TDK

December 2018

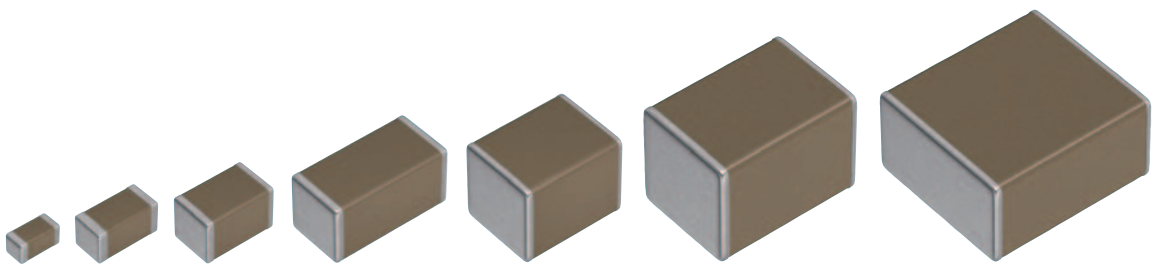
MULTILAYER CERAMIC CHIP CAPACITORS

Automotive grade, mid voltage (100 to 630V)

CGA series

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

Mid voltage (100 to 630V)

RoHS REACH SVHC-Free Halogen Free Lead Free

Type: 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

Middle voltage CGA series, automotive grade of TDK's multilayer ceramic chip capacitor, is a product which has the high withstanding voltage characteristics. Voltage rating of 100V to 630V with capacitance range up to 15μF has been realized.

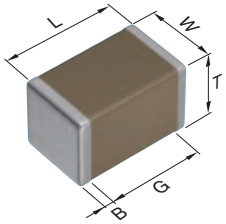
FEATURES

- Voltage rating of 100V, 250V, 450V and 630V
- Operating temperature range: –55 to +125°C
- C0G temperature characteristic which has excellent stable temperature and DC-bias characteristcs is applicable.
- AEC-Q200 compliant.

APPLICATIONS

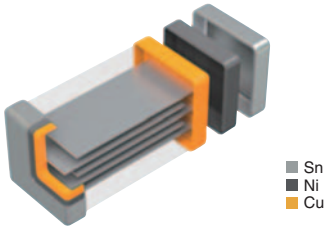
- Wireless Charging units such as DC-DC converter, Inverter, On board charger.
- Decoupling, smoothing, snubber and resonant circuit and so on of high voltage circuit.

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
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.

CATALOG NUMBER CONSTRUCTION

CGA	9	P	3	X7S	2A	156	M	250	K	B
(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
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
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
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.
4	1.2 × 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

(6) Rated voltage (DC)

Code	Voltage (DC)
2A	100V
2E	250V
2W	450V
2J	630V

(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
050	0.50 mm
060	0.60 mm
080	0.80 mm
085	0.85 mm
115	1.15 mm
125	1.25 mm
130	1.30 mm
160	1.60 mm
200	2.00 mm
230	2.30 mm
250	2.50 mm
280	2.80 mm
320	3.20 mm

(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,N	TDK internal code

Capacitance range chart

CGA2/1005 [0402 inch]

Capacitance		C0G	X7S
(pF)	Code	2A (100V)	2A (100V)
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		

Standard thickness 0.50mm

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

■ Please refer to the capacitance range table at P-11 and after for the details such as product thickness and capacitance tolerance.

Capacitance range chart

CGA3/1608 [0603 inch]

Capacitance		C0G		X7R	X7S
(pF)	Code	2E (250V)	2A (100V)	2A (100V)	2A (100V)
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				
100,000	104				

Standard thickness 0.80mm

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

■ Please refer to the capacitance range table at P-11 and after for the details such as product thickness and capacitance tolerance.

Capacitance range chart

CGA4/2012 [0805 inch]

Capacitance		C0G			X7R		X7S	X7T	
(pF)	Code	2W (450V)	2E (250V)	2A (100V)	2E (250V)	2A (100V)	2A (100V)	2W (450V)	2E (250V)
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								
100,000	104								
330,000	334								
470,000	474								
680,000	684								
1,000,000	105								

Standard thickness 0.60 mm 0.85 mm 1.25 mm

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

■ Please refer to the capacitance range table at P-11 and after for the details such as product thickness and capacitance tolerance.

Capacitance range chart

CGA5/3216 [1206 inch]

Capacitance		C0G				X7R			X7S	X7T		
(pF)	Code	2J (630V)	2W (450V)	2E (250V)	2A (100V)	2J (630V)	2E (250V)	2A (100V)	2A (100V)	2J (630V)	2W (450V)	2E (250V)
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											
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											

Standard thickness 0.60 mm 0.85 mm 1.15 mm 1.30 mm 1.60 mm

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

■ Please refer to the capacitance range table at P-11 and after for the details such as product thickness and capacitance tolerance.

Capacitance range chart

CGA6/3225 [1210 inch]

Capacitance		C0G				X7R			X7S	X7T		
(pF)	Code	2J (630V)	2W (450V)	2E (250V)	2A (100V)	2J (630V)	2E (250V)	2A (100V)	2A (100V)	2J (630V)	2W (450V)	2E (250V)
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											
680,000	684											
1,000,000	105											
1,500,000	155											
2,200,000	225											
3,300,000	335											
4,700,000	475											

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

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

■ Please refer to the capacitance range table at P-11 and after for the details such as product thickness and capacitance tolerance.

Capacitance range chart

CGA8/4532 [1812 inch]

Capacitance		C0G				X7R			X7S	X7T		
(pF)	Code	2J (630V)	2W (450V)	2E (250V)	2A (100V)	2J (630V)	2E (250V)	2A (100V)	2A (100V)	2J (630V)	2W (450V)	2E (250V)
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											
680,000	684											
1,000,000	105											
1,500,000	155											
2,200,000	225											
3,300,000	335											
4,700,000	475											

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

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

■ Please refer to the capacitance range table at P-11 and after for the details such as product thickness and capacitance tolerance.

Capacitance range chart

CGA9/5750 [2220 inch]

Capacitance		C0G				X7R			X7S	X7T		
(pF)	Code	2J (630V)	2W (450V)	2E (250V)	2A (100V)	2J (630V)	2E (250V)	2A (100V)	2A (100V)	2J (630V)	2W (450V)	2E (250V)
68,000	683											
100,000	104											
150,000	154											
220,000	224											
330,000	334											
470,000	474											
680,000	684											
1,000,000	105											
1,500,000	155											
2,200,000	225											
3,300,000	335											
4,700,000	475											
6,800,000	685											
10,000,000	106											
15,000,000	156											

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

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

■ Please refer to the capacitance range table at P-11 and after for the details such as product thickness and capacitance tolerance.

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

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number			
				Rated voltage Edc: 630V	Rated voltage Edc: 450V	Rated voltage Edc: 250V	Rated voltage Edc: 100V
1pF	1608	0.80±0.10	±0.25pF				CGA3E2C0G2A010C080AA
1.5pF	1608	0.80±0.10	±0.25pF				CGA3E2C0G2A1R5C080AA
2pF	1608	0.80±0.10	±0.25pF				CGA3E2C0G2A020C080AA
2.2pF	1608	0.80±0.10	±0.25pF				CGA3E2C0G2A2R2C080AA
3pF	1608	0.80±0.10	±0.25pF				CGA3E2C0G2A030C080AA
3.3pF	1608	0.80±0.10	±0.25pF				CGA3E2C0G2A3R3C080AA
4pF	1608	0.80±0.10	±0.25pF				CGA3E2C0G2A040C080AA
4.7pF	1608	0.80±0.10	±0.25pF				CGA3E2C0G2A4R7C080AA
5pF	1608	0.80±0.10	±0.25pF				CGA3E2C0G2A050C080AA
6pF	1608	0.80±0.10	±0.50pF				CGA3E2C0G2A060D080AA
6.8pF	1608	0.80±0.10	±0.50pF				CGA3E2C0G2A6R8D080AA
7pF	1608	0.80±0.10	±0.50pF				CGA3E2C0G2A070D080AA
8pF	1608	0.80±0.10	±0.50pF				CGA3E2C0G2A080D080AA
9pF	1608	0.80±0.10	±0.50pF				CGA3E2C0G2A090D080AA
10pF	1608	0.80±0.10	±0.50pF				CGA3E2C0G2A100D080AA
12pF	1608	0.80±0.10	±5%				CGA3E2C0G2A120J080AA
15pF	1608	0.80±0.10	±5%				CGA3E2C0G2A150J080AA
18pF	1608	0.80±0.10	±5%				CGA3E2C0G2A180J080AA
22pF	1608	0.80±0.10	±5%				CGA3E2C0G2A220J080AA
27pF	1608	0.80±0.10	±5%				CGA3E2C0G2A270J080AA
33pF	1608	0.80±0.10	±5%				CGA3E2C0G2A330J080AA
39pF	1608	0.80±0.10	±5%				CGA3E2C0G2A390J080AA
47pF	1608	0.80±0.10	±5%				CGA3E2C0G2A470J080AA
56pF	1608	0.80±0.10	±5%				CGA3E2C0G2A560J080AA
68pF	1608	0.80±0.10	±5%				CGA3E2C0G2A680J080AA
82pF	1608	0.80±0.10	±5%				CGA3E2C0G2A820J080AA
100pF	1005	0.50±0.05	±5%				CGA2B2C0G2A101J050BA
	1608	0.80±0.10	±5%			CGA3E3C0G2E101J080AA	CGA3E2C0G2A101J080AA
	2012	0.60±0.15	±5%		CGA4C4C0G2W101J060AA		CGA4C2C0G2A101J060AA
	3216	0.60±0.15	±5%	CGA5C4C0G2J101J060AA			
120pF	1005	0.50±0.05	±5%				CGA2B2C0G2A121J050BA
	1608	0.80±0.10	±5%			CGA3E3C0G2E121J080AA	CGA3E2C0G2A121J080AA
	2012	0.60±0.15	±5%		CGA4C4C0G2W121J060AA		
	3216	0.60±0.15	±5%	CGA5C4C0G2J121J060AA			
150pF	1005	0.50±0.05	±5%				CGA2B2C0G2A151J050BA
	1608	0.80±0.10	±5%			CGA3E3C0G2E151J080AA	CGA3E2C0G2A151J080AA
	2012	0.60±0.15	±5%		CGA4C4C0G2W151J060AA		
	3216	0.60±0.15	±5%	CGA5C4C0G2J151J060AA			
180pF	1005	0.50±0.05	±5%				CGA2B2C0G2A181J050BA
	1608	0.80±0.10	±5%			CGA3E3C0G2E181J080AA	CGA3E2C0G2A181J080AA
	2012	0.60±0.15	±5%		CGA4C4C0G2W181J060AA		
	3216	0.60±0.15	±5%	CGA5C4C0G2J181J060AA			
220pF	1005	0.50±0.05	±5%				CGA2B2C0G2A221J050BA
	1608	0.80±0.10	±5%			CGA3E3C0G2E221J080AA	CGA3E2C0G2A221J080AA
	2012	0.60±0.15	±5%		CGA4C4C0G2W221J060AA		CGA4C2C0G2A221J060AA
	3216	0.60±0.15	±5%	CGA5C4C0G2J221J060AA			
270pF	1005	0.50±0.05	±5%				CGA2B2C0G2A271J050BA
	1608	0.80±0.10	±5%			CGA3E3C0G2E271J080AA	CGA3E2C0G2A271J080AA
	2012	0.60±0.15	±5%		CGA4C4C0G2W271J060AA		
	3216	0.60±0.15	±5%	CGA5C4C0G2J271J060AA			
330pF	1005	0.50±0.05	±5%				CGA2B2C0G2A331J050BA
	1608	0.80±0.10	±5%			CGA3E3C0G2E331J080AA	CGA3E2C0G2A331J080AA
	2012	0.60±0.15	±5%		CGA4C4C0G2W331J060AA		
	3216	0.60±0.15	±5%	CGA5C4C0G2J331J060AA			
390pF	1005	0.50±0.05	±5%				CGA2B2C0G2A391J050BA
	1608	0.80±0.10	±5%			CGA3E3C0G2E391J080AA	CGA3E2C0G2A391J080AA
	2012	0.60±0.15	±5%		CGA4C4C0G2W391J060AA		
	3216	0.60±0.15	±5%	CGA5C4C0G2J391J060AA			
470pF	1005	0.50±0.10	±5%				CGA2B2C0G2A471J050BA
	1608	0.80±0.10	±5%			CGA3E3C0G2E471J080AA	CGA3E2C0G2A471J080AA
	2012	0.60±0.15	±5%		CGA4C4C0G2W471J060AA		CGA4C2C0G2A471J060AA
	3216	0.85±0.15	±5%	CGA5F4C0G2J471J085AA			
560pF	1005	0.50±0.05	±5%				CGA2B1C0G2A561J050BC
	1608	0.80±0.10	±5%			CGA3E3C0G2E561J080AA	CGA3E2C0G2A561J080AA
	2012	0.60±0.15	±5%		CGA4C4C0G2W561J060AA		
	3216	0.85±0.15	±5%	CGA5F4C0G2J561J085AA			

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

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

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number			
				Rated voltage Edc: 630V	Rated voltage Edc: 450V	Rated voltage Edc: 250V	Rated voltage Edc: 100V
680pF	1005	0.50±0.05	±5%				CGA2B1C0G2A681J050BC
	1608	0.80±0.10	±5%			CGA3E3C0G2E681J080AA	CGA3E2C0G2A681J080AA
	2012	0.60±0.15	±5%		CGA4C4C0G2W681J060AA		
	3216	0.85±0.15	±5%	CGA5F4C0G2J681J085AA			
820pF	1005	0.50±0.05	±5%				CGA2B1C0G2A821J050BC
	1608	0.80±0.10	±5%			CGA3E3C0G2E821J080AA	CGA3E2C0G2A821J080AA
	2012	0.60±0.15	±5%		CGA4C4C0G2W821J060AA	CGA4C3C0G2E821J060AA	
	3216	0.85±0.15	±5%	CGA5F4C0G2J821J085AA			
1nF	1005	0.50±0.05	±5%				CGA2B1C0G2A102J050BC
	1608	0.80±0.10	±5%			CGA3E3C0G2E102J080AA	CGA3E2C0G2A102J080AA
	2012	0.60±0.15	±5%		CGA4C4C0G2W102J060AA		CGA4C2C0G2A102J060AA
		0.85±0.15	±5%			CGA4F3C0G2E102J085AA	
	3216	0.85±0.15	±5%	CGA5F4C0G2J102J085AA			
1.2nF	1608	0.80±0.10	±5%			CGA3E3C0G2E122J080AA	CGA3E2C0G2A122J080AA
	2012	0.60±0.15	±5%		CGA4C4C0G2W122J060AA		CGA4C2C0G2A122J060AA
		0.85±0.15	±5%			CGA4F3C0G2E122J085AA	
	3216	0.85±0.15	±5%	CGA5F4C0G2J122J085AA			
1.5nF	1608	0.80±0.10	±5%			CGA3E3C0G2E152J080AA	CGA3E2C0G2A152J080AA
	2012	0.60±0.15	±5%				CGA4C2C0G2A152J060AA
		0.85±0.15	±5%		CGA4F4C0G2W152J085AA	CGA4F3C0G2E152J085AA	
	3216	1.15±0.15	±5%	CGA5H4C0G2J152J115AA			
1.8nF	1608	0.80±0.10	±5%			CGA3E3C0G2E182J080AA	CGA3E2C0G2A182J080AA
	2012	0.85±0.15	±5%		CGA4F4C0G2W182J085AA		CGA4F2C0G2A182J085AA
		1.25±0.20	±5%			CGA4J3C0G2E182J125AA	
	3216	1.15±0.15	±5%	CGA5H4C0G2J182J115AA			
2.2nF	1608	0.80±0.10	±5%				CGA3E2C0G2A222J080AA
		0.80±0.20	±5%			CGA3E3C0G2E222J080AA	
	2012	0.85±0.15	±5%		CGA4F4C0G2W222J085AA		CGA4F2C0G2A222J085AA
		1.25±0.20	±5%			CGA4J3C0G2E222J125AA	
	3216	1.15±0.15	±5%	CGA5H4C0G2J222J115AA			
2.7nF	1608	0.80±0.20	±5%				CGA3E2C0G2A272J080AA
	2012	1.25±0.20	±5%		CGA4J4C0G2W272J125AA	CGA4J3C0G2E272J125AA	CGA4J2C0G2A272J125AA
	3216	1.60±0.20	±5%	CGA5L4C0G2J272J160AA			
3.3nF	1608	0.80±0.20	±5%				CGA3E2C0G2A332J080AA
	2012	0.85±0.15	±5%			CGA4F3C0G2E332J085AA	
		1.25±0.20	±5%		CGA4J4C0G2W332J125AA		CGA4J2C0G2A332J125AA
	3216	0.85±0.15	±5%			CGA5F3C0G2E332J085AA	
		1.60±0.20	±5%	CGA5L4C0G2J332J160AA			
3.9nF	1608	0.80±0.10	±5%				CGA3E1C0G2A392J080AC
	2012	1.25±0.20	±5%		CGA4J4C0G2W392J125AA	CGA4J3C0G2E392J125AA	CGA4J2C0G2A392J125AA
	3216	0.60±0.15	±5%				CGA5C2C0G2A392J060AA
		0.85±0.15	±5%	CGA5F4C0G2J392J085AA			
		1.15±0.15	±5%			CGA5H3C0G2E392J115AA	
	3225	1.25±0.20	±5%	CGA6J4C0G2J392J125AA			
4.7nF	1608	0.80±0.10	±5%				CGA3E1C0G2A472J080AC
	2012	1.25±0.20	±5%		CGA4J4C0G2W472J125AA	CGA4J3C0G2E472J125AA	CGA4J2C0G2A472J125AA
	3216	0.85±0.15	±5%	CGA5F4C0G2J472J085AA			CGA5F2C0G2A472J085AA
		1.15±0.15	±5%			CGA5H3C0G2E472J115AA	
	3225	1.60±0.20	±5%	CGA6L4C0G2J472J160AA			
5.6nF	1608	0.80±0.10	±5%				CGA3E1C0G2A562J080AC
	2012	1.25±0.20	±5%		CGA4J4C0G2W562J125AA	CGA4J3C0G2E562J125AA	CGA4J2C0G2A562J125AA
	3216	0.85±0.15	±5%				CGA5F2C0G2A562J085AA
		1.15±0.15	±5%	CGA5H4C0G2J562J115AA		CGA5H3C0G2E562J115AA	
	3225	1.60±0.20	±5%	CGA6L4C0G2J562J160AA			
6.8nF	1608	0.80±0.10	±5%				CGA3E1C0G2A682J080AC
	2012	1.25±0.20	±5%			CGA4J3C0G2E682J125AA	CGA4J2C0G2A682J125AA
	3216	1.15±0.15	±5%	CGA5H4C0G2J682J115AA	CGA5H4C0G2W682J115AA		CGA5H2C0G2A682J115AA
		1.60±0.20	±5%			CGA5L3C0G2E682J160AA	
	3225	2.00±0.20	±5%	CGA6M4C0G2J682J200AA			
8.2nF	1608	0.80±0.10	±5%				CGA3E1C0G2A822J080AC
	2012	1.25±0.20	±5%			CGA4J3C0G2E822J125AA	CGA4J2C0G2A822J125AA
	3216	1.15±0.15	±5%		CGA5H4C0G2W822J115AA		CGA5H2C0G2A822J115AA
		1.60±0.20	±5%	CGA5L4C0G2J822J160AA		CGA5L3C0G2E822J160AA	
	3225	1.25±0.20	±5%	CGA6J4C0G2J822J125AA			
	4532	1.60±0.20	±5%	CGA8L4C0G2J822J160KA			

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

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

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number			
				Rated voltage Edc: 630V	Rated voltage Edc: 450V	Rated voltage Edc: 250V	Rated voltage Edc: 100V
10nF	1608	0.80±0.10	±5%				CGA3E1C0G2A103J080AC
	2012	1.25±0.20	±5%			CGA4J3C0G2E103J125AA	CGA4J2C0G2A103J125AA
	3216	1.15±0.15	±5%			CGA5H3C0G2E103J115AA	CGA5H2C0G2A103J115AA
		1.60±0.20	±5%	CGA5L4C0G2J103J160AA	CGA5L4C0G2W103J160AA		
	3225	1.25±0.20	±5%	CGA6J4C0G2J103J125AA			
		1.60±0.20	±5%			CGA6L3C0G2E103J160AA	
	4532	1.60±0.20	±5%	CGA8L4C0G2J103J160KA			
15nF	2012	0.85±0.15	±5%				CGA4F1C0G2A153J085AC
	3216	1.15±0.15	±5%				CGA5H2C0G2A153J115AA
		1.60+0.30,-0.10	±5%		CGA5L4C0G2W153J160AA		
		1.60±0.20	±5%			CGA5L3C0G2E153J160AA	
	3225	1.25±0.20	±5%				CGA6J2C0G2A153J125AA
		1.60±0.20	±5%	CGA6L4C0G2J153J160AA			
		2.00±0.20	±5%			CGA6M3C0G2E153J200AA	
	4532	2.50±0.30	±5%	CGA8P4C0G2J153J250KA			
22nF	2012	1.25±0.20	±5%				CGA4J1C0G2A223J125AC
	3216	1.60+0.30,-0.10	±5%			CGA5L3C0G2E223J160AA	
		1.60±0.20	±5%				CGA5L2C0G2A223J160AA
	3225	1.60±0.20	±5%			CGA6L3C0G2E223J160AA	CGA6L2C0G2A223J160AA
		2.30±0.20	±5%	CGA6N4C0G2J223J230AA	CGA6N4C0G2W223J230AA		
	4532	1.60±0.20	±5%			CGA8L3C0G2E223J160KA	
		3.20±0.30	±5%	CGA8R4C0G2J223J320KA			
33nF	2012	1.25±0.20	±5%				CGA4J1C0G2A333J125AC
	3216	1.60+0.30,-0.10	±5%				CGA5L2C0G2A333J160AA
	3225	2.00±0.20	±5%				CGA6M2C0G2A333J200AA
		2.30±0.20	±5%			CGA6N3C0G2E333J230AA	
		2.50±0.30	±5%	CGA6P4C0G2J333J250AA	CGA6P4C0G2W333J250AA		
	4532	2.00±0.20	±5%	CGA8M4C0G2J333J200KA		CGA8M3C0G2E333J200KA	
47nF	3216	1.15±0.15	±5%				CGA5H1C0G2A473J115AC
	3225	2.30±0.20	±5%				CGA6N2C0G2A473J230AA
		2.50±0.30	±5%			CGA6P3C0G2E473J250AA	
	4532	2.00±0.20	±5%				CGA8M2C0G2A473J200KA
		2.30±0.20	±5%		CGA8N4C0G2W473J230KA		
		3.20±0.30	±5%	CGA8R4C0G2J473J320KA		CGA8R3C0G2E473J320KA	
68nF	3216	1.60±0.20	±5%				CGA5L1C0G2A683J160AC
	3225	2.30±0.20	±5%				CGA6N2C0G2A683J230AA
	4532	2.30±0.20	±5%			CGA8N4C0G2E683J230KN	
		2.50±0.30	±5%				CGA8P2C0G2A683J250KA
		3.20±0.30	±5%		CGA8R4C0G2W683J320KA		
	5750	2.30±0.20	±5%	CGA9N1C0G2J683J230KC			
100nF	3216	1.60±0.20	±5%				CGA5L1C0G2A104J160AC
	4532	3.20±0.30	±5%			CGA8R4C0G2E104J320KN	CGA8R2C0G2A104J320KA
	5750	2.80±0.30	±5%	CGA9Q1C0G2J104J280KC	CGA9Q4C0G2W104J280KA		
150nF	5750	2.30±0.20	±5%			CGA9N4C0G2E154J230KN	CGA9N2C0G2A154J230KA

Capacitance range table　　Temperature characteristics: 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
1nF	1608	0.80±0.10	±10%			CGA3E2X7R2A102K080AA
			±20%			CGA3E2X7R2A102M080AA
	3216	1.15±0.15	±10%	CGA5H4X7R2J102K115AA		
			±20%	CGA5H4X7R2J102M115AA		
1.5nF	1608	0.80±0.10	±10%			CGA3E2X7R2A152K080AA
			±20%			CGA3E2X7R2A152M080AA
	3216	1.15±0.15	±10%	CGA5H4X7R2J152K115AA		
			±20%	CGA5H4X7R2J152M115AA		
2.2nF	1608	0.80±0.10	±10%			CGA3E2X7R2A222K080AA
			±20%			CGA3E2X7R2A222M080AA
	3216	1.15±0.15	±10%	CGA5H4X7R2J222K115AA		
			±20%	CGA5H4X7R2J222M115AA		
3.3nF	1608	0.80±0.10	±10%			CGA3E2X7R2A332K080AA
			±20%			CGA3E2X7R2A332M080AA
	3216	1.15±0.15	±10%	CGA5H4X7R2J332K115AA		
			±20%	CGA5H4X7R2J332M115AA		
4.7nF	1608	0.80±0.10	±10%			CGA3E2X7R2A472K080AA
			±20%			CGA3E2X7R2A472M080AA
	3216	1.15±0.15	±10%	CGA5H4X7R2J472K115AA		
			±20%	CGA5H4X7R2J472M115AA		
6.8nF	1608	0.80±0.10	±10%			CGA3E2X7R2A682K080AA
			±20%			CGA3E2X7R2A682M080AA
	2012	1.25±0.20	±10%		CGA4J3X7R2E682K125AA	
			±20%		CGA4J3X7R2E682M125AA	
	3216	1.15±0.15	±10%	CGA5H4X7R2J682K115AA		
			±20%	CGA5H4X7R2J682M115AA		
10nF	1608	0.80±0.10	±10%			CGA3E2X7R2A103K080AA
			±20%			CGA3E2X7R2A103M080AA
	2012	1.25±0.20	±10%		CGA4J3X7R2E103K125AA	
			±20%		CGA4J3X7R2E103M125AA	
	3216	1.15±0.15	±10%	CGA5H4X7R2J103K115AA		
			±20%	CGA5H4X7R2J103M115AA		
15nF	1608	0.80±0.10	±10%			CGA3E2X7R2A153K080AA
			±20%			CGA3E2X7R2A153M080AA
	2012	1.25±0.20	±10%		CGA4J3X7R2E153K125AA	CGA4J2X7R2A153K125AA
			±20%		CGA4J3X7R2E153M125AA	CGA4J2X7R2A153M125AA
	3216	1.15±0.15	±10%		CGA5H3X7R2E153K115AA	
			±20%		CGA5H3X7R2E153M115AA	
		1.30±0.20	±10%	CGA5K4X7R2J153K130AA		
			±20%	CGA5K4X7R2J153M130AA		
22nF	1608	0.80±0.10	±10%			CGA3E2X7R2A223K080AA
			±20%			CGA3E2X7R2A223M080AA
	2012	1.25±0.20	±10%		CGA4J3X7R2E223K125AA	CGA4J2X7R2A223K125AA
			±20%		CGA4J3X7R2E223M125AA	CGA4J2X7R2A223M125AA
	3216	1.15±0.15	±10%		CGA5H3X7R2E223K115AA	
			±20%		CGA5H3X7R2E223M115AA	
		1.30±0.20	±10%	CGA5K4X7R2J223K130AA		
			±20%	CGA5K4X7R2J223M130AA		
33nF	2012	1.25±0.20	±10%			CGA4J2X7R2A333K125AA
			±20%			CGA4J2X7R2A333M125AA
	3216	1.15±0.15	±10%			CGA5H2X7R2A333K115AA
			±20%			CGA5H2X7R2A333M115AA
		1.60±0.20	±10%	CGA5L4X7R2J333K160AA	CGA5L3X7R2E333K160AA	
			±20%	CGA5L4X7R2J333M160AA	CGA5L3X7R2E333M160AA	
47nF	2012	1.25±0.20	±10%			CGA4J2X7R2A473K125AA
			±20%			CGA4J2X7R2A473M125AA
	3216	1.15±0.15	±10%			CGA5H2X7R2A473K115AA
			±20%			CGA5H2X7R2A473M115AA
		1.60±0.20	±10%		CGA5L3X7R2E473K160AA	
			±20%		CGA5L3X7R2E473M160AA	
	3225	2.00±0.20	±10%	CGA6M4X7R2J473K200AA		
			±20%	CGA6M4X7R2J473M200AA		
68nF	3216	1.60±0.20	±10%		CGA5L3X7R2E683K160AA	CGA5L2X7R2A683K160AA
			±20%		CGA5L3X7R2E683M160AA	CGA5L2X7R2A683M160AA
	3225	2.00±0.20	±10%	CGA6M4X7R2J683K200AA		
			±20%	CGA6M4X7R2J683M200AA		
	4532	1.60±0.20	±10%	CGA8L4X7R2J683K160KA		
			±20%	CGA8L4X7R2J683M160KA		

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

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

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number		
				Rated voltage Edc: 630V	Rated voltage Edc: 250V	Rated voltage Edc: 100V
100nF	2012	1.25±0.20	±10%			CGA4J2X7R2A104K125AA
			±20%			CGA4J2X7R2A104M125AA
	3216	1.60±0.20	±10%		CGA5L3X7R2E104K160AA	CGA5L2X7R2A104K160AA
			±20%		CGA5L3X7R2E104M160AA	CGA5L2X7R2A104M160AA
	3225	2.00±0.20	±10%		CGA6M3X7R2E104K200AA	
			±20%		CGA6M3X7R2E104M200AA	
	4532	2.30±0.20	±10%	CGA8N4X7R2J104K230KA		
			±20%	CGA8N4X7R2J104M230KA		
150nF	3216	1.60±0.20	±10%			CGA5L2X7R2A154K160AA
			±20%			CGA5L2X7R2A154M160AA
	3225	2.00±0.20	±10%		CGA6M3X7R2E154K200AA	
			±20%		CGA6M3X7R2E154M200AA	
	4532	1.60±0.20	±10%		CGA8L3X7R2E154K160KA	
			±20%		CGA8L3X7R2E154M160KA	
	5750	1.60±0.20	±10%	CGA9L4X7R2J154K160KA		
			±20%	CGA9L4X7R2J154M160KA		
220nF	3216	1.15±0.15	±10%			CGA5H2X7R2A224K115AA
			±20%			CGA5H2X7R2A224M115AA
	3225	2.00±0.20	±10%		CGA6M3X7R2E224K200AA	
			±20%		CGA6M3X7R2E224M200AA	
	4532	2.30±0.20	±10%		CGA8N3X7R2E224K230KA	
			±20%		CGA8N3X7R2E224M230KA	
	5750	2.30±0.20	±10%	CGA9N4X7R2J224K230KA		
			±20%	CGA9N4X7R2J224M230KA		
330nF	3216	1.30±0.20	±10%			CGA5K2X7R2A334K130AA
			±20%			CGA5K2X7R2A334M130AA
	3225	2.00±0.20	±10%			CGA6M2X7R2A334K200AA
			±20%			CGA6M2X7R2A334M200AA
	4532	2.30±0.20	±10%		CGA8N3X7R2E334K230KA	
			±20%		CGA8N3X7R2E334M230KA	
	5750	1.60±0.20	±10%		CGA9L3X7R2E334K160KA	
			±20%		CGA9L3X7R2E334M160KA	
470nF	3216	1.60±0.20	±10%			CGA5L2X7R2A474K160AA
			±20%			CGA5L2X7R2A474M160AA
	3225	2.00±0.20	±10%			CGA6M2X7R2A474K200AA
			±20%			CGA6M2X7R2A474M200AA
	4532	2.30±0.20	±10%		CGA8N3X7R2E474K230KA	
			±20%		CGA8N3X7R2E474M230KA	
	5750	2.30±0.20	±10%		CGA9N3X7R2E474K230KA	
			±20%		CGA9N3X7R2E474M230KA	
680nF	3216	1.60±0.20	±10%			CGA5L2X7R2A684K160AA
			±20%			CGA5L2X7R2A684M160AA
	3225	1.60±0.20	±10%			CGA6L2X7R2A684K160AA
			±20%			CGA6L2X7R2A684M160AA
	4532	2.30±0.20	±10%			CGA8N2X7R2A684K230KA
			±20%			CGA8N2X7R2A684M230KA
	5750	1.60±0.20	±10%			CGA9L2X7R2A684K160KA
			±20%			CGA9L2X7R2A684M160KA
		2.30±0.20	±10%		CGA9N3X7R2E684K230KA	
			±20%		CGA9N3X7R2E684M230KA	
1μF	3216	1.60±0.20	±10%			CGA5L2X7R2A105K160AA
			±20%			CGA5L2X7R2A105M160AA
	3225	2.00±0.20	±10%			CGA6M2X7R2A105K200AA
			±20%			CGA6M2X7R2A105M200AA
	4532	2.30±0.20	±10%			CGA8N2X7R2A105K230KA
			±20%			CGA8N2X7R2A105M230KA
	5750	2.30±0.20	±10%		CGA9N3X7R2E105K230KA	CGA9N2X7R2A105K230KA
			±20%		CGA9N3X7R2E105M230KA	CGA9N2X7R2A105M230KA
1.5μF	3225	2.00±0.20	±10%			CGA6M3X7R2A155K200AB
			±20%			CGA6M3X7R2A155M200AB
	4532	2.30±0.20	±10%			CGA8N2X7R2A155K230KA
			±20%			CGA8N2X7R2A155M230KA
	5750	2.30±0.20	±10%			CGA9N2X7R2A155K230KA
			±20%			CGA9N2X7R2A155M230KA

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

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

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number
				Rated voltage Edc: 100V
2.2µF	3225	2.30±0.20	±10%	CGA6N3X7R2A225K230AB
			±20%	CGA6N3X7R2A225M230AB
	4532	2.30±0.20	±10%	CGA8N2X7R2A225K230KA
			±20%	CGA8N2X7R2A225M230KA
	5750	2.30±0.20	±10%	CGA9N2X7R2A225K230KA
			±20%	CGA9N2X7R2A225M230KA
3.3µF	5750	2.30±0.20	±10%	CGA9N2X7R2A335K230KA
			±20%	CGA9N2X7R2A335M230KA
4.7µF	5750	2.30±0.20	±10%	CGA9N2X7R2A475K230KA
			±20%	CGA9N2X7R2A475M230KA

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

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

Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number Rated voltage Edc: 100V
1nF	1005	0.50±0.05	±10%	CGA2B3X7S2A102K050BB
			±20%	CGA2B3X7S2A102M050BB
1.5nF	1005	0.50±0.05	±10%	CGA2B3X7S2A152K050BB
			±20%	CGA2B3X7S2A152M050BB
2.2nF	1005	0.50±0.05	±10%	CGA2B3X7S2A222K050BB
			±20%	CGA2B3X7S2A222M050BB
3.3nF	1005	0.50±0.05	±10%	CGA2B3X7S2A332K050BB
			±20%	CGA2B3X7S2A332M050BB
4.7nF	1005	0.50±0.05	±10%	CGA2B3X7S2A472K050BB
			±20%	CGA2B3X7S2A472M050BB
6.8nF	1005	0.50±0.05	±10%	CGA2B3X7S2A682K050BB
			±20%	CGA2B3X7S2A682M050BB
10nF	1005	0.50±0.05	±10%	CGA2B3X7S2A103K050BB
			±20%	CGA2B3X7S2A103M050BB
33nF	1608	0.80±0.10	±10%	CGA3E3X7S2A333K080AB
			±20%	CGA3E3X7S2A333M080AB
47nF	1608	0.80±0.10	±10%	CGA3E3X7S2A473K080AB
			±20%	CGA3E3X7S2A473M080AB
68nF	1608	0.80±0.10	±10%	CGA3E3X7S2A683K080AB
			±20%	CGA3E3X7S2A683M080AB
100nF	1608	0.80±0.10	±10%	CGA3E3X7S2A104K080AB
			±20%	CGA3E3X7S2A104M080AB
330nF	2012	1.25±0.20	±10%	CGA4J3X7S2A334K125AB
			±20%	CGA4J3X7S2A334M125AB
470nF	2012	1.25±0.20	±10%	CGA4J3X7S2A474K125AB
			±20%	CGA4J3X7S2A474M125AB
680nF	2012	1.25±0.20	±10%	CGA4J3X7S2A684K125AB
			±20%	CGA4J3X7S2A684M125AB
1μF	2012	1.25±0.20	±10%	CGA4J3X7S2A105K125AB
			±20%	CGA4J3X7S2A105M125AB
1.5μF	3216	1.60±0.20	±10%	CGA5L3X7S2A155K160AB
			±20%	CGA5L3X7S2A155M160AB
2.2μF	3216	1.60±0.20	±10%	CGA5L3X7S2A225K160AB
			±20%	CGA5L3X7S2A225M160AB
3.3μF	3216	1.60+0.30,-0.10	±10%	CGA5L3X7S2A335K160AB
			±20%	CGA5L3X7S2A335M160AB
	3225	2.00±0.20	±10%	CGA6M3X7S2A335K200AB
			±20%	CGA6M3X7S2A335M200AB
	4532	2.00±0.20	±10%	CGA8M3X7S2A335K200KB
			±20%	CGA8M3X7S2A335M200KB
4.7μF	3225	2.00±0.20	±10%	CGA6M3X7S2A475K200AB
			±20%	CGA6M3X7S2A475M200AB
	4532	2.30±0.20	±10%	CGA8N3X7S2A475K230KB
			±20%	CGA8N3X7S2A475M230KB
6.8μF	5750	2.00±0.20	±10%	CGA9M3X7S2A685K200KB
			±20%	CGA9M3X7S2A685M200KB
10μF	5750	2.30±0.20	±10%	CGA9N3X7S2A106K230KB
			±20%	CGA9N3X7S2A106M230KB
15μF	5750	2.50±0.30	±20%	CGA9P3X7S2A156M250KB

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

Capacitance range table — Temperature characteristics: 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
22nF	2012	1.25±0.20	±10%		CGA4J4X7T2W223K125AA	
			±20%		CGA4J4X7T2W223M125AA	
	3216	1.15±0.15	±10%	CGA5H1X7T2J223K115AC		
			±20%	CGA5H1X7T2J223M115AC		
33nF	2012	1.25±0.20	±10%		CGA4J4X7T2W333K125AA	CGA4J3X7T2E333K125AA
			±20%		CGA4J4X7T2W333M125AA	CGA4J3X7T2E333M125AA
	3216	1.15±0.15	±10%	CGA5H1X7T2J333K115AC		
			±20%	CGA5H1X7T2J333M115AC		
47nF	2012	1.25±0.20	±10%		CGA4J4X7T2W473K125AA	CGA4J3X7T2E473K125AA
			±20%		CGA4J4X7T2W473M125AA	CGA4J3X7T2E473M125AA
	3216	1.60±0.20	±10%	CGA5L1X7T2J473K160AC		
			±20%	CGA5L1X7T2J473M160AC		
68nF	2012	1.25±0.20	±10%			CGA4J3X7T2E683K125AA
			±20%			CGA4J3X7T2E683M125AA
	3216	1.30±0.20	±10%		CGA5K4X7T2W683K130AA	
			±20%		CGA5K4X7T2W683M130AA	
100nF	2012	1.25±0.20	±10%			CGA4J3X7T2E104K125AA
			±20%			CGA4J3X7T2E104M125AA
	3216	1.60±0.20	±10%		CGA5L4X7T2W104K160AA	
			±20%		CGA5L4X7T2W104M160AA	
	3225	1.60±0.20	±10%	CGA6L1X7T2J104K160AC		
			±20%	CGA6L1X7T2J104M160AC		
150nF	3216	1.30±0.20	±10%			CGA5K3X7T2E154K130AA
			±20%			CGA5K3X7T2E154M130AA
	3225	2.00±0.20	±10%	CGA6M1X7T2J154K200AC		
			±20%	CGA6M1X7T2J154M200AC		
	4532	1.60±0.20	±10%	CGA8L1X7T2J154K160KC		
			±20%	CGA8L1X7T2J154M160KC		
220nF	3216	1.60±0.20	±10%			CGA5L3X7T2E224K160AA
			±20%			CGA5L3X7T2E224M160AA
	3225	2.00±0.20	±10%		CGA6M4X7T2W224K200AA	
			±20%		CGA6M4X7T2W224M200AA	
	4532	2.00±0.20	±10%	CGA8M1X7T2J224K200KC		
			±20%	CGA8M1X7T2J224M200KC		
330nF	3225	2.00±0.20	±10%			CGA6M3X7T2E334K200AA
			±20%			CGA6M3X7T2E334M200AA
	4532	1.60±0.20	±10%		CGA8L4X7T2W334K160KA	
			±20%		CGA8L4X7T2W334M160KA	
	5750	2.00±0.20	±10%	CGA9M1X7T2J334K200KC		
			±20%	CGA9M1X7T2J334M200KC		
470nF	4532	2.30±0.20	±10%		CGA8N4X7T2W474K230KA	
			±20%		CGA8N4X7T2W474M230KA	
	5750	2.50±0.30	±10%	CGA9P1X7T2J474K250KC		
			±20%	CGA9P1X7T2J474M250KC		
680nF	4532	1.60±0.20	±10%			CGA8L3X7T2E684K160KA
			±20%			CGA8L3X7T2E684M160KA
	5750	2.00±0.20	±10%		CGA9M4X7T2W684K200KA	
			±20%		CGA9M4X7T2W684M200KA	
1μF	4532	2.50±0.30	±10%			CGA8P3X7T2E105K250KA
			±20%			CGA8P3X7T2E105M250KA
	5750	2.50±0.30	±10%		CGA9P4X7T2W105K250KA	
			±20%		CGA9P4X7T2W105M250KA	
1.5μF	5750	2.00±0.20	±10%			CGA9M3X7T2E155K200KA
			±20%			CGA9M3X7T2E155M200KA
2.2μF	5750	2.50±0.30	±10%			CGA9P3X7T2E225K250KA
			±20%			CGA9P3X7T2E225M250KA

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

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