

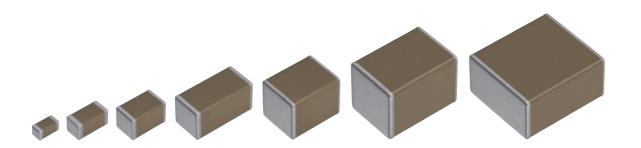
MULTILAYER CERAMIC CHIP CAPACITORS

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

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

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)







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.

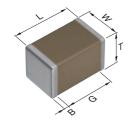
FEATURES

- Voltage rating of 100V, 250V, 450V and 630V
- Operating temperature range: -55 to +125°C
- COG 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
- Decoupling, smoothing, snubber and resonant circuit and so on of high voltage circuit.

SHAPE & DIMENSIONS



L	Body length
W	Body width
Т	Body height
В	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

Туре	L	W	Т	В	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.

MULTILAYER CERAMIC CHIP CAPACITORS



CATALOG NUMBER CONSTRUCTION

CGA	9	Р	3	X7S	2 A	156	M	250	K	В	
(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
В	0.50 mm
С	0.60 mm
E	0.80 mm
F	0.85 mm
Н	1.15 mm
J	1.25 mm
K	1.30 mm
L	1.60 mm
М	2.00 mm
N	2.30 mm
Р	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 $225 = 2,200,000pF = 2.2\mu F$

(8) Capacitance tolerance

Code	Tolerance
С	±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	
Α	178mm reel, 4mm pitch	
В	178mm reel, 2mm pitch	
K	178mm reel, 8mm pitch	

(11) Special reserved code

Code	Description
A,B,C,N	TDK internal code



CGA2/1005 [0402 inch]

Capacitar	nce	C	OG	X7S
(pF)	Code	_	A 0V)	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 thickn	ess		0	.50mm

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



CGA3/1608 [0603 inch]

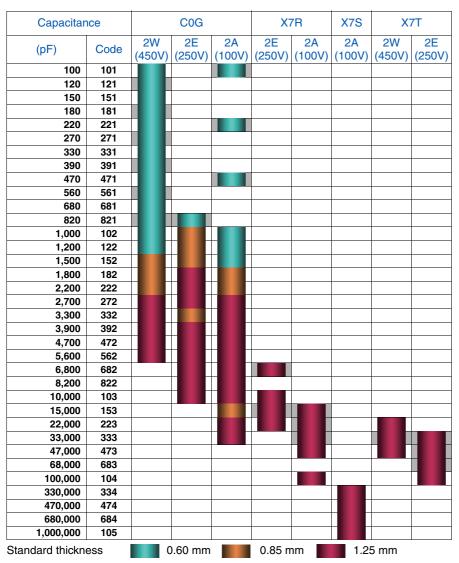
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33,000 333 47,000 473 68,000 683 100,000 104						
47,000 473 68,000 683 100,000 104						
68,000 683 100,000 104						
100,000 104						
Standard thickness 0.80mm	100,000	104				
	Standard thickne	ess).80mm		

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.



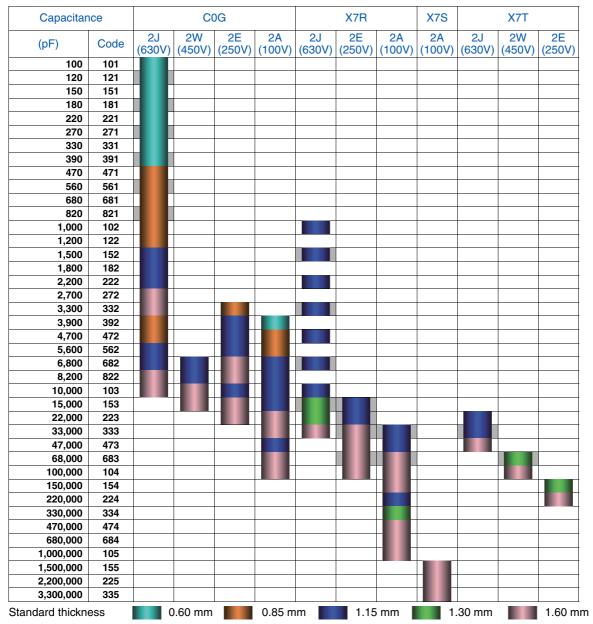
CGA4/2012 [0805 inch]



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



CGA5/3216 [1206 inch]

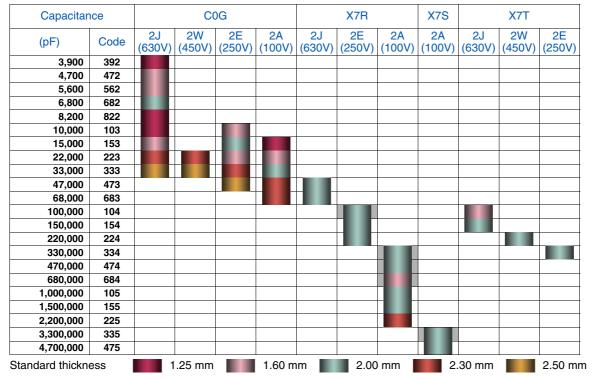


Background gray: The product which is not recommended to a new design.

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



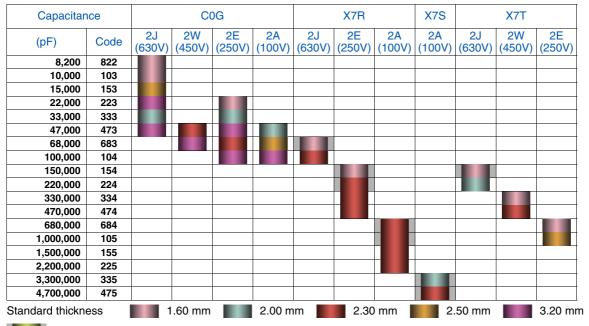
CGA6/3225 [1210 inch]



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



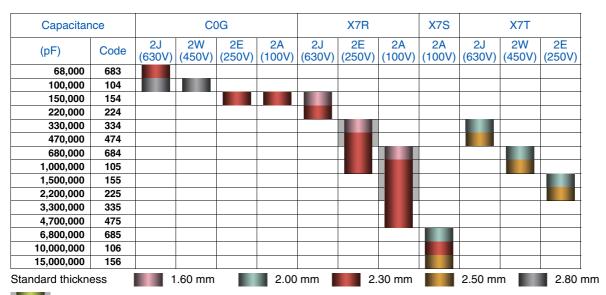
CGA8/4532 [1812 inch]



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

Capacitance range chart

CGA9/5750 [2220 inch]



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

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

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



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

•	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
одр.	1005	0.50±0.05	±5%				CGA2B2C0G2A101J050BA
	1608	0.80±0.10	±5%			CGA3E3C0G2E101J080AA	CGA3E2C0G2A101J080AA
100pF	2012	0.60±0.15	±5%		CGA4C4C0G2W101J060AA	04/1020004221010000/1/	CGA4C2C0G2A101J060AA
	3216	0.60±0.15	±5%	CGA5C4C0G2J101J060AA	OGA+O+OGGZW1010000AA		00A4020002A1010000AA
	1005	0.50±0.05	±5%	00A304000201010000AA			CGA2B2C0G2A121J050BA
	1608	0.80±0.03	±5%			CGA3E3C0G2E121J080AA	CGA3E2C0G2A121J080AA
120pF	2012	0.60±0.15	±5%		CGA4C4C0G2W121J060AA	OGAGEGOGGE 12 10000AA	OGAGEZOOGZATZ TOOGGAA
	3216	0.60±0.15	±5%	CGA5C4C0G2J121J060AA	CGA4C4C0G2W1213000AA		
	1005	0.50±0.15	±5%	CGA3C4C0G231213000AA			CGA2B2C0G2A151J050BA
	1608	0.80±0.03	±5%			CGA3E3C0G2E151J080AA	CGA3E2C0G2A151J080AA
150pF	2012	0.60±0.10	±5%		CGA4C4C0G2W151J060AA	CGASESCOGZETSTSOOOAA	CGASE2C0G2A151J080AA
				CCAEC4C0C0 HE1 10C0AA	CGA4C4C0G2W151J060AA		
	3216 1005	0.60±0.15	±5%	CGA5C4C0G2J151J060AA			CC 4 0 D 0 C 0 C 0 A 1 0 1 1 0 F 0 D A
	-	0.50±0.05	±5%			CC 40E0C0C0E101 I0004 A	CGA2B2C0G2A181J050BA
180pF	1608	0.80±0.10	±5%		CCA4C4C0C0\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	CGA3E3C0G2E181J080AA	CGA3E2C0G2A181J080AA
	2012	0.60±0.15	±5%	00450400001404100044	CGA4C4C0G2W181J060AA		
	3216	0.60±0.15	±5%	CGA5C4C0G2J181J060AA			00400000004004105004
	1005	0.50±0.05	±5%			00.40500005004.0004.4	CGA2B2C0G2A221J050BA
220pF	1608	0.80±0.10	±5%			CGA3E3C0G2E221J080AA	CGA3E2C0G2A221J080AA
•	2012	0.60±0.15	±5%		CGA4C4C0G2W221J060AA		CGA4C2C0G2A221J060AA
	3216	0.60±0.15	±5%	CGA5C4C0G2J221J060AA			004000000000000000000000000000000000000
	1005	0.50±0.05	±5%			004050000505	CGA2B2C0G2A271J050BA
270pF	1608	0.80±0.10	±5%			CGA3E3C0G2E271J080AA	CGA3E2C0G2A271J080AA
· P	2012	0.60±0.15	±5%	001501050555	CGA4C4C0G2W271J060AA		
	3216	0.60±0.15	±5%	CGA5C4C0G2J271J060AA			
	1005	0.50±0.05	±5%				CGA2B2C0G2A331J050BA
330pF	1608	0.80±0.10	±5%			CGA3E3C0G2E331J080AA	CGA3E2C0G2A331J080AA
p.	2012	0.60±0.15	±5%		CGA4C4C0G2W331J060AA		
	3216	0.60±0.15	±5%	CGA5C4C0G2J331J060AA			
	1005	0.50±0.05	±5%				CGA2B2C0G2A391J050BA
390pF	1608	0.80±0.10	±5%			CGA3E3C0G2E391J080AA	CGA3E2C0G2A391J080AA
-00pi	2012	0.60±0.15	±5%		CGA4C4C0G2W391J060AA		
	3216	0.60±0.15	±5%	CGA5C4C0G2J391J060AA			
	1005	0.50±0.10	±5%				CGA2B2C0G2A471J050BA
470pF	1608	0.80±0.10	±5%			CGA3E3C0G2E471J080AA	CGA3E2C0G2A471J080AA
41 ohi	2012	0.60±0.15	±5%		CGA4C4C0G2W471J060AA		CGA4C2C0G2A471J060AA
	3216	0.85±0.15	±5%	CGA5F4C0G2J471J085AA			
	1005	0.50±0.05	±5%				CGA2B1C0G2A561J050BC
560pF	1608	0.80±0.10	±5%			CGA3E3C0G2E561J080AA	CGA3E2C0G2A561J080AA
σουμι	2012	0.60±0.15	±5%		CGA4C4C0G2W561J060AA		
	3216	0.85±0.15	±5%	CGA5F4C0G2J561J085AA			

 $[\]blacksquare$ Gray item: The product which is not recommended to a new design.



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

Capacitance	Dimensions	Thickness	Capacitance	Catalog number			
-араспансе -		(mm)	tolerance	Rated voltage Edc: 630V	Rated voltage Edc: 450V	Rated voltage Edc: 250V	Rated voltage Edc: 100V
:	1005	0.50±0.05	±5%				CGA2B1C0G2A681J050BC
680pF	1608	0.80±0.10	±5%			CGA3E3C0G2E681J080AA	CGA3E2C0G2A681J080AA
ооорі	2012	0.60±0.15	±5%		CGA4C4C0G2W681J060AA		
	3216	0.85±0.15	±5%	CGA5F4C0G2J681J085AA			
	1005	0.50±0.05	±5%				CGA2B1C0G2A821J050B0
820pF	1608	0.80±0.10	±5%			CGA3E3C0G2E821J080AA	CGA3E2C0G2A821J080A
020pi	2012	0.60±0.15	±5%		CGA4C4C0G2W821J060AA	CGA4C3C0G2E821J060AA	
	3216	0.85±0.15	±5%	CGA5F4C0G2J821J085AA			
	1005	0.50±0.05	±5%				CGA2B1C0G2A102J050B0
	1608	0.80±0.10	±5%			CGA3E3C0G2E102J080AA	CGA3E2C0G2A102J080A
1nF	2012 -	0.60±0.15	±5%		CGA4C4C0G2W102J060AA		CGA4C2C0G2A102J060A
	2012	0.85±0.15	±5%			CGA4F3C0G2E102J085AA	
	3216	0.85±0.15	±5%	CGA5F4C0G2J102J085AA			
	1608	0.80±0.10	±5%			CGA3E3C0G2E122J080AA	CGA3E2C0G2A122J080A
1.0nE	2012	0.60±0.15	±5%		CGA4C4C0G2W122J060AA		CGA4C2C0G2A122J060A
1.2nF	2012	0.85±0.15	±5%			CGA4F3C0G2E122J085AA	
•	3216	0.85±0.15	±5%	CGA5F4C0G2J122J085AA			
	1608	0.80±0.10	±5%			CGA3E3C0G2E152J080AA	CGA3E2C0G2A152J080A
	2212	0.60±0.15	±5%				CGA4C2C0G2A152J060A
1.5nF	2012 -	0.85±0.15	±5%		CGA4F4C0G2W152J085AA	CGA4F3C0G2E152J085AA	
	3216	1.15±0.15	±5%	CGA5H4C0G2J152J115AA		<u> </u>	
	1608	0.80±0.10	±5%			CGA3E3C0G2E182J080AA	CGA3E2C0G2A182J080A
•		0.85±0.15	±5%		CGA4F4C0G2W182J085AA		CGA4F2C0G2A182J085A
1.8nF	2012 -	1.25±0.20	±5%		CG/141 400GZW1020000/W1	CGA4J3C0G2E182J125AA	OG/141 200 GZ/1102000071
	3216	1.15±0.15	±5%	CGA5H4C0G2J182J115AA		CG/14000042E1020120701	
	3210	0.80±0.10	±5%	CGA3114C0G231623113AA			CGA3E2C0G2A222J080A
	1608	0.80±0.10	±5%			CGA3E3C0G2E222J080AA	CGASLZCOGZAZZZJOOOA
0.0					CC 4 4 F 4 C 0 C 0 W 1000 100 F 4 4	CGASESCOGZEZZZJOSOAA	CC 4 4 F 0 C 0 C 0 A 0 0 0 1 0 0 F A
2.2nF	2012 -	0.85±0.15	±5%		CGA4F4C0G2W222J085AA	00441000005000140544	CGA4F2C0G2A222J085A
		1.25±0.20	±5%	004514400001000144544		CGA4J3C0G2E222J125AA	
	3216	1.15±0.15	±5%	CGA5H4C0G2J222J115AA			
	1608	0.80±0.20	±5%				CGA3E2C0G2A272J080A
2.7nF	2012	1.25±0.20	±5%		CGA4J4C0G2W272J125AA	CGA4J3C0G2E272J125AA	CGA4J2C0G2A272J125A/
	3216	1.60±0.20	±5%	CGA5L4C0G2J272J160AA			
	1608	0.80±0.20	±5%				CGA3E2C0G2A332J080A
	2012 -	0.85±0.15	±5%			CGA4F3C0G2E332J085AA	
3.3nF	2012	1.25±0.20	±5%		CGA4J4C0G2W332J125AA		CGA4J2C0G2A332J125A
	3216 -	0.85±0.15	±5%			CGA5F3C0G2E332J085AA	
	3210	1.60±0.20	±5%	CGA5L4C0G2J332J160AA			
	1608	0.80±0.10	±5%				CGA3E1C0G2A392J080A
	2012	1.25±0.20	±5%		CGA4J4C0G2W392J125AA	CGA4J3C0G2E392J125AA	CGA4J2C0G2A392J125A
00.5		0.60±0.15	±5%				CGA5C2C0G2A392J060A
3.9nF	3216	0.85±0.15	±5%	CGA5F4C0G2J392J085AA			
	-	1.15±0.15	±5%			CGA5H3C0G2E392J115AA	
	3225	1.25±0.20	±5%	CGA6J4C0G2J392J125AA			
	1608	0.80±0.10	±5%				CGA3E1C0G2A472J080A
•	2012	1.25±0.20	±5%		CGA4J4C0G2W472J125AA	CGA4J3C0G2E472J125AA	CGA4J2C0G2A472J125A
4.7nF		0.85±0.15	±5%	CGA5F4C0G2J472J085AA			CGA5F2C0G2A472J085A
	3216 -	1.15±0.15	±5%	2 G. 101 100 GEO 17 2000 GAA		CGA5H3C0G2E472J115AA	3 G. 10. 200 GENTI 20000A
	3225	1.60±0.20	±5%	CGA6L4C0G2J472J160AA		CaronocoallerizorioAA	
		0.80±0.20		OUAUL+000204720100AA			CGA3E1C0G2A562J080A
	1608		±5%		CCA414C0C0MEC0140E44	CCA412C0C0EE00140E * *	
E Gr.	2012	1.25±0.20	±5%		CGA4J4C0G2W562J125AA	CGA4J3C0G2E562J125AA	CGA4J2C0G2A562J125A
5.6nF	3216 -	0.85±0.15	±5%	0045140000015001445		00451100000555001445	CGA5F2C0G2A562J085A
		1.15±0.15	±5%	CGA5H4C0G2J562J115AA		CGA5H3C0G2E562J115AA	
	3225	1.60±0.20	±5%	CGA6L4C0G2J562J160AA			
	1608	0.80±0.10	±5%				CGA3E1C0G2A682J080A
	2012	1.25±0.20	±5%			CGA4J3C0G2E682J125AA	CGA4J2C0G2A682J125A
6.8nF	3216 -	1.15±0.15	±5%	CGA5H4C0G2J682J115AA	CGA5H4C0G2W682J115AA		CGA5H2C0G2A682J115A
	0 <u>2</u> 10	1.60±0.20	±5%			CGA5L3C0G2E682J160AA	
<u> </u>	3225	2.00±0.20	±5%	CGA6M4C0G2J682J200AA			
	1608	0.80±0.10	±5%				CGA3E1C0G2A822J080A
	2012	1.25±0.20	±5%			CGA4J3C0G2E822J125AA	CGA4J2C0G2A822J125A
		1.15±0.15	±5%		CGA5H4C0G2W822J115AA		CGA5H2C0G2A822J115A
8.2nF	3216	1.60±0.20	±5%	CGA5L4C0G2J822J160AA		CGA5L3C0G2E822J160AA	
	3225	1.25±0.20	±5%	CGA6J4C0G2J822J125AA		- G. 101000GLL0220100AA	
	4532	1.60±0.20	±5%	CGA8L4C0G2J822J160KA			

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



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

Consoitones	Dimensions	Thickness	Capacitance	Catalog number			
Сараспапсе	Dimensions	(mm)	tolerance	Rated voltage Edc: 630V	Rated voltage Edc: 450V	Rated voltage Edc: 250V	Rated voltage Edc: 100V
	1608	0.80±0.10	±5%				CGA3E1C0G2A103J080AC
	2012	1.25±0.20	±5%			CGA4J3C0G2E103J125AA	CGA4J2C0G2A103J125AA
	3216	1.15±0.15	±5%			CGA5H3C0G2E103J115AA	CGA5H2C0G2A103J115AA
10nF	3210	1.60±0.20	±5%	CGA5L4C0G2J103J160AA	CGA5L4C0G2W103J160AA		
	3225	1.25±0.20	±5%	CGA6J4C0G2J103J125AA			
	3223	1.60±0.20	±5%			CGA6L3C0G2E103J160AA	
	4532	1.60±0.20	±5%	CGA8L4C0G2J103J160KA			
	2012	0.85±0.15	±5%				CGA4F1C0G2A153J085AC
		1.15±0.15	±5%				CGA5H2C0G2A153J115AA
	3216	1.60+0.30,-0.10	±5%		CGA5L4C0G2W153J160AA		
45.5		1.60±0.20	±5%			CGA5L3C0G2E153J160AA	
15nF		1.25±0.20	±5%				CGA6J2C0G2A153J125AA
	3225	1.60±0.20	±5%	CGA6L4C0G2J153J160AA			
		2.00±0.20	±5%			CGA6M3C0G2E153J200AA	
	4532	2.50±0.30	±5%	CGA8P4C0G2J153J250KA			
	2012	1.25±0.20	±5%				CGA4J1C0G2A223J125AC
		1.60+0.30,-0.10				CGA5L3C0G2E223J160AA	
	3216	1.60±0.20	±5%				CGA5L2C0G2A223J160AA
22nF		1.60±0.20	±5%			CGA6L3C0G2E223J160AA	CGA6L2C0G2A223J160AA
	3225	2.30±0.20	±5%	CGA6N4C0G2J223J230AA	CGA6N4C0G2W223J230AA		
	4532	1.60±0.20	±5%			CGA8L3C0G2E223J160KA	
		3.20±0.30	±5%	CGA8R4C0G2J223J320KA			
	2012	1.25±0.20	±5%	34, 10111344252255526181			CGA4J1C0G2A333J125AC
	3216	1.60+0.30,-0.10					CGA5L2C0G2A333J160AA
		2.00±0.20	±5%				CGA6M2C0G2A333J200AA
33nF	3225	2.30±0.20	±5%			CGA6N3C0G2E333J230AA	04/10/120042/1000200/1/1
		2.50±0.30	±5%	CGA6P4C0G2J333J250AA	CGA6P4C0G2W333J250AA	04/10/10004220002007171	
	4532	2.00±0.20	±5%	CGA8M4C0G2J333J200KA	00A01 40002770000250AA	CGA8M3C0G2E333J200KA	
	3216	1.15±0.15	±5%	CCAOMITOCCESSOSSESSICA		CARONICOCALEGOODECONA	CGA5H1C0G2A473J115AC
	0210	2.30±0.20	±5%				CGA6N2C0G2A473J230AA
	3225	2.50±0.20	±5%			CGA6P3C0G2E473J250AA	00A01120002A4700200AA
47nF		2.00±0.30	±5%			CGA01-3C0G2E4730230AA	CGA8M2C0G2A473J200KA
	4532	2.30±0.20	±5%		CGA8N4C0G2W473J230KA		CGAGINIZCOGZA4730ZOONA
	4552		±5%	CCA0D4C0C014701000KA	CGA6N4C0G2W473J230KA	CC 4 0 D 2 C 0 C 0 E 4 7 2 1 2 0 0 V A	
	3216	3.20±0.30	±5%	CGA8R4C0G2J473J320KA		CGA8R3C0G2E473J320KA	CGA5L1C0G2A683J160AC
	3225	1.60±0.20					
	3225	2.30±0.20	±5% ±5%			CCARNACOCOFCOO IOCOVAL	CGA6N2C0G2A683J230AA
68nF	4500	2.30±0.20				CGA8N4C0G2E683J230KN	004000000400010501/4
	4532	2.50±0.30	±5%		00 400 400 0014/000 1000//4		CGA8P2C0G2A683J250KA
		3.20±0.30	±5%	00404400004000400	CGA8R4C0G2W683J320KA		
	5750	2.30±0.20	±5%	CGA9N1C0G2J683J230KC			00451400004404140040
400.5	3216	1.60±0.20	±5%			001001000051011555101	CGA5L1C0G2A104J160AC
100nF	4532	3.20±0.30	±5%	004004000011041000110	004004000000000000000000000000000000000	CGA8R4C0G2E104J320KN	CGA8R2C0G2A104J320KA
450.5	5750	2.80±0.30	±5%	CGA9Q1C0G2J104J280KC	CGA9Q4C0G2W104J280KA	0010110000515155577	00401100000044541555111
150nF	5750	2.30±0.20	±5%			CGA9N4C0G2E154J230KN	CGA9N2C0G2A154J230KA



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				
	1608	0.80±0.10	±10%			CGA3E2X7R2A102K080AA				
1nF		0.0020.10	±20%			CGA3E2X7R2A102M080AA				
	3216	1.15±0.15	±10%	CGA5H4X7R2J102K115AA						
			±20%	CGA5H4X7R2J102M115AA		00405077004450700044				
	1608	0.80±0.10	±10% ±20%			CGA3E2X7R2A152K080AA				
1.5nF			±20% ±10%	CGA5H4X7R2J152K115AA		CGA3E2X7R2A152M080AA				
	3216	1.15±0.15	±10%	CGA5H4X7R2J152M115AA						
			±10%	OGASTIANTIZOTSZIWITISAA		CGA3E2X7R2A222K080AA				
	1608	0.80±0.10	±20%			CGA3E2X7R2A222M080AA				
2.2nF			±10%	CGA5H4X7R2J222K115AA						
	3216	1.15±0.15	±20%	CGA5H4X7R2J222M115AA						
	1000	0.00.040	±10%			CGA3E2X7R2A332K080AA				
3.3nF	1608	0.80±0.10	±20%			CGA3E2X7R2A332M080AA				
0.0111	3216	1.15±0.15	±10%	CGA5H4X7R2J332K115AA						
	3210	1.15±0.15	±20%	CGA5H4X7R2J332M115AA						
	1608	0.80±0.10	±10%			CGA3E2X7R2A472K080AA				
4.7nF		0.0020.10	±20%			CGA3E2X7R2A472M080AA				
	3216	1.15±0.15	±10%	CGA5H4X7R2J472K115AA						
			±20%	CGA5H4X7R2J472M115AA		004050750400070044				
	1608	0.80±0.10	±10%			CGA3E2X7R2A682K080AA				
			±20% ±10%		CCA4 12Y7D0Ec001/10F	CGA3E2X7R2A682M080AA				
6.8nF	2012	1.25±0.20	±10% ±20%		CGA4J3X7R2E682K125AA CGA4J3X7R2E682M125AA					
			±20%	CGA5H4X7R2J682K115AA	CGA403X/112E002IVI12SAA					
	3216	1.15±0.15	±20%	CGA5H4X7R2J682M115AA						
			±10%	CG/1011-7//1120002W1110/W1		CGA3E2X7R2A103K080AA				
	1608	0.80±0.10	±20%			CGA3E2X7R2A103M080AA				
			±10%		CGA4J3X7R2E103K125AA	O GA TO ELECTRICATION OF THE				
10nF	2012	1.25±0.20	±20%		CGA4J3X7R2E103M125AA					
			±10%	CGA5H4X7R2J103K115AA						
	3216	1.15±0.15	±20%	CGA5H4X7R2J103M115AA						
	1600	0.80.0.10	±10%			CGA3E2X7R2A153K080AA				
	1608	0.80±0.10	±20%			CGA3E2X7R2A153M080AA				
	2012	2012	2012	2012	2012	1.25±0.20	±10%		CGA4J3X7R2E153K125AA	CGA4J2X7R2A153K125AA
15nF	2012	1.25±0.20	±20%		CGA4J3X7R2E153M125AA	CGA4J2X7R2A153M125AA				
10111		1.15±0.15	±10%		CGA5H3X7R2E153K115AA					
	3216 -	0200	±20%		CGA5H3X7R2E153M115AA					
		1.30±0.20	±10%	CGA5K4X7R2J153K130AA						
			±20%	CGA5K4X7R2J153M130AA		00.4.05.0\/550.4.00.0\/600.4.4				
	1608	0.80±0.10	±10%			CGA3E2X7R2A223K080AA				
			±20%		CC 4 4 IOVZDOE000K10E 4 4	CGA3E2X7R2A223M080AA				
	2012	1.25±0.20	±10% ±20%		CGA4J3X7R2E223K125AA CGA4J3X7R2E223M125AA	CGA4J2X7R2A223K125AA CGA4J2X7R2A223M125AA				
22nF			±20%		CGA5H3X7R2E223K115AA	CGA432X/112A223W1123AA				
		1.15±0.15	±20%		CGA5H3X7R2E223M115AA					
	3216 -		±10%	CGA5K4X7R2J223K130AA	Cartolio (112 EEE Color 107 V					
		1.30±0.20	±20%	CGA5K4X7R2J223M130AA						
			±10%			CGA4J2X7R2A333K125AA				
	2012	1.25±0.20	±20%			CGA4J2X7R2A333M125AA				
			±10%			CGA5H2X7R2A333K115AA				
33nF	2012	1.15±0.15	±20%			CGA5H2X7R2A333M115AA				
	3216 -	4.00.0.00	±10%	CGA5L4X7R2J333K160AA	CGA5L3X7R2E333K160AA					
		1.60±0.20	±20%	CGA5L4X7R2J333M160AA	CGA5L3X7R2E333M160AA					
	0010	1.05.0.00	±10%			CGA4J2X7R2A473K125AA				
	2012	1.25±0.20	±20%			CGA4J2X7R2A473M125AA				
		1.15±0.15	±10%			CGA5H2X7R2A473K115AA				
47nF	3216 -	1.10±0.13	±20%			CGA5H2X7R2A473M115AA				
7/111	0210	1.60±0.20	±10%		CGA5L3X7R2E473K160AA					
		1.00±0.20	±20%		CGA5L3X7R2E473M160AA					
	3225	2.00±0.20	±10%	CGA6M4X7R2J473K200AA						
	33		±20%	CGA6M4X7R2J473M200AA						
	3216	1.60±0.20	±10%		CGA5L3X7R2E683K160AA	CGA5L2X7R2A683K160AA				
		- *	±20%	0010110/7001111111111111111111111111111	CGA5L3X7R2E683M160AA	CGA5L2X7R2A683M160AA				
68nF	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.



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

Capacitance	Dimensions	Thickness	Capacitance	Catalog number			
- Capacita: 100	2	(mm)	tolerance	Rated voltage Edc: 630V	Rated voltage Edc: 250V	Rated voltage Edc: 100V	
	2012	1.25±0.20	±10%			CGA4J2X7R2A104K125AA	
			±20%			CGA4J2X7R2A104M125AA	
	3216	1.60±0.20	±10%		CGA5L3X7R2E104K160AA	CGA5L2X7R2A104K160AA	
100nF			±20%		CGA5L3X7R2E104M160AA	CGA5L2X7R2A104M160AA	
	3225	2.00±0.20	±10%		CGA6M3X7R2E104K200AA		
			±20% ±10%	CGA8N4X7R2J104K230KA	CGA6M3X7R2E104M200AA		
	4532	2.30±0.20	±10%	CGA8N4X7R2J104M230KA			
			±10%	COACITATITECTOTIVESOITA		CGA5L2X7R2A154K160AA	
	3216	1.60±0.20	±20%			CGA5L2X7R2A154M160AA	
			±10%		CGA6M3X7R2E154K200AA		
4505	3225	2.00±0.20	±20%		CGA6M3X7R2E154M200AA		
150nF	4500	1.00.0.00	±10%		CGA8L3X7R2E154K160KA		
	4532	1.60±0.20	±20%		CGA8L3X7R2E154M160KA		
	5750	1 60+0 20	±10%	CGA9L4X7R2J154K160KA			
	5750	1.60±0.20	±20%	CGA9L4X7R2J154M160KA			
	3216	1.15±0.15	±10%			CGA5H2X7R2A224K115AA	
			±20%			CGA5H2X7R2A224M115AA	
	3225	2.00±0.20	±10%		CGA6M3X7R2E224K200AA		
220nF			±20%		CGA6M3X7R2E224M200AA		
	4532	2.30±0.20	±10%		CGA8N3X7R2E224K230KA		
			±20%	00401472D0 1004700074	CGA8N3X7R2E224M230KA		
	5750	2.30±0.20	±10%	CGA9N4X7R2J224K230KA			
			±20% ±10%	CGA9N4X7R2J224M230KA		CGA5K2X7R2A334K130AA	
	3216	1.30±0.20	±10%			CGA5K2X7R2A334M130AA	
			±10%			CGA6M2X7R2A334K200AA	
	3225	2.00±0.20	±20%			CGA6M2X7R2A334M200AA	
330nF	4500		±10%		CGA8N3X7R2E334K230KA	O GI TONIE / TITE / TOO TITE OO TO	
	4532	2.30±0.20	±20%		CGA8N3X7R2E334M230KA		
			±10%		CGA9L3X7R2E334K160KA		
	5750	1.60±0.20	±20%		CGA9L3X7R2E334M160KA		
	2016	1 60 . 0 20	±10%			CGA5L2X7R2A474K160AA	
	3216	1.60±0.20	±20%			CGA5L2X7R2A474M160AA	
	3225	2.00±0.20	±10%			CGA6M2X7R2A474K200AA	
470nF	0223	2.00±0.20	±20%			CGA6M2X7R2A474M200AA	
47 0111	4532	2.30±0.20	±10%		CGA8N3X7R2E474K230KA		
		2.0020.20	±20%		CGA8N3X7R2E474M230KA		
	5750	2.30±0.20	±10%		CGA9N3X7R2E474K230KA		
			±20%		CGA9N3X7R2E474M230KA		
	3216	1.60±0.20	±10%			CGA5L2X7R2A684K160AA	
			±20%			CGA5L2X7R2A684M160AA	
	3225	1.60±0.20	±10%			CGA6L2X7R2A684K160AA	
			±20% ±10%			CGA6L2X7R2A684M160AA CGA8N2X7R2A684K230KA	
680nF	4532	2.30±0.20	±20%			CGA8N2X7R2A684M230KA	
			±10%			CGA9L2X7R2A684K160KA	
		1.60±0.20	±20%			CGA9L2X7R2A684M160KA	
	5750 -	5750		±10%		CGA9N3X7R2E684K230KA	
		2.30±0.20	±20%		CGA9N3X7R2E684M230KA		
	2010	4.00.000	±10%			CGA5L2X7R2A105K160AA	
	3216	1.60±0.20	±20%			CGA5L2X7R2A105M160AA	
	3225	2.00.0.20	±10%			CGA6M2X7R2A105K200AA	
1μF -	3223	2.00±0.20	±20%			CGA6M2X7R2A105M200AA	
	4532	2.30±0.20	±10%			CGA8N2X7R2A105K230KA	
	-1002	2.00±0.20	±20%			CGA8N2X7R2A105M230KA	
	5750	2.30±0.20	±10%		CGA9N3X7R2E105K230KA	CGA9N2X7R2A105K230KA	
	0.00		±20%		CGA9N3X7R2E105M230KA	CGA9N2X7R2A105M230KA	
	3225	2.00±0.20	±10%			CGA6M3X7R2A155K200AB	
			±20%			CGA6M3X7R2A155M200AB	
1.5µF	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.



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

Canacitanaa	Dimensions	Thickness	Capacitance	Catalog number
Сараспапсе	Dimensions	(mm)	tolerance	Rated voltage Edc: 100V
	3225	2.30+0.20	±10%	CGA6N3X7R2A225K230AB
	3223	2.30±0.20	±20%	CGA6N3X7R2A225M230AB
2.2µF	4532	2.30+0.20	±10%	CGA8N2X7R2A225K230KA
2.2μΓ	4552	4332 2.30±0.20	±20%	CGA8N2X7R2A225M230KA
	5750	2.30+0.20	±10%	CGA9N2X7R2A225K230KA
		2.30±0.20	±20%	CGA9N2X7R2A225M230KA
3.3µF	5750	2.30+0.20	±10%	CGA9N2X7R2A335K230KA
3.3μΓ	5750	2.30±0.20	±20%	CGA9N2X7R2A335M230KA
4.7µF	5750	2.30+0.20	±10%	CGA9N2X7R2A475K230KA
4.7µF	3/30	2.30±0.20	±20%	CGA9N2X7R2A475M230KA

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



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

1nF 1005 0.50±0.05 ±10% CGA2B3X7S2A102K050BB 1.5nF 1005 0.50±0.05 ±10% CGA2B3X7S2A15SK050BB 2.2nF 1005 0.50±0.05 ±10% CGA2B3X7S2A22K050BB 2.2nF 1005 0.50±0.05 ±10% CGA2B3X7S2A22ZK050BB 3.3nF 1005 0.50±0.05 ±10% CGA2B3X7S2A32ZM050BB 4.7nF 1005 0.50±0.05 ±10% CGA2B3X7S2A33ZM050BB 4.7nF 1005 0.50±0.05 ±10% CGA2B3X7S2A47ZM050BB 6.8nF 1005 0.50±0.05 ±10% CGA2B3X7S2A6BZM050BB 10nF 1005 0.50±0.05 ±10% CGA2B3X7S2A6BZM050BB 33nF 1608 0.80±0.10 ±10% CGA2B3X7S2A103K050BB 47nF 1608 0.80±0.10 ±10% CGA3E3X7S2A333M080AB 47nF 1608 0.80±0.10 ±10% CGA3E3X7S2A683M080AB 47nF 1608 0.80±0.10 ±10% CGA3E3X7S2A683M080AB 10nF 1608 0.80±0.10	Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number Rated voltage Edc: 100V
1.5nF 1005 0.50±0.05 ±10% CGA2B3X752A152K050BB ±20% CGA2B3X752A152K050BB ±20% CGA2B3X752A152K050BB ±20% CGA2B3X752A152K050BB ±20% CGA2B3X752A222K050BB ±20% CGA2B3X752A322K050BB ±20% CGA2B3X752A322K050BB ±20% CGA2B3X752A322K050BB ±20% CGA2B3X752A332K050BB ±20% CGA2B3X752A332K050BB ±20% CGA2B3X752A472K050BB ±20% CGA2B3X752A3105K050BB ±20% CGA2B3X752A333K080AB ±20% CGA2B3X752A333K080AB ±20% CGA2B3X752A333K080AB ±20% CGA2B3X752A333K080AB ±20% CGA2B3X752A333K080AB ±20% CGA3E3X752A333K080AB ±20% CGA3E3X752A333K080AB ±20% CGA3E3X752A333K080AB ±20% CGA3E3X752A683K080AB ±20% CGA3E3X752A683K125AB ±20% CGA3E3X752A683K125AB ±20% CGA3E3X752A683K125AB ±20% CGA3E3X752A683K125AB ±20% CGA3E3X752A683K125AB ±20% CGA3E3X752A683K125AB ±20% CGA3E3X752A335K125AB ±20% CGA3E3X752A335K125AB ±20% CGA3E3X752A335K125AB ±20% CGA3E3X752A335K125AB ±20% CGA3E3X752A335K125AB ±20% CGA3E3X752A35K125AB ±20% CGA3E3X752A355K120AB ±20% CGA3E3X752A355K200KB ±20% CGA3E3X752A355K200KB ±20% CGA3E3X	155	1005	0.50.0.05	±10%	CGA2B3X7S2A102K050BB
1.5nF 1005 0.50±0.05 ±20% CGA2B3X752A152M050BB 2.2nF 1005 0.50±0.05 ±10% CGA2B3X752A222M050BB 3.3nF 1005 0.50±0.05 ±10% CGA2B3X752A322M050BB 4.7nF 1005 0.50±0.05 ±10% CGA2B3X752A32M050BB 4.7nF 1005 0.50±0.05 ±10% CGA2B3X752A472M050BB 6.8nF 1005 0.50±0.05 ±10% CGA2B3X752A472M050BB 6.8nF 1005 0.50±0.05 ±10% CGA2B3X752A472M050BB 6.8nF 1005 0.50±0.05 ±10% CGA2B3X752A472M050BB 10nF 1005 0.50±0.05 ±10% CGA2B3X752A403M050BB 33nF 1608 0.80±0.10 ±10% CGA2B3X752A103M050BB 47nF 1608 0.80±0.10 ±10% CGA3E3X752A103M050BB 68nF 1608 0.80±0.10 ±10% CGA3E3X752A473M080AB 420% CGA3E3X752A473M080AB ±20% CGA3E3X752A473M080AB 420% CGA3E3X752A473M080AB ±20% CGA3E3X752A473M080AB 420% CGA3E3X752A473M080AB ±20% CGA3E3X752A473M080AB 420% CGA3E3X752A463M080AB ±20% CGA3E3X752A463M080AB 420% CGA3E3X752A463M080AB ±20% CGA3E3X752A463M080AB 420% CGA3E3X752A104M080AB ±20% CGA3E3X752A104M080AB 420% CGA3E3X752A104M080AB ±20% CGA4J3X752A334M125AB 420% CGA4J3X752A334M125AB ±20% CGA4J3X752A334M125AB 420% CGA4J3X752A334M125AB ±20% CGA4J3X752A684M125AB 420% CGA4J3X752A684M125AB ±20% CGA4J3X752A684M125AB 420% CGA4J3X752A684M125AB ±20% CGA4J3X752A684M125AB 420% CGA4J3X752A684M125AB ±20% CGA4J3X752A684M125AB 420% CGA4J3X752A684M125AB ±20% CGA4J3X752A684M125AB 420% CGA4J3X752A105M125AB ±20% CGA4J3X752A105M106AB ±20% CGA5L3X752A105M106AB ±20% CGA5L3X752A105M106AB ±20% CGA5L3X752A105M106AB ±20% CGA5L3X752A105M106AB ±20% CGA5L3X752A105M106AB ±20% CGA5L3X752A105M106AB ±20% CGA5L3X752A25M160AB ±20% CGA5L3X752A25M160AB ±20% CGA5L3X752A25M160AB ±20% CGA5L3X752A35M160AB ±20% CGA5L3X752A35M160AB ±20% CGA5L3X752A35M100AB ±20% CGA5L3X752A35M100AB ±20% CGA5L3X752A35M100AB ±20% CGA6M3X752A35M200AB ±20% CGA6M3X752A35M200AB ±20%	IIIF	1005	0.50±0.05	±20%	CGA2B3X7S2A102M050BB
±20% CGA2B3X7S2A152M050BB	1 En E	100F	0.50.005	±10%	CGA2B3X7S2A152K050BB
2.2nF 1005 0.50±0.05 ±20% CGA2B3X7S2A322ZM050BB 3.3nF 1005 0.50±0.05 ±10% CGA2B3X7S2A33ZM050BB 4.7nF 1005 0.50±0.05 ±10% CGA2B3X7S2A3ZM050BB 4.7nF 1005 0.50±0.05 ±20% CGA2B3X7S2A47ZM050BB 6.8nF 1005 0.50±0.05 ±10% CGA2B3X7S2A682K050BB 10nF 1005 0.50±0.05 ±20% CGA2B3X7S2A103K050BB 33nF 1608 0.80±0.10 ±20% CGA3E3X7S2A333M080AB 47nF 1608 0.80±0.10 ±10% CGA3E3X7S2A473M080AB 48nF 1608 0.80±0.10 ±20% CGA3E3X7S2A683K080AB 10nF 1608 0.80±0.10 ±10% CGA3E3X7S2A683K080AB 10nF 1608 0.80±0.10 ±20% CGA3E3X7S2A104M080AB 33nF 2012 1.25±0.20 ±10% CGA4J3X7S2A334K125AB 470nF 2012 1.25±0.20 ±10% CGA4J3X7S2A334K125AB 470nF 2012 1.25±0.20	1.5HF	1005	0.50±0.05	±20%	CGA2B3X7S2A152M050BB
\$\begin{array}{c} \begin{array}{c} \b	0.05	100F	0.50.005	±10%	CGA2B3X7S2A222K050BB
4.7nF 1005 0.50±0.05 ±20% CGA2B3X7S2A332M050BB 4.7nF 1005 0.50±0.05 ±10% CGA2B3X7S2A472K050BB 6.8nF 1005 0.50±0.05 ±10% CGA2B3X7S2A682M050BB 10nF 1005 0.50±0.05 ±20% CGA2B3X7S2A682M050BB 10nF 1005 0.50±0.05 ±20% CGA2B3X7S2A333K080AB 33nF 1608 0.80±0.10 ±20% CGA3E3X7S2A333M080AB 47nF 1608 0.80±0.10 ±20% CGA3E3X7S2A333M080AB 68nF 1608 0.80±0.10 ±20% CGA3E3X7S2A683M080AB 100nF 1608 0.80±0.10 ±20% CGA3E3X7S2A683M080AB 330nF 2012 1.25±0.20 ±10% CGA3E3X7S2A683M080AB 330nF 2012 1.25±0.20 ±10% CGA4J3X7S2A63M125AB 470nF 2012 1.25±0.20 ±10% CGA4J3X7S2A334M125AB 470nF 2012 1.25±0.20 ±10% CGA4J3X7S2A684M125AB 1µF 2012 1.25±0.20	2.211	1005	0.50±0.05	±20%	CGA2B3X7S2A222M050BB
#20%	2 2nE	1005	0.50.0.05	±10%	CGA2B3X7S2A332K050BB
4.7nF 1005 0.50±0.05 ±20% CGA2B3X7S2A472M050BB 6.8nF 1005 0.50±0.05 ±10% CGA2B3X7S2A682K050BB 10nF 1005 0.50±0.05 ±20% CGA2B3X7S2A103M050BB 33nF 1608 0.80±0.10 ±20% CGA2B3X7S2A103M050BB 47nF 1608 0.80±0.10 ±10% CGA3E3X7S2A473K080AB 47nF 1608 0.80±0.10 ±10% CGA3E3X7S2A473K080AB 68nF 1608 0.80±0.10 ±10% CGA3E3X7S2A473M080AB 100nF 1608 0.80±0.10 ±10% CGA3E3X7S2A173M080AB 100nF 1608 0.80±0.10 ±10% CGA3E3X7S2A104M080AB 330nF 2012 1.25±0.20 ±10% CGA4J3X7S2A633M125AB 470nF 2012 1.25±0.20 ±10% CGA4J3X7S2A684M125AB 470nF 2012 1.25±0.20 ±20% CGA4J3X7S2A684M125AB 1µF 2012 1.25±0.20 ±10% CGA4J3X7S2A3684K125AB 1µF 3216 1.60±0.20	3.311	1005	0.50±0.05	±20%	CGA2B3X7S2A332M050BB
#20%	4 7nE	1005	0.50.0.05	±10%	CGA2B3X7S2A472K050BB
6.8nF 1005 0.50±0.05 ±20% CGA2B3X7S2A682M050BB 10nF 1005 0.50±0.05 ±10% CGA2B3X7S2A103M050BB 33nF 1608 0.80±0.10 ±10% CGA3E3X7S2A333M080AB 47nF 1608 0.80±0.10 ±20% CGA3E3X7S2A473M080AB 68nF 1608 0.80±0.10 ±10% CGA3E3X7S2A683M080AB 100nF 1608 0.80±0.10 ±20% CGA3E3X7S2A104K080AB 330nF 2012 1.25±0.20 ±10% CGA3E3X7S2A104K080AB 470nF 2012 1.25±0.20 ±20% CGA4J3X7S2A34K125AB 470nF 2012 1.25±0.20 ±10% CGA4J3X7S2A34K125AB 470nF 2012 1.25±0.20 ±10% CGA4J3X7S2A34M125AB 680nF 2012 1.25±0.20 ±10% CGA4J3X7S2A684K125AB 1µF 2012 1.25±0.20 ±10% CGA4J3X7S2A15M125AB 1µF 2012 1.25±0.20 ±10% CGA5L3X7S2A15M160AB 2.2µF 3216 1.60±0.20	4.711	1005	0.50±0.05	±20%	CGA2B3X7S2A472M050BB
±20% CGA2B3X752A103K050BB ±10% CGA2B3X752A103K050BB ±20% CGA2B3X752A103K050BB ±20% CGA2B3X752A103K050BB ±20% CGA2B3X752A333K080AB ±20% CGA3E3X752A333K080AB ±20% CGA3E3X752A333K080AB ±20% CGA3E3X752A473K080AB ±20% CGA3E3X752A473K080AB ±20% CGA3E3X752A473K080AB ±20% CGA3E3X752A473K080AB ±20% CGA3E3X752A683K080AB ±20% CGA3E3X752A683K080AB ±20% CGA3E3X752A683K080AB ±20% CGA3E3X752A104K080AB ±20% CGA3E3X752A104K080AB ±20% CGA3E3X752A104K080AB ±20% CGA3E3X752A104K080AB ±20% CGA4J3X752A334K125AB ±20% CGA4J3X752A334K125AB ±20% CGA4J3X752A34K125AB ±20% CGA4J3X752A684K125AB ±20% CGA4J3X752A684K125AB ±20% CGA4J3X752A684K125AB ±20% CGA4J3X752A684K125AB ±20% CGA4J3X752A684K125AB ±20% CGA4J3X752A684K125AB ±20% CGA4J3X752A15K125AB ±20% CGA4J3X752A15K125AB ±20% CGA4J3X752A15K125AB ±20% CGA5L3X752A15K160AB ±20% CGA5L3X752A15K160AB ±20% CGA5L3X752A35K160AB ±20% CGA5L3X752A35K160AB ±20% CGA5L3X752A35K160AB ±20% CGA5L3X752A35K160AB ±20% CGA6M3X752A335K160AB ±20% CGA6M3X752A335K160AB ±20% CGA6M3X752A335K160AB ±20% CGA6M3X752A335K160AB ±20% CGA6M3X752A335K160AB ±20% CGA6M3X752A335K160AB ±20% CGA6M3X752A335K100AB ±20% CGA6M3X752A335K100AB ±20% CGA6M3X752A335K100AB ±20% CGA6M3X752A335K200AB ±20% CGA6M3X752A335K200AB ±20% CGA6M3X752A335K200AB ±20% CGA6M3X752A335K200AB ±20% CGA6M3X752A35K200AB ±20% CGA6M3X752A35K200AB ±20% CGA6M3X752A35K200AB ±20% CGA6M3X752A35K200AB ±20% CGA6M3X752A475K230AB ±20% CG	6.05	1005	0.50.0.05	±10%	CGA2B3X7S2A682K050BB
10nF 1005 0.50±0.05 ±20% CGA2B3X752A103M050BB ±20% CGA3E3X752A333K080AB ±20% CGA3E3X752A333K080AB ±20% CGA3E3X752A333M080AB ±20% CGA3E3X752A473K080AB ±20% CGA3E3X752A473K080AB ±20% CGA3E3X752A473M080AB ±20% CGA3E3X752A473M080AB ±20% CGA3E3X752A683M080AB ±20% CGA3E3X752A683M080AB ±20% CGA3E3X752A683M080AB ±20% CGA3E3X752A683M080AB ±20% CGA3E3X752A683M080AB ±20% CGA3E3X752A683M080AB ±20% CGA3E3X752A104K080AB ±20% CGA3E3X752A104K080AB ±20% CGA3E3X752A104K080AB ±20% CGA3E3X752A104K080AB ±20% CGA3E3X752A104K080AB ±20% CGA4J3X752A334K125AB ±20% CGA4J3X752A334K125AB ±20% CGA4J3X752A474K125AB ±20% CGA4J3X752A474K125AB ±20% CGA4J3X752A684K125AB ±20% CGA4J3X752A105K125AB ±20% CGA4J3X752A105K125AB ±20% CGA4J3X752A105K125AB ±20% CGA4J3X752A105K125AB ±20% CGA5L3X752A105K125AB ±20% CGA5L3X752A105K125AB ±20% CGA5L3X752A35K160AB ±20% CGA5L3X752A255K160AB ±20% CGA5L3X752A255K160AB ±20% CGA5L3X752A255K160AB ±20% CGA5L3X752A255K160AB ±20% CGA5L3X752A35K160AB ±20% CGA5L3X752A35K160AB ±20% CGA6M3X752A35K200AB ±20% CGA6	0.011	1005	0.50±0.05	±20%	CGA2B3X7S2A682M050BB
\$\frac{\pmu}{20\%} \q	10nF	100F	0.50.0.05	±10%	CGA2B3X7S2A103K050BB
33nF 1608	TOTIF	1005	0.50±0.05	±20%	CGA2B3X7S2A103M050BB
#20%	225	1600	0.00.0.10	±10%	CGA3E3X7S2A333K080AB
47nF 1608 0.80±0.10	3311	1000	0.80±0.10	±20%	CGA3E3X7S2A333M080AB
68nF 1608 0.80±0.10 ±10% CGA3E3X7S2A638K0800AB ±20% CGA3E3X7S2A683K0800AB ±20% CGA3E3X7S2A683M080AB ±20% CGA3E3X7S2A683M080AB ±20% CGA3E3X7S2A104M080AB ±20% CGA3E3X7S2A104M080AB ±20% CGA3E3X7S2A104M080AB ±20% CGA4J3X7S2A334K125AB ±20% CGA4J3X7S2A334K125AB ±20% CGA4J3X7S2A334K125AB ±20% CGA4J3X7S2A334K125AB ±20% CGA4J3X7S2A474K125AB ±20% CGA4J3X7S2A474K125AB ±20% CGA4J3X7S2A474K125AB ±20% CGA4J3X7S2A684K125AB ±20% CGA4J3X7S2A684K125AB ±20% CGA4J3X7S2A684M125AB ±20% CGA4J3X7S2A684M125AB ±20% CGA4J3X7S2A684M125AB ±20% CGA4J3X7S2A105K125AB ±20% CGA4J3X7S2A105K125AB ±20% CGA5L3X7S2A155K160AB ±20% CGA5L3X7S2A155K160AB ±20% CGA5L3X7S2A155K160AB ±20% CGA5L3X7S2A25K160AB ±20% CGA5L3X7S2A225K160AB ±20% CGA5L3X7S2A225K160AB ±20% CGA5L3X7S2A335K160AB ±20% CGA5L3X7S2A335K160AB ±20% CGA6M3X7S2A335K200AB ±20% CGA6M3X7S2A335K200AB ±20% CGA6M3X7S2A335K200AB ±20% CGA6M3X7S2A35SK200AB ±20% CGA6M3X7S2A475K200AB ±20%	47nF	1600	0.00.0.10	±10%	CGA3E3X7S2A473K080AB
1608 1608 0.80±0.10 ±20% CGA3E3X7S2A683M080AB 100nF 1608 0.80±0.10 ±10% CGA3E3X7S2A104K080AB ±20% CGA3E3X7S2A104M080AB ±20% CGA3E3X7S2A104M080AB ±20% CGA4J3X7S2A334K125AB ±20% CGA4J3X7S2A334M125AB ±20% CGA4J3X7S2A334M125AB ±20% CGA4J3X7S2A474K125AB ±20% CGA4J3X7S2A474K125AB ±20% CGA4J3X7S2A474K125AB ±20% CGA4J3X7S2A684K125AB ±20% CGA4J3X7S2A684M125AB ±20% CGA4J3X7S2A684M125AB ±20% CGA4J3X7S2A684M125AB ±20% CGA4J3X7S2A684M125AB ±20% CGA4J3X7S2A105K125AB ±20% CGA4J3X7S2A105K125AB ±20% CGA4J3X7S2A105K125AB ±20% CGA4J3X7S2A105K125AB ±20% CGA5L3X7S2A155K160AB ±20% CGA5L3X7S2A155K160AB ±20% CGA5L3X7S2A25K160AB ±20% CGA5L3X7S2A25K160AB ±20% CGA5L3X7S2A25K160AB ±20% CGA5L3X7S2A25K160AB ±20% CGA5L3X7S2A35K160AB ±20% CGA5L3X7S2A35K160AB ±20% CGA5L3X7S2A35K160AB ±20% CGA6M3X7S2A335K160AB ±20% CGA6M3X7S2A335K160AB ±20% CGA6M3X7S2A335K160AB ±20% CGA6M3X7S2A335M200AB ±20% CGA6M3X7S2A335M200AB ±20% CGA6M3X7S2A335M200AB ±20% CGA6M3X7S2A335M200AB ±20% CGA6M3X7S2A335M200AB ±20% CGA6M3X7S2A35SM200AB ±20% CGA6M3X7S2A35M200AB ±20% CGA6M3X7S2A475M200AB ±20% CGA6M3X7S2A475M2	4/11	1000	0.80±0.10	±20%	CGA3E3X7S2A473M080AB
#20%	605	1600	0.00.0.10	±10%	CGA3E3X7S2A683K080AB
100nF 1608 0.80±0.10	бопг	1000	0.80±0.10	±20%	CGA3E3X7S2A683M080AB
#20%	100nF	1600	608 0.80±0.10	±10%	CGA3E3X7S2A104K080AB
330nF 2012 1.25±0.20 ±20% CGA4J3X7S2A334M125AB 470nF 2012 1.25±0.20 ±10% CGA4J3X7S2A474K125AB ±20% CGA4J3X7S2A474K125AB ±20% CGA4J3X7S2A684K125AB ±20% CGA4J3X7S2A684K125AB ±20% CGA4J3X7S2A684M125AB ±20% CGA4J3X7S2A684M125AB ±20% CGA4J3X7S2A684M125AB ±20% CGA4J3X7S2A684M125AB ±20% CGA4J3X7S2A105K125AB ±20% CGA5L3X7S2A155K160AB ±20% CGA5L3X7S2A155K160AB ±20% CGA5L3X7S2A155K160AB ±20% CGA5L3X7S2A25K160AB ±20% CGA5L3X7S2A25K160AB ±20% CGA5L3X7S2A335K160AB ±20% CGA5L3X7S2A335K160AB ±20% CGA6M3X7S2A335K200AB ±20% CGA6M3X7S2A335K200AB ±20% CGA6M3X7S2A335K200AB ±20% CGA6M3X7S2A335K200AB ±20% CGA6M3X7S2A335K200AB ±20% CGA6M3X7S2A335M200AB ±20% CGA6M3X7S2A35K200AB ±20% CGA6M3X7S2A475K200AB ±20% CGA6M3X7S2A475K230KB ±20% CGA6M3X7S2A66SM200KB ±20% CGA6M3X7S2A66SM200KB ±20% CGA6M3X7S2A66SM200KB ±20% CGA6M3X7S2A66SM200KB ±20% CGA6M3X7S2A106K230KB ±20% C	TOOTIF	1000		±20%	CGA3E3X7S2A104M080AB
#20%	2205	2012	1.25±0.20	±10%	CGA4J3X7S2A334K125AB
470nF 2012 1.25±0.20 ±20% CGA4J3X7S2A474M125AB 680nF 2012 1.25±0.20 ±10% CGA4J3X7S2A684K125AB 1μF 2012 1.25±0.20 ±10% CGA4J3X7S2A684M125AB 1.5μF 3216 1.60±0.20 ±10% CGA5L3X7S2A105K125AB 2.2μF 3216 1.60±0.20 ±10% CGA5L3X7S2A155K160AB 2.2μF 3216 1.60±0.20 ±10% CGA5L3X7S2A155K160AB 3216 1.60±0.20 ±20% CGA5L3X7S2A225K160AB 2.2μF 3216 1.60±0.20 ±20% CGA5L3X7S2A225K160AB 3216 1.60±0.20 ±10% CGA5L3X7S2A225K160AB 2.2μF 3216 1.60±0.20 ±20% CGA5L3X7S2A35K160AB 3216 1.60±0.20 ±10% CGA5L3X7S2A335K160AB 2.2μF 3225 2.00±0.20 ±10% CGA6M3X7S2A335K200AB 4532 2.00±0.20 ±10% CGA6M3X7S2A335K200AB 4532 2.00±0.20 ±10% CGA6M3X7S2A335K200KB 420% CGA6M3X7S2A335M200KB 420% CGA6M3X7S2A35M200KB 220% CGA6M3X7S2A475M200AB 4532 2.30±0.20 ±10% CGA6M3X7S2A475M200AB 4532 2.30±0.20 ±20% CGA6M3X7S2A475M200AB 4532 2.30±0.20 ±10% CGA6M3X7S2A685M20KB	33011			±20%	CGA4J3X7S2A334M125AB
#20%	470nF	2012	10 105 000	±10%	CGA4J3X7S2A474K125AB
1μF 2012 1.25±0.20 ±20% CGA4J3X7S2A684M125AB ±20% CGA4J3X7S2A684M125AB ±20% CGA4J3X7S2A105K125AB ±20% CGA4J3X7S2A105K125AB ±20% CGA4J3X7S2A105M125AB ±20% CGA5L3X7S2A155K160AB ±20% CGA5L3X7S2A155K160AB ±20% CGA5L3X7S2A155M160AB ±20% CGA5L3X7S2A225K160AB ±20% CGA5L3X7S2A225K160AB ±20% CGA5L3X7S2A225K160AB ±20% CGA5L3X7S2A225K160AB ±20% CGA5L3X7S2A335K160AB ±20% CGA5L3X7S2A335M160AB ±20% CGA6M3X7S2A335M160AB ±20% CGA6M3X7S2A335M200AB ±20% CGA6M3X7S2A335M200AB ±20% CGA6M3X7S2A335M200AB ±20% CGA6M3X7S2A335M200AB ±20% CGA6M3X7S2A335M200KB ±20% CGA6M3X7S2A35K200AB ±20% CGA6M3X7S2A35M200KB ±20% CGA6M3X7S2A35M200KB ±20% CGA6M3X7S2A35M200AB ±20% CGA6M3X7S2A475M200AB ±20% CGA6M3X7S2A475M20AB ±20% CGA6	470NF	2012	1.25±0.20	±20%	CGA4J3X7S2A474M125AB
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	690nF	2012	1.05.0.00	±10%	CGA4J3X7S2A684K125AB
	DOUTE	2012	1.25±0.20	±20%	CGA4J3X7S2A684M125AB
1.5μF 3216 1.60±0.20 ±10% CGA5L3X7S2A15SM160AB ±20% CGA5L3X7S2A15SM160AB ±20% CGA5L3X7S2A15SM160AB ±20% CGA5L3X7S2A15SM160AB ±20% CGA5L3X7S2A22SM160AB ±20% CGA5L3X7S2A22SM160AB ±20% CGA5L3X7S2A22SM160AB ±20% CGA5L3X7S2A33SK160AB ±20% CGA5L3X7S2A33SK160AB ±20% CGA5L3X7S2A33SM160AB ±20% CGA5L3X7S2A33SM160AB ±20% CGA6M3X7S2A33SM200AB ±20% CGA6M3X7S2A35M200AB ±20% CGA6M3X7S2A475M200AB ±20% CGA6M3X7S2A475M200AB ±20% CGA6M3X7S2A475M200AB ±20% CGA6M3X7S2A475M200AB ±20% CGA6M3X7S2A475M230KB ±20% CGA6M3X7S2A475M230KB ±20% CGA9M3X7S2A475M230KB ±20% CGA9M3X7S2A685M200KB ±20% CGA9M3X7S2A685M200KB ±20% CGA9M3X7S2A685M200KB ±20% CGA9M3X7S2A6685M200KB ±20% CGA9M3X7S2A6685M200KB ±20% CGA9M3X7S2A6685M200KB ±20% CGA9M3X7S2A106M230KB	1	2012	1.05.0.00	±10%	CGA4J3X7S2A105K125AB
1.5μF 3216 1.60±0.20 ±20% CGA5L3X7S2A155M160AB 2.2μF 3216 1.60±0.20 ±10% CGA5L3X7S2A225K160AB ±20% CGA5L3X7S2A225M160AB ±20% CGA5L3X7S2A225M160AB ±20% CGA5L3X7S2A335K160AB ±20% CGA5L3X7S2A335K160AB ±20% CGA5L3X7S2A335M160AB ±20% CGA6M3X7S2A335M200AB ±20% CGA6M3X7S2A335M200AB ±20% CGA6M3X7S2A335M200AB ±20% CGA6M3X7S2A335K200AB ±20% CGA6M3X7S2A35K200AB ±20% CGA6M3X7S2A35M200AB ±20% CGA6M3X7S2A475K200AB ±20% CGA6M3X7S2A475K200AB ±20% CGA6M3X7S2A475K200AB ±20% CGA6M3X7S2A475M200AB ±20% CGA6M3X7S2A475M230KB ±20% CGA6M3X7S2A6685M200KB ±20% CGA9M3X7S2A6685M200KB ±20% CGA9M3X7S2A6685M200KB ±20% CGA9M3X7S2A6685M200KB ±20% CGA9M3X7S2A6685M200KB	īμr	2012	1.25±0.20	±20%	CGA4J3X7S2A105M125AB
2.2μF 3216 1.60±0.20 ±10% CGA5L3X7S2A225K160AB ±20% CGA5L3X7S2A225K160AB ±20% CGA5L3X7S2A225K160AB ±20% CGA5L3X7S2A335K160AB ±20% CGA5L3X7S2A335K160AB ±20% CGA5L3X7S2A335K160AB ±20% CGA5L3X7S2A335M160AB ±20% CGA6M3X7S2A335M200AB ±20% CGA6M3X7S2A335M200AB ±20% CGA6M3X7S2A335M200AB ±20% CGA6M3X7S2A335M200AB ±20% CGA6M3X7S2A335M200KB ±20% CGA6M3X7S2A35M200KB ±20% CGA6M3X7S2A475K200AB ±20% CGA6M3X7S2A475K200AB ±20% CGA6M3X7S2A475M200AB ±20% CGA6M3X7S2A475M200AB ±20% CGA6M3X7S2A475M200AB ±20% CGA6M3X7S2A475M200AB ±20% CGA6M3X7S2A475M200AB ±20% CGA6M3X7S2A475M230KB ±20% CGA6M3X7S2A475M230KB ±20% CGA9M3X7S2A475M230KB ±20% CGA9M3X7S2A45685M200KB ±20% CGA9M3X7S2A685M200KB ±20% CGA9M3X7S2A685M200KB ±20% CGA9M3X7S2A6685M200KB ±20% CGA9M3X7S2A106K230KB ±20% CGA9M3X7S2A106K230KB	1 5	2216	1 60 . 0 20	±10%	CGA5L3X7S2A155K160AB
3216	1.5μΕ	3210	1.00±0.20	±20%	CGA5L3X7S2A155M160AB
$3.3 \mu F \qquad 3216 \qquad 1.60 + 0.30, -0.10 \qquad \frac{\pm 20\%}{-10\%} \qquad \frac{\text{CGASL3X7S2A22SM160AB}}{\text{CGASL3X7S2A335K160AB}} \\ 3.3 \mu F \qquad 3225 \qquad 2.00 \pm 0.20 \qquad \frac{\pm 10\%}{-10\%} \qquad \frac{\text{CGASL3X7S2A335K160AB}}{\text{CGA6M3X7S2A335K200AB}} \\ 4532 \qquad 2.00 \pm 0.20 \qquad \frac{\pm 10\%}{-10\%} \qquad \frac{\text{CGA6M3X7S2A335K200AB}}{\text{CGA6M3X7S2A335K200KB}} \\ 4.7 \mu F \qquad 3225 \qquad 2.00 \pm 0.20 \qquad \frac{\pm 10\%}{-10\%} \qquad \frac{\text{CGA6M3X7S2A35K200KB}}{\text{CGA6M3X7S2A475K200AB}} \\ 4.7 \mu F \qquad 3225 \qquad 2.00 \pm 0.20 \qquad \frac{\pm 10\%}{-10\%} \qquad \frac{\text{CGA6M3X7S2A475K200AB}}{\text{CGA6M3X7S2A475K230KB}} \\ 4.8 \mu F \qquad 3225 \qquad 2.30 \pm 0.20 \qquad \frac{\pm 10\%}{-10\%} \qquad \frac{\text{CGA6M3X7S2A475K230KB}}{\text{CGA6M3X7S2A475K230KB}} \\ 6.8 \mu F \qquad 5750 \qquad 2.00 \pm 0.20 \qquad \frac{\pm 10\%}{-10\%} \qquad \frac{\text{CGA9M3X7S2A685K200KB}}{\text{CGA9M3X7S2A685K200KB}} \\ 10 \mu F \qquad 5750 \qquad 2.30 \pm 0.20 \qquad \frac{\pm 10\%}{-10\%} \qquad \frac{\text{CGA9M3X7S2A106K230KB}}{\text{CGA9M3X7S2A106K230KB}} \\ 10 \mu F \qquad 5750 \qquad 2.30 \pm 0.20 \qquad \frac{\pm 10\%}{-10\%} \qquad \frac{\text{CGA9M3X7S2A106K230KB}}{\text{CGA9M3X7S2A106K230KB}} \\ 10 \mu F \qquad 5750 \qquad 2.30 \pm 0.20 \qquad \frac{\pm 10\%}{-10\%} \qquad \frac{\text{CGA9M3X7S2A106K230KB}}{\text{CGA9M3X7S2A106M230KB}} \\ $	0.005	2016	1 60 . 0 20	±10%	CGA5L3X7S2A225K160AB
$\begin{array}{c} 3216 & 1.60+0.30, -0.10 \\ $	2.2μΓ	3210	1.00±0.20	±20%	CGA5L3X7S2A225M160AB
$3.3 \mu F \qquad 3225 \qquad 2.00 \pm 0.20 \qquad \frac{\pm 20\%}{\pm 20\%} \qquad \frac{\text{CGA5L3X7S2A33SM160AB}}{\text{CGA6M3X7S2A335K2000AB}} \\ 4532 \qquad 2.00 \pm 0.20 \qquad \frac{\pm 10\%}{\pm 20\%} \qquad \frac{\text{CGA6M3X7S2A335M200AB}}{\text{CGA8M3X7S2A335M2000KB}} \\ 4.7 \mu F \qquad 3225 \qquad 2.00 \pm 0.20 \qquad \frac{\pm 10\%}{\pm 20\%} \qquad \frac{\text{CGA6M3X7S2A375M2200KB}}{\text{CGA6M3X7S2A475K200AB}} \\ 4532 \qquad 2.30 \pm 0.20 \qquad \frac{\pm 10\%}{\pm 20\%} \qquad \frac{\text{CGA6M3X7S2A475M200AB}}{\text{CGA8M3X7S2A475M200AB}} \\ 6.8 \mu F \qquad 5750 \qquad 2.00 \pm 0.20 \qquad \frac{\pm 10\%}{\pm 20\%} \qquad \frac{\text{CGA9M3X7S2A475M230KB}}{\text{CGA9M3X7S2A685M200KB}} \\ 10 \mu F \qquad 5750 \qquad 2.30 \pm 0.20 \qquad \frac{\pm 10\%}{\pm 20\%} \qquad \frac{\text{CGA9M3X7S2A685M200KB}}{\text{CGA9M3X7S2A106K230KB}} \\ \pm 20\% \qquad \frac{\text{CGA9M3X7S2A106K230KB}}{\text{CGA9M3X7S2A106M230KB}} \\ \end{array}$		2216	1 60+0 30 -0 10	±10%	CGA5L3X7S2A335K160AB
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		3210	1.00+0.30,-0.10	±20%	CGA5L3X7S2A335M160AB
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	3 3uE	3225	3 00+0 30	±10%	CGA6M3X7S2A335K200AB
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	5.5μι	3223	2.00±0.20	±20%	CGA6M3X7S2A335M200AB
$\begin{array}{cccccccccccccccccccccccccccccccccccc$		4532	3 00+0 30	±10%	CGA8M3X7S2A335K200KB
$\begin{array}{c} 3225 & 2.00\pm0.20 \\ \hline 4.7 \mu F \\ \hline \\ 4532 & 2.30\pm0.20 \\ \hline \\ 6.8 \mu F \\ \hline \\ 10 \mu F \\ \end{array} \begin{array}{c} \pm 20\% & CGA6M3X7S2A475M200AB \\ \pm 20\% & CGA8N3X7S2A475K230KB \\ \pm 20\% & CGA8N3X7S2A475M230KB \\ \hline \\ \pm 20\% & CGA9M3X7S2A475M230KB \\ \pm 20\% & CGA9M3X7S2A685K200KB \\ \pm 20\% & CGA9M3X7S2A685M200KB \\ \hline \\ \pm 20\% & CGA9M3X7S2A685M200KB \\ \hline \\ \pm 20\% & CGA9M3X7S2A106K230KB \\ \hline \\ \pm 20\% & CGA9M3X7S2A106M230KB \\ \hline \end{array}$		4332	2.00±0.20	±20%	CGA8M3X7S2A335M200KB
$\frac{\pm 20\%}{4532} \frac{\pm 20\%}{2.30\pm 0.20} \frac{\pm 10\%}{\pm 20\%} \frac{\text{CGABM3X7S2A475M200AB}}{\text{CGABM3X7S2A475K230KB}}$ $\frac{\pm 10\%}{\pm 20\%} \frac{\text{CGABM3X7S2A475M230KB}}{\text{CGA9M3X7S2A685K200KB}}$ $\frac{\pm 10\%}{\pm 20\%} \frac{\text{CGA9M3X7S2A685K200KB}}{\text{CGA9M3X7S2A685M200KB}}$ $\frac{\pm 10\%}{\pm 20\%} \frac{\text{CGA9M3X7S2A106K230KB}}{\text{CGA9M3X7S2A106M230KB}}$		3225	3 00+0 30	±10%	CGA6M3X7S2A475K200AB
$\begin{array}{cccccccccccccccccccccccccccccccccccc$	4.7μF	3223	2.00±0.20	±20%	CGA6M3X7S2A475M200AB
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		4532	2 30+0 20	±10%	CGA8N3X7S2A475K230KB
6.8μF 5750 2.00±0.20 ±20% CGA9M3X7S2A685M200KB 10μF 5750 2.30±0.20 ±10% CGA9N3X7S2A106K230KB ±20% CGA9N3X7S2A106M230KB		7002	2.00±0.20	±20%	CGA8N3X7S2A475M230KB
$\frac{\pm 20\%}{10\mu F} = \frac{\pm 20\%}{5750} = \frac{\pm 20\%}{2.30\pm 0.20} = \frac{\pm 10\%}{\pm 20\%} = \frac{\text{CGA9N3X7S2A106K230KB}}{\text{CGA9N3X7S2A106M230KB}}$	6 8u F	5750	2 00+0 20		CGA9M3X7S2A685K200KB
10μF 5750 2.30±0.20 ±20% CGA9N3X7S2A106M230KB	υ.υμι	3730	2.00±0.20	±20%	CGA9M3X7S2A685M200KB
±20% CGA9N3X7S2A106M230KB	10uF	5750	2 30+0 20	±10%	CGA9N3X7S2A106K230KB
15μF 5750 2.50±0.30 ±20% CGA9P3X7S2A156M250KB		3730	2.00±0.20	±20%	
	15µF	5750	2.50±0.30	±20%	CGA9P3X7S2A156M250KB

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



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

Consoitones	Dimensions	Thickness	Capacitance	Catalog number		
Capacitance	Dimensions	(mm)	tolerance	Rated voltage Edc: 630V	Rated voltage Edc: 450V	Rated voltage Edc: 250V
	0010	1.05.0.00	±10%		CGA4J4X7T2W223K125AA	
22nF	2012	1.25±0.20	±20%		CGA4J4X7T2W223M125AA	
2211F	3216	1.15±0.15	±10%	CGA5H1X7T2J223K115AC		
	3210	1.15±0.15	±20%	CGA5H1X7T2J223M115AC		
	2012	1.25±0.20	±10%		CGA4J4X7T2W333K125AA	CGA4J3X7T2E333K125AA
00-F	2012	1.25±0.20	±20%		CGA4J4X7T2W333M125AA	CGA4J3X7T2E333M125AA
33nF	2010	1.15.0.15	±10%	CGA5H1X7T2J333K115AC		
	3216	1.15±0.15	±20%	CGA5H1X7T2J333M115AC		
	2012	1.25±0.20	±10%		CGA4J4X7T2W473K125AA	CGA4J3X7T2E473K125AA
47nF	2012	1.25±0.20	±20%		CGA4J4X7T2W473M125AA	CGA4J3X7T2E473M125AA
4/111	3216	1.60±0.20	±10%	CGA5L1X7T2J473K160AC		
	3210	1.00±0.20	±20%	CGA5L1X7T2J473M160AC		
	2012	1.25±0.20	±10%			CGA4J3X7T2E683K125AA
68nF	2012	1.25±0.20	±20%			CGA4J3X7T2E683M125AA
OOIII	3216	1.30±0.20	±10%		CGA5K4X7T2W683K130AA	
	3210	1.50±0.20	±20%		CGA5K4X7T2W683M130AA	
	2012	1.25±0.20	±10%			CGA4J3X7T2E104K125AA
	2012	1.25±0.20	±20%			CGA4J3X7T2E104M125AA
100nF	3216	1.60±0.20	±10%		CGA5L4X7T2W104K160AA	
100111	3210	1.00±0.20	±20%		CGA5L4X7T2W104M160AA	
	3225	1.60±0.20	±10%	CGA6L1X7T2J104K160AC		
	3223	1.00±0.20	±20%	CGA6L1X7T2J104M160AC		
	3216	1.30±0.20	±10%			CGA5K3X7T2E154K130AA
	3210	1.00±0.20	±20%			CGA5K3X7T2E154M130AA
150nF	3225	2.00±0.20	±10%	CGA6M1X7T2J154K200AC		
130111	3223	2.00±0.20	±20%	CGA6M1X7T2J154M200AC		
	4532	1.60±0.20	±10%	CGA8L1X7T2J154K160KC		
	430 <u>2</u>	1.00±0.20	±20%	CGA8L1X7T2J154M160KC		
	3216	1.60±0.20	±10%			CGA5L3X7T2E224K160AA
	0210	1.00±0.20	±20%			CGA5L3X7T2E224M160AA
220nF	3225	2.00±0.20	±10%		CGA6M4X7T2W224K200AA	
LLOIII	0220	2.00±0.20	±20%		CGA6M4X7T2W224M200AA	
	4532	2.00±0.20	±10%	CGA8M1X7T2J224K200KC		
	4002	2.00±0.20	±20%	CGA8M1X7T2J224M200KC		
	3225	2.00±0.20	±10%			CGA6M3X7T2E334K200AA
		2.00±0.20	±20%			CGA6M3X7T2E334M200AA
330nF	4532	1.60±0.20	±10%		CGA8L4X7T2W334K160KA	
000		1.0020.20	±20%		CGA8L4X7T2W334M160KA	
	5750	2.00±0.20	±10%	CGA9M1X7T2J334K200KC		
		2.0020.20	±20%	CGA9M1X7T2J334M200KC		
	4532	2.30±0.20	±10%		CGA8N4X7T2W474K230KA	
470nF		2.0020.20	±20%		CGA8N4X7T2W474M230KA	
	5750	2.50±0.30	±10%	CGA9P1X7T2J474K250KC		
		2.0020.00	±20%	CGA9P1X7T2J474M250KC		
	4532	1.60±0.20	±10%			CGA8L3X7T2E684K160KA
680nF		1.0020.20	±20%			CGA8L3X7T2E684M160KA
000	5750	2.00±0.20	±10%		CGA9M4X7T2W684K200KA	
			±20%		CGA9M4X7T2W684M200KA	
	4532	2.50±0.30	±10%			CGA8P3X7T2E105K250KA
1µF			±20%			CGA8P3X7T2E105M250KA
· F.,	5750	2.50±0.30	±10%		CGA9P4X7T2W105K250KA	
	0.00	2.0020.00	±20%		CGA9P4X7T2W105M250KA	
1.5µF	5750	2.00±0.20	±10%			CGA9M3X7T2E155K200KA
,-			±20%			CGA9M3X7T2E155M200KA
2.2µF	5750	2.50±0.30	±10%			CGA9P3X7T2E225K250KA
p.	5.50		±20%			CGA9P3X7T2E225M250KA

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