680															
82	820															
100	101															
120	121															
150	151															
180	181															
220	221															
270	271															
330	331															
390	391															
470	471															
560	561															
680	681															
820	821															
1,000	102															
1,500	152															
2,200	222															
3,300	332															
4,700	472															
6,800	682															
10,000	103															
15,000	153															
22,000	223															
33,000	333															
47,000	473															
68,000	683															
100,000	104															
150,000	154															
220,000	224															
330,000	334															
470,000	474															
1,000,000	105															

Standard thickness 0.50mm

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

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Capacitance range chart

CGA3/1608 [0603 inch]

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

Standard thickness 0.80mm

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

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Capacitance range chart

CGA3/1608 [0603 inch]

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

Standard thickness 0.80mm

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

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

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

Capacitance range chart

CGA4/2012 [0805 inch]

Capacitance		C0G	X5R					X7R						X7S		
(pF)	Code	1H (50V)	1H (50V)	1V (35V)	1E (25V)	1C (16V)	1A (10V)	1H (50V)	1V (35V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)	1E (25V)	1C (16V)	1A (10V)
1,000	102															
1,200	122															
1,500	152															
1,800	182															
2,200	222															
2,700	272															
3,300	332															
3,900	392															
4,700	472															
5,600	562															
6,800	682															
8,200	822															
10,000	103															
15,000	153															
22,000	223															
33,000	333															
100,000	104															
150,000	154															
220,000	224															
330,000	334															
470,000	474															
680,000	684															
1,000,000	105															
1,500,000	155															
2,200,000	225															
3,300,000	335															
4,700,000	475															
6,800,000	685															
10,000,000	106															

Standard thickness 0.60 mm 0.85 mm 1.25 mm

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

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

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Capacitance range chart

CGA5/3216 [1206 inch]

Capacitance		C0G	X5R				X7R					X7S
(pF)	Code	1H (50V)	1H (50V)	1V (35V)	1E (25V)	1C (16V)	1H (50V)	1V (35V)	1E (25V)	1C (16V)	0J (6.3V)	1A (10V)
4,700	472											
5,600	562											
6,800	682											
8,200	822											
10,000	103											
15,000	153											
22,000	223											
33,000	333											
47,000	473											
68,000	683											
100,000	104											
470,000	474											
680,000	684											
1,000,000	105											
1,500,000	155											
2,200,000	225											
3,300,000	335											
4,700,000	475											
6,800,000	685											
10,000,000	106											
15,000,000	156											
22,000,000	226											

Standard thickness 0.60 mm 0.85 mm 1.15 mm 1.60 mm

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

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

Capacitance range chart

CGA6/3225 [1210 inch]

Capacitance		C0G	X7R				X7S		
(pF)	Code	1H (50V)	1N (75V)	1H (50V)	1E (25V)	1C (16V)	1H (50V)	1A (10V)	0J (6.3V)
22,000	223								
33,000	333								
47,000	473								
68,000	683								
100,000	104								
1,000,000	105								
1,500,000	155								
2,200,000	225								
3,300,000	335								
4,700,000	475								
6,800,000	685								
10,000,000	106								
15,000,000	156								
22,000,000	226								
33,000,000	336								
47,000,000	476								

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

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

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

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Capacitance range chart

CGA8/4532 [1812 inch]

Capacitance		C0G	X7R		
(pF)	Code	1H (50V)	1H (50V)	1E (25V)	1C (16V)
47,000	473				
68,000	683				
100,000	104				
150,000	154				
220,000	224				
1,500,000	155				
2,200,000	225				
3,300,000	335				
4,700,000	475				
6,800,000	685				
10,000,000	106				
15,000,000	156				
22,000,000	226				
33,000,000	336				

Standard thickness 1.60 mm 2.00 mm 2.30 mm 2.50 mm 2.80 mm 3.20 mm

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

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

Capacitance range chart

CGA9/5750 [2220 inch]

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

Standard thickness 2.00 mm 2.30 mm 2.50 mm

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

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

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

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

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

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number	
				Rated voltage Edc: 50V	Rated voltage Edc: 25V
56pF	0603	0.30±0.03	±5%	CGA1A2C0G1H560J030BA	CGA1A2C0G1E560J030BA
	1005	0.50±0.05	±5%	CGA2B2C0G1H560J050BA	
	1608	0.80±0.10	±5%	CGA3E2C0G1H560J080AA	
68pF	0603	0.30±0.03	±5%	CGA1A2C0G1H680J030BA	CGA1A2C0G1E680J030BA
	1005	0.50±0.05	±5%	CGA2B2C0G1H680J050BA	
	1608	0.80±0.10	±5%	CGA3E2C0G1H680J080AA	
82pF	0603	0.30±0.03	±5%	CGA1A2C0G1H820J030BA	CGA1A2C0G1E820J030BA
	1005	0.50±0.05	±5%	CGA2B2C0G1H820J050BA	
	1608	0.80±0.10	±5%	CGA3E2C0G1H820J080AA	
100pF	0603	0.30±0.03	±5%	CGA1A2C0G1H101J030BA	CGA1A2C0G1E101J030BA
	1005	0.50±0.05	±5%	CGA2B2C0G1H101J050BA	
	1608	0.80±0.10	±5%	CGA3E2C0G1H101J080AA	
120pF	1005	0.50±0.05	±5%	CGA2B2C0G1H121J050BA	
	1608	0.80±0.10	±5%	CGA3E2C0G1H121J080AA	
150pF	1005	0.50±0.05	±5%	CGA2B2C0G1H151J050BA	
	1608	0.80±0.10	±5%	CGA3E2C0G1H151J080AA	
180pF	1005	0.50±0.05	±5%	CGA2B2C0G1H181J050BA	
	1608	0.80±0.10	±5%	CGA3E2C0G1H181J080AA	
220pF	1005	0.50±0.05	±5%	CGA2B2C0G1H221J050BA	
	1608	0.80±0.10	±5%	CGA3E2C0G1H221J080AA	
270pF	1005	0.50±0.05	±5%	CGA2B2C0G1H271J050BA	
	1608	0.80±0.10	±5%	CGA3E2C0G1H271J080AA	
330pF	1005	0.50±0.05	±5%	CGA2B2C0G1H331J050BA	
	1608	0.80±0.10	±5%	CGA3E2C0G1H331J080AA	
390pF	1005	0.50±0.05	±5%	CGA2B2C0G1H391J050BA	
	1608	0.80±0.10	±5%	CGA3E2C0G1H391J080AA	
470pF	1005	0.50±0.05	±5%	CGA2B2C0G1H471J050BA	
	1608	0.80±0.10	±5%	CGA3E2C0G1H471J080AA	
560pF	1005	0.50±0.05	±5%	CGA2B2C0G1H561J050BA	
	1608	0.80±0.10	±5%	CGA3E2C0G1H561J080AA	
680pF	1005	0.50±0.05	±5%	CGA2B2C0G1H681J050BA	
	1608	0.80±0.10	±5%	CGA3E2C0G1H681J080AA	
820pF	1005	0.50±0.05	±5%	CGA2B2C0G1H821J050BA	
	1608	0.80±0.10	±5%	CGA3E2C0G1H821J080AA	
1nF	1005	0.50±0.05	±5%	CGA2B2C0G1H102J050BA	
	1608	0.80±0.10	±5%	CGA3E2C0G1H102J080AA	
	2012	0.60±0.15	±5%	CGA4C2C0G1H102J060AA	
1.2nF	1608	0.80±0.10	±5%	CGA3E2C0G1H122J080AA	
	2012	0.60±0.15	±5%	CGA4C2C0G1H122J060AA	
1.5nF	1608	0.80±0.10	±5%	CGA3E2C0G1H152J080AA	
	2012	0.60±0.15	±5%	CGA4C2C0G1H152J060AA	
1.8nF	1608	0.80±0.10	±5%	CGA3E2C0G1H182J080AA	
	2012	0.60±0.15	±5%	CGA4C2C0G1H182J060AA	
2.2nF	1608	0.80±0.10	±5%	CGA3E2C0G1H222J080AA	
	2012	0.60±0.15	±5%	CGA4C2C0G1H222J060AA	
2.7nF	1608	0.80±0.10	±5%	CGA3E2C0G1H272J080AA	
	2012	0.60±0.15	±5%	CGA4C2C0G1H272J060AA	
3.3nF	1608	0.80±0.10	±5%	CGA3E2C0G1H332J080AA	
	2012	0.60±0.15	±5%	CGA4C2C0G1H332J060AA	
3.9nF	1608	0.80±0.10	±5%	CGA3E2C0G1H392J080AA	
	2012	0.60±0.15	±5%	CGA4C2C0G1H392J060AA	
4.7nF	1608	0.80±0.10	±5%	CGA3E2C0G1H472J080AA	
	2012	0.60±0.15	±5%	CGA4C2C0G1H472J060AA	
	3216	0.60±0.15	±5%	CGA5C2C0G1H472J060AA	
5.6nF	1608	0.80±0.10	±5%	CGA3E2C0G1H562J080AA	
	2012	0.60±0.15	±5%	CGA4C2C0G1H562J060AA	
	3216	0.60±0.15	±5%	CGA5C2C0G1H562J060AA	
6.8nF	1608	0.80±0.10	±5%	CGA3E2C0G1H682J080AA	
	2012	0.60±0.15	±5%	CGA4C2C0G1H682J060AA	
	3216	0.60±0.15	±5%	CGA5C2C0G1H682J060AA	
8.2nF	1608	0.80±0.10	±5%	CGA3E2C0G1H822J080AA	
	2012	0.60±0.15	±5%	CGA4C2C0G1H822J060AA	
	3216	0.60±0.15	±5%	CGA5C2C0G1H822J060AA	
10nF	1608	0.80±0.10	±5%	CGA3E2C0G1H103J080AA	
	2012	0.60±0.15	±5%	CGA4C2C0G1H103J060AA	
	3216	0.60±0.15	±5%	CGA5C2C0G1H103J060AA	
15nF	2012	0.85±0.15	±5%	CGA4F2C0G1H153J085AA	
	3216	0.60±0.15	±5%	CGA5C2C0G1H153J060AA	
22nF	2012	1.25±0.20	±5%	CGA4J2C0G1H223J125AA	
	3216	0.60±0.15	±5%	CGA5C2C0G1H223J060AA	
	3225	1.25±0.20	±5%	CGA6J2C0G1H223J125AA	

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

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

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

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number		
				Rated voltage Edc: 50V	Rated voltage Edc: 35V	Rated voltage Edc: 25V
220pF	1005	0.50±0.05	±10%	CGA2B2X5R1H221K050BA		
			±20%	CGA2B2X5R1H221M050BA		
330pF	1005	0.50±0.05	±10%	CGA2B2X5R1H331K050BA		
			±20%	CGA2B2X5R1H331M050BA		
470pF	1005	0.50±0.05	±10%	CGA2B2X5R1H471K050BA		
			±20%	CGA2B2X5R1H471M050BA		
680pF	1005	0.50±0.05	±10%	CGA2B2X5R1H681K050BA		
			±20%	CGA2B2X5R1H681M050BA		
1nF	1005	0.50±0.05	±10%	CGA2B2X5R1H102K050BA		
			±20%	CGA2B2X5R1H102M050BA		
	1608	0.80±0.10	±10%	CGA3E2X5R1H102K080AA		
			±20%	CGA3E2X5R1H102M080AA		
1.5nF	1005	0.50±0.05	±10%	CGA2B2X5R1H152K050BA		
			±20%	CGA2B2X5R1H152M050BA		
	1608	0.80±0.10	±10%	CGA3E2X5R1H152K080AA		
			±20%	CGA3E2X5R1H152M080AA		
2.2nF	1005	0.50±0.05	±10%	CGA2B2X5R1H222K050BA		
			±20%	CGA2B2X5R1H222M050BA		
	1608	0.80±0.10	±10%	CGA3E2X5R1H222K080AA		
			±20%	CGA3E2X5R1H222M080AA		
3.3nF	1005	0.50±0.05	±10%	CGA2B2X5R1H332K050BA		
			±20%	CGA2B2X5R1H332M050BA		
	1608	0.80±0.10	±10%	CGA3E2X5R1H332K080AA		
			±20%	CGA3E2X5R1H332M080AA		
4.7nF	1005	0.50±0.05	±10%	CGA2B2X5R1H472K050BA		
			±20%	CGA2B2X5R1H472M050BA		
	1608	0.80±0.10	±10%	CGA3E2X5R1H472K080AA		
			±20%	CGA3E2X5R1H472M080AA		
6.8nF	1005	0.50±0.05	±10%	CGA2B2X5R1H682K050BA		
			±20%	CGA2B2X5R1H682M050BA		
	1608	0.80±0.10	±10%	CGA3E2X5R1H682K080AA		
			±20%	CGA3E2X5R1H682M080AA		
10nF	1005	0.50±0.05	±10%	CGA2B3X5R1H103K050BB	CGA2B3X5R1V103K050BB	CGA2B2X5R1E103K050BA
			±20%	CGA2B3X5R1H103M050BB	CGA2B3X5R1V103M050BB	CGA2B2X5R1E103M050BA
	1608	0.80±0.10	±10%	CGA3E2X5R1H103K080AA		
			±20%	CGA3E2X5R1H103M080AA		
15nF	1005	0.50±0.05	±10%	CGA2B3X5R1H153K050BB	CGA2B3X5R1V153K050BB	CGA2B2X5R1E153K050BA
			±20%	CGA2B3X5R1H153M050BB	CGA2B3X5R1V153M050BB	CGA2B2X5R1E153M050BA
	1608	0.80±0.10	±10%	CGA3E2X5R1H153K080AA		
			±20%	CGA3E2X5R1H153M080AA		
22nF	1005	0.50±0.05	±10%	CGA2B3X5R1H223K050BB	CGA2B3X5R1V223K050BB	CGA2B2X5R1E223K050BA
			±20%	CGA2B3X5R1H223M050BB	CGA2B3X5R1V223M050BB	CGA2B2X5R1E223M050BA
	1608	0.80±0.10	±10%	CGA3E2X5R1H223K080AA		
			±20%	CGA3E2X5R1H223M080AA		
33nF	1005	0.50±0.05	±10%	CGA2B3X5R1H333K050BB	CGA2B3X5R1V333K050BB	CGA2B2X5R1E333K050BA
			±20%	CGA2B3X5R1H333M050BB	CGA2B3X5R1V333M050BB	CGA2B2X5R1E333M050BA
	1608	0.80±0.10	±10%	CGA3E2X5R1H333K080AA		
			±20%	CGA3E2X5R1H333M080AA		
47nF	1005	0.50±0.05	±10%	CGA2B3X5R1H473K050BB	CGA2B3X5R1V473K050BB	CGA2B2X5R1E473K050BA
			±20%	CGA2B3X5R1H473M050BB	CGA2B3X5R1V473M050BB	CGA2B2X5R1E473M050BA
	1608	0.80±0.10	±10%	CGA3E2X5R1H473K080AA		
			±20%	CGA3E2X5R1H473M080AA		
68nF	1005	0.50±0.05	±10%	CGA2B3X5R1H683K050BB	CGA2B3X5R1V683K050BB	CGA2B3X5R1E683K050BB
			±20%	CGA2B3X5R1H683M050BB	CGA2B3X5R1V683M050BB	CGA2B3X5R1E683M050BB
	1608	0.80±0.10	±10%	CGA3E2X5R1H683K080AA		
			±20%	CGA3E2X5R1H683M080AA		
100nF	1005	0.50±0.05	±10%	CGA2B3X5R1H104K050BB	CGA2B3X5R1V104K050BB	CGA2B3X5R1E104K050BB
			±20%	CGA2B3X5R1H104M050BB	CGA2B3X5R1V104M050BB	CGA2B3X5R1E104M050BB
	1608	0.80±0.10	±10%	CGA3E2X5R1H104K080AA		CGA3E2X5R1E104K080AA
			±20%	CGA3E2X5R1H104M080AA		CGA3E2X5R1E104M080AA
150nF	1608	0.80±0.10	±10%	CGA3E3X5R1H154K080AB	CGA3E3X5R1V154K080AB	CGA3E2X5R1E154K080AA
			±20%	CGA3E3X5R1H154M080AB	CGA3E3X5R1V154M080AB	CGA3E2X5R1E154M080AA
	2012	1.25±0.20	±10%	CGA4J2X5R1H154K125AA		
			±20%	CGA4J2X5R1H154M125AA		

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

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number		
				Rated voltage Edc: 50V	Rated voltage Edc: 35V	Rated voltage Edc: 25V
220nF	1608	0.80±0.10	±10%	CGA3E3X5R1H224K080AB	CGA3E3X5R1V224K080AB	CGA3E2X5R1E224K080AA
			±20%	CGA3E3X5R1H224M080AB	CGA3E3X5R1V224M080AB	CGA3E2X5R1E224M080AA
	2012	1.25±0.20	±10%	CGA4J2X5R1H224K125AA		
			±20%	CGA4J2X5R1H224M125AA		
330nF	1608	0.80±0.10	±10%	CGA3E3X5R1H334K080AB	CGA3E3X5R1V334K080AB	CGA3E3X5R1E334K080AB
			±20%	CGA3E3X5R1H334M080AB	CGA3E3X5R1V334M080AB	CGA3E3X5R1E334M080AB
	2012	1.25±0.20	±10%	CGA4J2X5R1H334K125AA		
			±20%	CGA4J2X5R1H334M125AA		
470nF	1608	0.80±0.10	±10%	CGA3E3X5R1H474K080AB	CGA3E3X5R1V474K080AB	CGA3E3X5R1E474K080AB
			±20%	CGA3E3X5R1H474M080AB	CGA3E3X5R1V474M080AB	CGA3E3X5R1E474M080AB
	2012	1.25±0.20	±10%	CGA4J3X5R1H474K125AB	CGA4J3X5R1V474K125AB	CGA4J2X5R1E474K125AA
			±20%	CGA4J3X5R1H474M125AB	CGA4J3X5R1V474M125AB	CGA4J2X5R1E474M125AA
	3216	1.60+0.30,-0.10	±10%	CGA5L2X5R1H474K160AA		
			±20%	CGA5L2X5R1H474M160AA		
680nF	1608	0.80±0.10	±10%	CGA3E3X5R1H684K080AB	CGA3E3X5R1V684K080AB	CGA3E3X5R1E684K080AB
			±20%	CGA3E3X5R1H684M080AB	CGA3E3X5R1V684M080AB	CGA3E3X5R1E684M080AB
	2012	1.25±0.20	±10%	CGA4J3X5R1H684K125AB	CGA4J3X5R1V684K125AB	CGA4J2X5R1E684K125AA
			±20%	CGA4J3X5R1H684M125AB	CGA4J3X5R1V684M125AB	CGA4J2X5R1E684M125AA
	3216	1.60+0.30,-0.10	±10%	CGA5L2X5R1H684K160AA		
			±20%	CGA5L2X5R1H684M160AA		
1μF	1608	0.80±0.10	±10%	CGA3E3X5R1H105K080AB	CGA3E3X5R1V105K080AB	CGA3E3X5R1E105K080AB
			±20%	CGA3E3X5R1H105M080AB	CGA3E3X5R1V105M080AB	CGA3E3X5R1E105M080AB
	2012	1.25±0.20	±10%	CGA4J3X5R1H105K125AB	CGA4J3X5R1V105K125AB	CGA4J2X5R1E105K125AA
			±20%	CGA4J3X5R1H105M125AB	CGA4J3X5R1V105M125AB	CGA4J2X5R1E105M125AA
	3216	1.60+0.30,-0.10	±10%	CGA5L2X5R1H105K160AA		
			±20%	CGA5L2X5R1H105M160AA		
1.5μF	2012	1.25±0.20	±10%	CGA4J3X5R1H155K125AB	CGA4J3X5R1V155K125AB	CGA4J3X5R1E155K125AB
			±20%	CGA4J3X5R1H155M125AB	CGA4J3X5R1V155M125AB	CGA4J3X5R1E155M125AB
	3216	1.60+0.30,-0.10	±10%	CGA5L3X5R1H155K160AB	CGA5L3X5R1V155K160AB	CGA5L2X5R1E155K160AA
			±20%	CGA5L3X5R1H155M160AB	CGA5L3X5R1V155M160AB	CGA5L2X5R1E155M160AA
2.2μF	2012	1.25±0.20	±10%	CGA4J3X5R1H225K125AB	CGA4J3X5R1V225K125AB	CGA4J3X5R1E225K125AB
			±20%	CGA4J3X5R1H225M125AB	CGA4J3X5R1V225M125AB	CGA4J3X5R1E225M125AB
	3216	1.60+0.30,-0.10	±10%	CGA5L3X5R1H225K160AB	CGA5L3X5R1V225K160AB	CGA5L2X5R1E225K160AA
			±20%	CGA5L3X5R1H225M160AB	CGA5L3X5R1V225M160AB	CGA5L2X5R1E225M160AA
3.3μF	2012	1.25±0.20	±10%	CGA4J3X5R1H335K125AB	CGA4J3X5R1V335K125AB	CGA4J3X5R1E335K125AB
			±20%	CGA4J3X5R1H335M125AB	CGA4J3X5R1V335M125AB	CGA4J3X5R1E335M125AB
	3216	1.60+0.30,-0.10	±10%	CGA5L3X5R1H335K160AB	CGA5L3X5R1V335K160AB	CGA5L2X5R1E335K160AA
			±20%	CGA5L3X5R1H335M160AB	CGA5L3X5R1V335M160AB	CGA5L2X5R1E335M160AA
4.7μF	2012	1.25±0.20	±10%	CGA4J3X5R1H475K125AB	CGA4J3X5R1V475K125AB	CGA4J3X5R1E475K125AB
			±20%	CGA4J3X5R1H475M125AB	CGA4J3X5R1V475M125AB	CGA4J3X5R1E475M125AB
	3216	1.60+0.30,-0.10	±10%	CGA5L3X5R1H475K160AB	CGA5L3X5R1V475K160AB	CGA5L2X5R1E475K160AA
			±20%	CGA5L3X5R1H475M160AB	CGA5L3X5R1V475M160AB	CGA5L2X5R1E475M160AA
6.8μF	3216	1.60+0.30,-0.10	±10%	CGA5L3X5R1H685K160AB	CGA5L3X5R1V685K160AB	CGA5L3X5R1E685K160AB
			±20%	CGA5L3X5R1H685M160AB	CGA5L3X5R1V685M160AB	CGA5L3X5R1E685M160AB
10μF	3216	1.60+0.30,-0.10	±10%	CGA5L3X5R1H106K160AB	CGA5L3X5R1V106K160AB	CGA5L3X5R1E106K160AB
			±20%	CGA5L3X5R1H106M160AB	CGA5L3X5R1V106M160AB	CGA5L3X5R1E106M160AB

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

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

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

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number		
				Rated voltage Edc: 50V	Rated voltage Edc: 35V	Rated voltage Edc: 25V
100pF	0603	0.30±0.03	±10%	CGA1A2X7R1H101K030BA		CGA1A2X7R1E101K030BA
			±20%	CGA1A2X7R1H101M030BA		CGA1A2X7R1E101M030BA
150pF	0603	0.30±0.03	±10%	CGA1A2X7R1H151K030BA		CGA1A2X7R1E151K030BA
			±20%	CGA1A2X7R1H151M030BA		CGA1A2X7R1E151M030BA
220pF	0603	0.30±0.03	±10%	CGA1A2X7R1H221K030BA		CGA1A2X7R1E221K030BA
			±20%	CGA1A2X7R1H221M030BA		CGA1A2X7R1E221M030BA
	1005	0.50±0.05	±10%	CGA2B2X7R1H221K050BA		
			±20%	CGA2B2X7R1H221M050BA		
330pF	0603	0.30±0.03	±10%	CGA1A2X7R1H331K030BA		CGA1A2X7R1E331K030BA
			±20%	CGA1A2X7R1H331M030BA		CGA1A2X7R1E331M030BA
	1005	0.50±0.05	±10%	CGA2B2X7R1H331K050BA		
			±20%	CGA2B2X7R1H331M050BA		
470pF	0603	0.30±0.03	±10%	CGA1A2X7R1H471K030BA		CGA1A2X7R1E471K030BA
			±20%	CGA1A2X7R1H471M030BA		CGA1A2X7R1E471M030BA
	1005	0.50±0.05	±10%	CGA2B2X7R1H471K050BA		
			±20%	CGA2B2X7R1H471M050BA		
680pF	0603	0.30±0.03	±10%			CGA1A2X7R1E681K030BA
			±20%			CGA1A2X7R1E681M030BA
	1005	0.50±0.05	±10%	CGA2B2X7R1H681K050BA		
			±20%	CGA2B2X7R1H681M050BA		
1nF	0603	0.30±0.03	±10%			CGA1A2X7R1E102K030BA
			±20%			CGA1A2X7R1E102M030BA
	1005	0.50±0.05	±10%	CGA2B2X7R1H102K050BA		
			±20%	CGA2B2X7R1H102M050BA		
	1608	0.80±0.10	±10%	CGA3E2X7R1H102K080AA		
			±20%	CGA3E2X7R1H102M080AA		
1.5nF	0603	0.30±0.03	±10%			CGA1A2X7R1E152K030BA
			±20%			CGA1A2X7R1E152M030BA
	1005	0.50±0.05	±10%	CGA2B2X7R1H152K050BA		
			±20%	CGA2B2X7R1H152M050BA		
	1608	0.80±0.10	±10%	CGA3E2X7R1H152K080AA		
			±20%	CGA3E2X7R1H152M080AA		
2.2nF	0603	0.30±0.03	±10%			CGA1A2X7R1E222K030BA
			±20%			CGA1A2X7R1E222M030BA
	1005	0.50±0.05	±10%	CGA2B2X7R1H222K050BA		
			±20%	CGA2B2X7R1H222M050BA		
	1608	0.80±0.10	±10%	CGA3E2X7R1H222K080AA		
			±20%	CGA3E2X7R1H222M080AA		
3.3nF	0603	0.30±0.03	±10%			CGA1A2X7R1E332K030BA
			±20%			CGA1A2X7R1E332M030BA
	1005	0.50±0.05	±10%	CGA2B2X7R1H332K050BA		
			±20%	CGA2B2X7R1H332M050BA		
	1608	0.80±0.10	±10%	CGA3E2X7R1H332K080AA		
			±20%	CGA3E2X7R1H332M080AA		
4.7nF	1005	0.50±0.05	±10%	CGA2B2X7R1H472K050BA		
			±20%	CGA2B2X7R1H472M050BA		
	1608	0.80±0.10	±10%	CGA3E2X7R1H472K080AA		
			±20%	CGA3E2X7R1H472M080AA		
6.8nF	1005	0.50±0.05	±10%	CGA2B2X7R1H682K050BA		
			±20%	CGA2B2X7R1H682M050BA		
	1608	0.80±0.10	±10%	CGA3E2X7R1H682K080AA		
			±20%	CGA3E2X7R1H682M080AA		
10nF	1005	0.50±0.05	±10%	CGA2B3X7R1H103K050BB	CGA2B3X7R1V103K050BB	CGA2B2X7R1E103K050BA
			±20%	CGA2B3X7R1H103M050BB	CGA2B3X7R1V103M050BB	CGA2B2X7R1E103M050BA
	1608	0.80±0.10	±10%	CGA3E2X7R1H103K080AA		
			±20%	CGA3E2X7R1H103M080AA		
15nF	1005	0.50±0.05	±10%	CGA2B3X7R1H153K050BB	CGA2B3X7R1V153K050BB	CGA2B2X7R1E153K050BA
			±20%	CGA2B3X7R1H153M050BB	CGA2B3X7R1V153M050BB	CGA2B2X7R1E153M050BA
	1608	0.80±0.10	±10%	CGA3E2X7R1H153K080AA		
			±20%	CGA3E2X7R1H153M080AA		
22nF	1005	0.50±0.05	±10%	CGA2B3X7R1H223K050BB	CGA2B3X7R1V223K050BB	CGA2B2X7R1E223K050BA
			±20%	CGA2B3X7R1H223M050BB	CGA2B3X7R1V223M050BB	CGA2B2X7R1E223M050BA
	1608	0.80±0.10	±10%	CGA3E2X7R1H223K080AA		
			±20%	CGA3E2X7R1H223M080AA		

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

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number		
				Rated voltage Edc: 50V	Rated voltage Edc: 35V	Rated voltage Edc: 25V
33nF	1005	0.50±0.05	±10%	CGA2B3X7R1H333K050BB	CGA2B3X7R1V333K050BB	CGA2B1X7R1E333K050BC
			±20%	CGA2B3X7R1H333M050BB	CGA2B3X7R1V333M050BB	CGA2B1X7R1E333M050BC
	1608	0.80±0.10	±10%	CGA3E2X7R1H333K080AA		
			±20%	CGA3E2X7R1H333M080AA		
47nF	1005	0.50±0.05	±10%	CGA2B3X7R1H473K050BB	CGA2B3X7R1V473K050BB	CGA2B1X7R1E473K050BC
			±20%	CGA2B3X7R1H473M050BB	CGA2B3X7R1V473M050BB	CGA2B1X7R1E473M050BC
	1608	0.80±0.10	±10%	CGA3E2X7R1H473K080AA		
			±20%	CGA3E2X7R1H473M080AA		
68nF	1005	0.50±0.05	±10%	CGA2B3X7R1H683K050BB	CGA2B3X7R1V683K050BB	CGA2B3X7R1E683K050BB
			±20%	CGA2B3X7R1H683M050BB	CGA2B3X7R1V683M050BB	CGA2B3X7R1E683M050BB
	1608	0.80±0.10	±10%	CGA3E2X7R1H683K080AA		
			±20%	CGA3E2X7R1H683M080AA		
100nF	1005	0.50±0.05	±10%	CGA2B3X7R1H104K050BB	CGA2B3X7R1V104K050BB	CGA2B3X7R1E104K050BB
			±20%	CGA2B3X7R1H104M050BB	CGA2B3X7R1V104M050BB	CGA2B3X7R1E104M050BB
	1608	0.80±0.10	±10%	CGA3E2X7R1H104K080AA		CGA3E2X7R1E104K080AA
			±20%	CGA3E2X7R1H104M080AA		CGA3E2X7R1E104M080AA
	2012	1.25±0.20	±10%	CGA4J2X7R1H104K125AA		
150nF	1005	0.50±0.05	±10%		CGA2B1X7R1V154K050BC	CGA2B3X7R1E154K050BB
			±20%		CGA2B1X7R1V154M050BC	CGA2B3X7R1E154M050BB
	1608	0.80±0.10	±10%	CGA3E3X7R1H154K080AB	CGA3E3X7R1V154K080AB	CGA3E2X7R1E154K080AA
			±20%	CGA3E3X7R1H154M080AB	CGA3E3X7R1V154M080AB	CGA3E2X7R1E154M080AA
	2012	1.25±0.20	±10%	CGA4J2X7R1H154K125AA		
			±20%	CGA4J2X7R1H154M125AA		
220nF	1005	0.50±0.05	±10%		CGA2B1X7R1V224K050BC	CGA2B3X7R1E224K050BB
			±20%		CGA2B1X7R1V224M050BC	CGA2B3X7R1E224M050BB
	1608	0.80±0.10	±10%	CGA3E3X7R1H224K080AB	CGA3E3X7R1V224K080AB	CGA3E1X7R1E224K080AC
			±20%	CGA3E3X7R1H224M080AB	CGA3E3X7R1V224M080AB	CGA3E1X7R1E224M080AC
	2012	1.25±0.20	±10%	CGA4J2X7R1H224K125AA		CGA4J2X7R1E224K125AA
			±20%	CGA4J2X7R1H224M125AA		
330nF	1608	0.80±0.10	±10%	CGA3E3X7R1H334K080AB	CGA3E1X7R1V334K080AC	CGA3E3X7R1E334K080AB
			±20%	CGA3E3X7R1H334M080AB	CGA3E1X7R1V334M080AC	CGA3E3X7R1E334M080AB
	2012	1.25±0.20	±10%	CGA4J2X7R1H334K125AA		
			±20%	CGA4J2X7R1H334M125AA		
470nF	1608	0.80±0.10	±10%	CGA3E3X7R1H474K080AB	CGA3E1X7R1V474K080AC	CGA3E3X7R1E474K080AB
			±20%	CGA3E3X7R1H474M080AB	CGA3E1X7R1V474M080AC	CGA3E3X7R1E474M080AB
	2012	1.25±0.20	±10%	CGA4J3X7R1H474K125AB	CGA4J3X7R1V474K125AB	CGA4J2X7R1E474K125AA
			±20%	CGA4J3X7R1H474M125AB	CGA4J3X7R1V474M125AB	CGA4J2X7R1E474M125AA
	3216	1.60+0.30,-0.10	±10%	CGA5L2X7R1H474K160AA		
			±20%	CGA5L2X7R1H474M160AA		
680nF	1608	0.80±0.10	±10%		CGA3E1X7R1V684K080AC	CGA3E1X7R1E684K080AC
			±20%		CGA3E1X7R1V684M080AC	CGA3E1X7R1E684M080AC
	2012	1.25±0.20	±10%	CGA4J3X7R1H684K125AB	CGA4J3X7R1V684K125AB	CGA4J3X7R1E684K125AB
			±20%	CGA4J3X7R1H684M125AB	CGA4J3X7R1V684M125AB	CGA4J3X7R1E684M125AB
	3216	1.60+0.30,-0.10	±10%	CGA5L2X7R1H684K160AA		
			±20%	CGA5L2X7R1H684M160AA		
1μF	1608	0.80±0.10	±10%		CGA3E1X7R1V105K080AC	CGA3E1X7R1E105K080AC
			±20%		CGA3E1X7R1V105M080AC	CGA3E1X7R1E105M080AC
	2012	1.25±0.20	±10%	CGA4J3X7R1H105K125AB	CGA4J3X7R1V105K125AB	CGA4J3X7R1E105K125AB
			±20%	CGA4J3X7R1H105M125AB	CGA4J3X7R1V105M125AB	CGA4J3X7R1E105M125AB
	3216	1.60+0.30,-0.10	±10%	CGA5L3X7R1H105K160AB		CGA5L2X7R1E105K160AA
			±20%	CGA5L3X7R1H105M160AB		CGA5L2X7R1E105M160AA
	3225	1.60±0.20	±10%	CGA6L2X7R1H105K160AA		
			±20%	CGA6L2X7R1H105M160AA		
1.5μF	2012	1.25±0.20	±10%	CGA4J3X7R1H155K125AB	CGA4J1X7R1V155K125AC	CGA4J3X7R1E155K125AB
			±20%	CGA4J3X7R1H155M125AB	CGA4J1X7R1V155M125AC	CGA4J3X7R1E155M125AB
	3216	1.60+0.30,-0.10	±10%	CGA5L3X7R1H155K160AB	CGA5L3X7R1V155K160AB	CGA5L2X7R1E155K160AA
			±20%	CGA5L3X7R1H155M160AB	CGA5L3X7R1V155M160AB	CGA5L2X7R1E155M160AA
	3225	2.00±0.20	±10%	CGA6M2X7R1H155K200AA		
			±20%	CGA6M2X7R1H155M200AA		
	4532	1.60±0.20	±10%	CGA8L2X7R1H155K160KA		
2.2μF	2012	1.25±0.20	±10%	CGA4J3X7R1H225K125AB	CGA4J1X7R1V225K125AC	CGA4J3X7R1E225K125AB
			±20%	CGA4J3X7R1H225M125AB	CGA4J1X7R1V225M125AC	CGA4J3X7R1E225M125AB
	3216	1.60+0.30,-0.10	±10%	CGA5L3X7R1H225K160AB	CGA5L3X7R1V225K160AB	CGA5L2X7R1E225K160AA
			±20%	CGA5L3X7R1H225M160AB	CGA5L3X7R1V225M160AB	CGA5L2X7R1E225M160AA
	3225	2.00±0.20	±10%	CGA6M3X7R1H225K200AB		
			±20%	CGA6M3X7R1H225M200AB		
	4532	1.60±0.20	±10%	CGA8L2X7R1H225K160KA		

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

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number			
				Rated voltage Edc: 75V	Rated voltage Edc: 50V	Rated voltage Edc: 35V	Rated voltage Edc: 25V
3.3µF	2012	1.25±0.20	±10%			CGA4J1X7R1V335K125AC	CGA4J1X7R1E335K125AC
			±20%			CGA4J1X7R1V335M125AC	CGA4J1X7R1E335M125AC
	3216	1.60+0.30,-0.10	±10%		CGA5L3X7R1H335K160AB	CGA5L1X7R1V335K160AC	CGA5L1X7R1E335K160AC
			±20%		CGA5L3X7R1H335M160AB	CGA5L1X7R1V335M160AC	CGA5L1X7R1E335M160AC
	3225	2.50±0.30	±10%		CGA6P3X7R1H335K250AB		
			±20%		CGA6P3X7R1H335M250AB		
	4532	2.00±0.20	±10%		CGA8M2X7R1H335K200KA		
4.7µF	2012	1.25±0.20	±10%		CGA4J1X7R1H475K125AC	CGA4J1X7R1V475K125AC	CGA4J1X7R1E475K125AC
			±20%			CGA4J1X7R1V475M125AC	CGA4J1X7R1E475M125AC
	3216	1.60+0.30,-0.10	±10%		CGA5L3X7R1H475K160AB	CGA5L1X7R1V475K160AC	CGA5L1X7R1E475K160AC
			±20%		CGA5L3X7R1H475M160AB	CGA5L1X7R1V475M160AC	CGA5L1X7R1E475M160AC
	3225	2.50±0.30	±10%		CGA6P3X7R1H475K250AB		
			±20%		CGA6P3X7R1H475M250AB		
	4532	1.60±0.20	±10%				CGA8L2X7R1E475K160KA
			±20%				CGA8L2X7R1E475M160KA
		2.00±0.20	±10%		CGA8M3X7R1H475K200KB		
	5750	2.00±0.20	±10%		CGA9M2X7R1H475K200KA		
6.8µF	3216	1.60+0.30,-0.10	±10%			CGA5L1X7R1V685K160AC	CGA5L1X7R1E685K160AC
			±20%			CGA5L1X7R1V685M160AC	CGA5L1X7R1E685M160AC
	3225	2.50±0.30	±10%				CGA6P3X7R1E685K250AB
			±20%				CGA6P3X7R1E685M250AB
	4532	2.50±0.30	±10%		CGA8P3X7R1H685K250KB		
	5750	2.50±0.30	±10%		CGA9P2X7R1H685K250KA		
10µF	3216	1.60+0.30,-0.10	±10%		CGA5L1X7R1H106K160AC	CGA5L1X7R1V106K160AC	CGA5L1X7R1E106K160AC
			±20%			CGA5L1X7R1V106M160AC	CGA5L1X7R1E106M160AC
	3225	2.50±0.30	±10%				CGA6P1X7R1E106K250AC
			±20%	CGA6P1X7R1N106M250AC			CGA6P1X7R1E106M250AC
	4532	2.50±0.30	±10%				CGA8P2X7R1E106K250KA
	5750	2.00±0.20	±20%				CGA9M2X7R1E106M200KA
		2.30±0.20	±10%		CGA9N3X7R1H106K230KB		
15µF	3225	2.00±0.20	±20%				CGA6M3X7R1E156M200AB
	4532	2.80±0.30	±20%				CGA8Q3X7R1E156M280KB
	5750	2.30±0.20	±20%				CGA9N2X7R1E156M230KA
22µF	3225	2.50±0.30	±20%				CGA6P3X7R1E226M250AB
	4532	2.50±0.30	±20%				CGA8P1X7R1E226M250KC
	5750	2.50±0.30	±20%		CGA9P3X7R1H226M250KB		CGA9P2X7R1E226M250KA
47µF	5750	2.30±0.20	±20%				CGA9N3X7R1E476M230KB

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

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

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

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

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Capacitance range table　Temperature characteristic: X7S (–55 to +125°C, ±22%)

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number		
				Rated voltage Edc: 50V	Rated voltage Edc: 25V	Rated voltage Edc: 16V
330nF	1005	0.50±0.05	±10%			CGA2B1X7S1C334K050BC
			±20%			CGA2B1X7S1C334M050BC
470nF	1005	0.50±0.05	±10%			CGA2B1X7S1C474K050BC
			±20%			CGA2B1X7S1C474M050BC
1.5µF	1608	0.80±0.10	±10%			CGA3E1X7S1C155K080AC
			±20%			CGA3E1X7S1C155M080AC
2.2µF	1608	0.80±0.10	±10%			CGA3E1X7S1C225K080AC
			±20%			CGA3E1X7S1C225M080AC
4.7µF	3225	2.30±0.20	±10%	CGA6N3X7S1H475K230AB		
6.8µF	2012	1.25±0.20	±10%			CGA4J1X7S1C685K125AC
			±20%			CGA4J1X7S1C685M125AC
	3225	2.50±0.30	±10%	CGA6P3X7S1H685K250AB		
			±20%	CGA6P3X7S1H685M250AB		
10µF	2012	1.25±0.20	±10%		CGA4J1X7S1E106K125AC	CGA4J1X7S1C106K125AC
			±20%			CGA4J1X7S1C106M125AC
	3225	2.50±0.30	±10%	CGA6P3X7S1H106K250AB		
			±20%	CGA6P3X7S1H106M250AB		

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

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Capacitance range table　Temperature characteristic: X7T (–55 to +125°C, +22, –33%)

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number
				Rated voltage Edc: 4V
100nF	0603	0.30+0.10,-0.03	±20%	CGA1A1X7T0G104M030BC
1µF	1005	0.50+0.10,-0.05	±20%	CGA2B1X7T0G105M050BC
10µF	1608	0.80+0.30,-0.10	±20%	CGA3E1X7T0G106M080AC

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