

December 2018

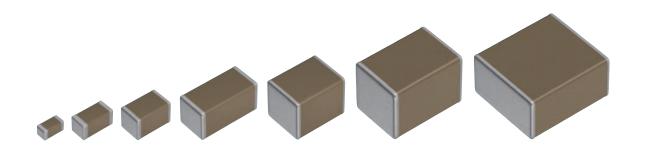
MULTILAYER CERAMIC CHIP CAPACITORS

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.

<u> REMINDERS</u>

 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)

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]

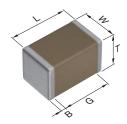
SERIES OVERVIEW

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.

SHAPE & DIMENSIONS

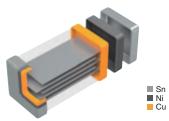


ody length
ody width
ody height
erminal width
erminal spacing

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.

PRODUCT STRUCTURE



Dimonoiono in m

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.

				Dim	ensions 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.	_
Dimension		a desire la sel sua la sera a			

*Dimensional tolerances are typical values.

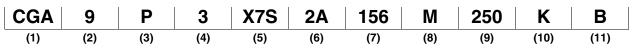
A Please be sure to request delivery specifications that provide further details on the features and specifications of the products for proper and safe use. Please note that the contents may change without any prior notice due to reasons such as upgrading.

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CATALOG NUMBER CONSTRUCTION



(1) Series

(2) Dimensions L x W (mm)

EIA	Length	Width	Terminal width
CC0402	1.00	0.50	0.10
CC0603	1.60	0.80	0.20
CC0805	2.00	1.25	0.20
CC1206	3.20	1.60	0.20
CC1210	3.20	2.50	0.20
CC1812	4.50	3.20	0.20
CC2220	5.70	5.00	0.20
	CC0402 CC0603 CC0805 CC1206 CC1210 CC1812	CC0402 1.00 CC0603 1.60 CC0805 2.00 CC1206 3.20 CC1210 3.20 CC1812 4.50	CC0402 1.00 0.50 CC0603 1.60 0.80 CC0805 2.00 1.25 CC1206 3.20 1.60 CC1210 3.20 2.50 CC1812 4.50 3.20

(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
К	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 = 2.2µF

(8) Capacitance tolerance

Code	Tolerance	
С	±0.25pF	
D	±0.50pF	
J	±5%	
K	±10%	
М	±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	
В	178mm reel, 2mm pitch	
К	178mm reel, 8mm pitch	

(11) Special reserved code

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

Capacitance range chart

Capacitar	ice	C	0G	X7S
(pF)	Code		2A 00V)	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 thickne	ess		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.

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(5/18)

CGA2/1005 [0402 inch]

Capacitance range chart

Capacitan	ce	C	DG	X7R	X7S
(pF)	Code	2E (250V)	2A (100V)	2A (100V)	2A (100V
1	010	· · ·	Í	· · · ·	
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	1			
5,600	562	1			
6,800	682		-		
8,200	822	1			
10,000	103	1			
15,000	153				
22,000	223	1			
33,000	333				
47,000	473	1			
68,000	683	1			
100,000	104				
		1	1		

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.

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(6/18)

CGA3/1608 [0603 inch]

Capacitance range chart

Capacitar	ice		C0G		X	7R	X7S	X	7T
(pF)	Code	2W (450V)	2E (250V)	2A (100V)	2E (250V)	2A (100V)	2A (100V)	2W (450V)	2E (250V
100	101	()	(/	(****/	(/	(*****)	(*****)	(1001)	(
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								
dard thickn	ess).60 mm		0.85 n	nm	1.2	5 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.

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(7/18)

CGA4/2012 [0805 inch]

Capacitance range chart

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

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

3,300,000

Standard thickness

335

L

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

0.60 mm 0.85 mm 1.15 mm

1.30 mm

1.60 mm

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(8/18)

CGA5/3216 [1206 inch]

Capacitance range chart

CGA6/3225 [1210 inch]

Capacitar	nce		C)G		X7R			X7S	7S 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											
dard thickn	ess	1	.25 mm		1.60 m	m	2.00	mm	2	.30 mm		2.50 r

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

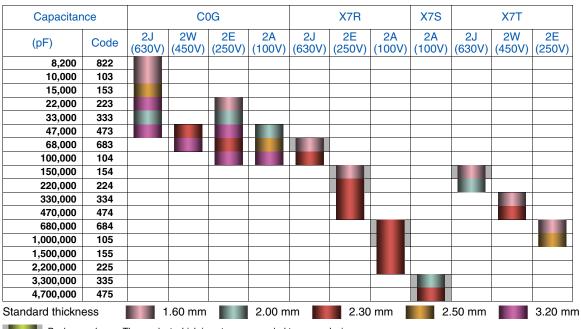
Please refer to the capacitance range table at P-11 and after for the details such as product thickness and capacitance tolerance.

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Capacitance range chart

CGA8/4532 [1812 inch]

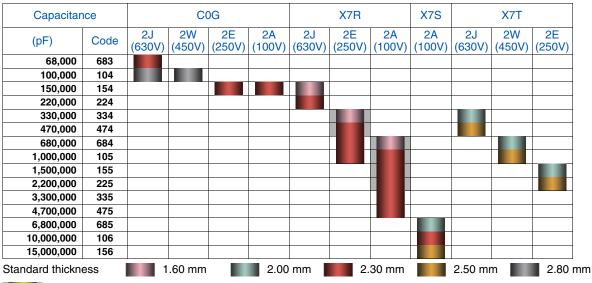


Background gray: The product which is not recommended to a new design.

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

Capacitance range chart

CGA9/5750 [2220 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.

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MULTILAYER CERAMIC CHIP CAPACITORS

Capacitance range table

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: 100
1pF	1608	0.80±0.10	±0.25pF				CGA3E2C0G2A010C080A
1.5pF	1608	0.80±0.10	±0.25pF				CGA3E2C0G2A1R5C080A
2pF	1608	0.80±0.10	±0.25pF				CGA3E2C0G2A020C080A
2.2pF	1608	0.80±0.10	±0.25pF				CGA3E2C0G2A2R2C080A
3pF	1608 1608	0.80±0.10	±0.25pF				CGA3E2C0G2A030C080A
3.3pF 4pF	1608	0.80±0.10	±0.25pF				CGA3E2C0G2A3R3C080A
4pr 4.7pF	1608	0.80±0.10 0.80±0.10	±0.25pF ±0.25pF				CGA3E2C0G2A040C080A CGA3E2C0G2A4R7C080A
4.7pF 5pF	1608	0.80±0.10	±0.25pF ±0.25pF				CGA3E2C0G2A050C080A
6pF	1608	0.80±0.10	±0.25pF ±0.50pF				CGA3E2C0G2A050C080A
6.8pF	1608	0.80±0.10	±0.50pF ±0.50pF				CGA3E2C0G2A080D080A CGA3E2C0G2A6R8D080A
7pF	1608	0.80±0.10	±0.50pF				CGA3E2C0G2A070D080/
8pF	1608	0.80±0.10	±0.50pF				CGA3E2C0G2A070D080/
9pF	1608	0.80±0.10	±0.50pF				CGA3E2C0G2A090D080/
10pF	1608	0.80±0.10	±0.50pF				CGA3E2C0G2A100D080/
12pF	1608	0.80±0.10	±5%				CGA3E2C0G2A120J080A
15pF	1608	0.80±0.10	±5%				CGA3E2C0G2A150J080A
18pF	1608	0.80±0.10	±5%				CGA3E2C0G2A180J080A
22pF	1608	0.80±0.10	±5%				CGA3E2C0G2A220J080A
27pF	1608	0.80±0.10	±5%				CGA3E2C0G2A270J080A
33pF	1608	0.80±0.10	±5%				CGA3E2C0G2A330J080A
39pF	1608	0.80±0.10	±5%				CGA3E2C0G2A390J080A
47pF	1608	0.80±0.10	±5%				CGA3E2C0G2A470J080A
56pF	1608	0.80±0.10	±5%				CGA3E2C0G2A560J080A
68pF	1608	0.80±0.10	±5%				CGA3E2C0G2A680J080/
82pF	1608	0.80±0.10	±5%				CGA3E2C0G2A820J080/
0201	1005	0.50±0.05	±5%				CGA2B2C0G2A101J050E
	1608	0.80±0.00	±5%			CGA3E3C0G2E101J080AA	CGA3E2C0G2A101J080/
100pF	2012	0.60±0.15	±5%		CGA4C4C0G2W101J060AA		CGA4C2C0G2A101J060/
	3216	0.60±0.15	±5%	CGA5C4C0G2J101J060AA			00,4020002,41010000
	1005	0.50±0.05	±5%	00,000000201010000,11			CGA2B2C0G2A121J050
	1608	0.80±0.00	±5%			CGA3E3C0G2E121J080AA	CGA3E2C0G2A121J080A
120pF	2012	0.60±0.15	±5%		CGA4C4C0G2W121J060AA		Garioleogalitte 10000
	3216	0.60±0.15	±5%	CGA5C4C0G2J121J060AA	00440400021121000044		
	1005	0.50±0.15	±5%	00430400020121000044			CGA2B2C0G2A151J050
	1608	0.80±0.00	±5%			CGA3E3C0G2E151J080AA	CGA3E2C0G2A151J080/
150pF	2012	0.60±0.15	±5%		CGA4C4C0G2W151J060AA		Carloczorazinio interest
	3216	0.60±0.15	±5%	CGA5C4C0G2J151J060AA			
	1005	0.50±0.05	±5%				CGA2B2C0G2A181J050I
	1608	0.80±0.10	±5%			CGA3E3C0G2E181J080AA	CGA3E2C0G2A181J080/
180pF	2012	0.60±0.15	±5%		CGA4C4C0G2W181J060AA		Gandeleordentionood
	3216	0.60±0.15	±5%	CGA5C4C0G2J181J060AA	00,00000201010000,00		
	1005	0.50±0.15	±5%	00430400020101000044			CGA2B2C0G2A221J050E
	1608	0.80±0.00	±5%			CGA3E3C0G2E221J080AA	CGA3E2C0G2A221J080/
220pF	2012	0.60±0.15	±5%		CGA4C4C0G2W221J060AA		CGA4C2C0G2A221J060/
	3216	0.60±0.15	±5%	CGA5C4C0G2J221J060AA	000000000000000000000000000000000000000		0044020002A2210000
	1005	0.50±0.05	±5%				CGA2B2C0G2A271J050
	1608	0.80±0.00	±5%			CGA3E3C0G2E271J080AA	CGA3E2C0G2A271J080/
270pF	2012	0.60±0.15	±5%		CGA4C4C0G2W271J060AA		00,0220002,12,10000,
	3216	0.60±0.15	±5%	CGA5C4C0G2J271J060AA			
	1005	0.50±0.05	±5%	00,100,1000,000,00			CGA2B2C0G2A331J050
	1608	0.80±0.10	±5%			CGA3E3C0G2E331J080AA	CGA3E2C0G2A331J080/
330pF	2012	0.60±0.15	±5%		CGA4C4C0G2W331J060AA		
	3216	0.60±0.15	±5%	CGA5C4C0G2J331J060AA			
	1005	0.50±0.05	±5%				CGA2B2C0G2A391J050I
	1608	0.80±0.10	±5%			CGA3E3C0G2E391J080AA	CGA3E2C0G2A391J080
390pF	2012	0.60±0.15	±5%		CGA4C4C0G2W391J060AA		
	3216	0.60±0.15	±5%	CGA5C4C0G2J391J060AA			
	1005	0.50±0.10	±5%				CGA2B2C0G2A471J050
	1608	0.80±0.10	±5%			CGA3E3C0G2E471J080AA	CGA3E2C0G2A471J080
470pF	2012	0.60±0.10	±5%		CGA4C4C0G2W471J060AA	SUNCESSURE / INCOMA	CGA4C2C0G2A471J060
	3216	0.85±0.15	±5%	CGA5F4C0G2J471J085AA	SUNTO TOUL INT TOUUNA		50/1-020002A47 10000
	1005	0.50±0.05	±5%	50A51 +0002047 10003AA			CGA2B1C0G2A561J050
	1608	0.80±0.05	±5%			CGA3E3C0G2E561J080AA	CGA3E2C0G2A561J080/
	1000	0.00±0.10				CUASESCUGZES0 IJUOUAA	CGAGEZOUGZAGO IJU8U/
560pF	2012	0.60±0.15	±5%		CGA4C4C0G2W561J060AA		

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

⊘TDK

MULTILAYER CERAMIC CHIP CAPACITORS

Capacitance range table

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

1005 0.000,00 95% COARECTOR 2000 680,F 2012 0.66,0.15 4.5% COARECTOR 2000 COARECTOR 2000 <th>Capacitance</th> <th>Dimensions</th> <th>Thickness (mm)</th> <th>Capacitance tolerance</th> <th>Catalog number Rated voltage Edc: 630V</th> <th>Rated voltage Edc: 450V</th> <th>Rated voltage Edc: 250V</th> <th>Rated voltage Edc: 100\</th>	Capacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Catalog number Rated voltage Edc: 630V	Rated voltage Edc: 450V	Rated voltage Edc: 250V	Rated voltage Edc: 100\
680p 1058 0.80.0.10 4.9% CCAMERCOGRESSIJ00A CCAMERCOGRESSIJ00A 2216 0.86.0.15 4.9% CCAMERCOGRESSIJ00AA CCAMERCOGRESSIJ00AA 820pF 2016 0.85.0.15 4.9% CCAMERCOGRESSIJ00AA CCAMERCOGRESSIJ00AA 820pF 2016 0.85.0.10 4.9% CCAMERCOGRESSIJ00AA CCAMERCOGRESSIJ0AA CCAMERCOGRE		1005			Hated Voltage Luc. 000 V	Haled Vollage Luc. 450 V	Trated Voltage Luc. 200V	-
6800F 2012 0.00.0.15 4.5% CCAACCACCACGAUNALISADA 1005 0.58.0.05 2.5% CCAACCACCACGAUNALISADA CCAACCACCACGAUNALISADA 2012 0.00.0.15 4.5% CCAACCACCACGAUNALISADA CCAACCACCACGAUNALISADA 2012 0.00.0.15 4.5% CCAACCACCACGAUNALISADA CCAACCACCACGAUNALISADA 1005 0.00.0.01 4.5% CCAACCACCACGAUNALISADA CCAACCACCACGAUNALISADA 1005 0.00.0.01 4.5% CCAACCACCACGAUNALISADA CCAACCACCACGAUNALISADA 1005 0.00.0.01 4.5% CCAACCACCACGAUNALISADA CCAACCACCACGAUNALISADA 2012 0.00.01 4.5% CCAACCACGAUNALISADA CCAACCACCACGAUNALISADA CCAACCACCACGAUNALISADA </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>CGA3E3C0G2E681J080AA</td> <td>CGA3E2C0G2A681J080A</td>							CGA3E3C0G2E681J080AA	CGA3E2C0G2A681J080A
3216 0.950, 0.5 0.654-0.02 COARDINGSCHER COARDINGSCHER 8800P 200 0.551, 0.0 255 COARDINGSCHER COARDINGSCHER 100 0.551, 0.0 255 COARDINGSCHER COARDINGSCHER COARDINGSCHER 100 0.550, 0.0 255 COARDINGSCHER COARDINGSCHER COARDINGSCHER 100 0.550, 0.0 255 COARDINGSCHER COARDINGSCHER COARDINGSCHER 100 0.550, 0.0 255 COARDINGSCHER COARDINGSCHER COARDINGSCHER 1000 0.550, 0.0 COARDINGSCHER COARDINGSCHER COARDINGSCHER COARDINGSCHER 1212 0.551, 0.55 COARDINGSCHER COARD	680pF					CGA4C4C0G2W681J060AA		
1005 0.50-0.05 0.45% COLARECOGNERS 2809F 2012 0.60-0.15 4.5% COLARCIGOGNERS LINEARA 2012 0.60-0.15 4.5% COLARCIGOGNERS LINEARA COLARCIGOGNERS LINEARA 1005 0.50-0.05 4.5% COLARCIGOGNERS LINEARA COLARCIGOGNERS LINEARA 1007 0.50-0.05 4.5% COLARCIGOGNERS LINEARA COLARCIGOGNERS LINEARA 1008 0.80-0.15 4.5% COLARCIGOGNERS LINEARA COLARCIGOGNERS LINEARA 2012 0.80-0.15 4.5% COLARCIGOGNERS LINEARA COLARCIGOGNERS LINEARA 2012 0.80-0.15 4.5% COLARCIGOGNERS LINEARA COLARCIGOGNERS LINEARA COLARCIGOGNERS LINEARA 2012 0.80-0.15 4.5% COLARCIGOGNERS LINEARA COLARCIGOGNERS LINEARA COLARCIGOGNERS LINEARA 12.007 0.80-0.15 4.5% COLARCIGOGNERS LINEARA COLAR					CGA5F4C0G2J681J085AA			
B000 E068 0.000-00 6.65% CCAASECOCERENAMENA CCAASECOCERENAMENA <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>CGA2B1C0G2A821J050B</td>								CGA2B1C0G2A821J050B
BCOPF 2012 0.00-0:15 4:5% CCAAC-CODEVNET 1000AA CGAAC-SODEVNET 1000AA 1005 0.59-0.05 4:5% CCAAC-SODEVNET 1000AA CGAACSCODEVNET 1000AA CGAACSCODEVNET 1000AA 1107 2012 -0.00-0.01 4:5% CCAASTSCODEVNET 10000AA CGAASTSCODEVNET 10000AA 1107 2012 -0.00-0.01 4:5% CCAASTSCODEVNET 10000AA CGAASTSCODEVNET 10000AA 1107 2012 -0.00-0.01 4:5% CCAASTSCODEVNET 20.000AA CGAASTSCODEVNET 20.000AA 11.071 2012 -0.00-0.01 4:5% CCAASTSCODEVNET 20.000AA CGAASTSCODEVNET 20.000AA 12.071 2012 -0.00-0.01 4:5% CCAASTSCODEVNET 20.000AA CGAASTSCODEVNET 20.000AA 12.071 2012 -0.00-0.01 4:5% CGAASTSCODEVNET 20.000AA CGAASTSCODEVNET 20.000AA 12.071 2012 -0.00-0.01 4:5% CGAASTSCODEVNET 20.000AA CGAASTSCODEVNET 20.000AA 12.071 2012 -0.00-0.01 4:5% CGAASTSCODEVNET 20.000AA CGAASTSCODEVNET 20.000AA 12.071 2015 <							CGA3E3C0G2E821J080AA	CGA3E2C0G2A821J080A
1005 0.09.0.05 0.5% CCAR2100204102 CCAR2100204102 1nF 2012 -0.09.0.15 2.5% CCAR2100204102 CCAR21000204102<	820pF	2012	0.60±0.15	±5%		CGA4C4C0G2W821J060AA	CGA4C3C0G2E821J060AA	
168 0.80-0.10 ±5% CCAMEGOOGE 102,000A CCAMEGOOGE 102,000A <thcamegooge 102,000a<="" th=""></thcamegooge>		3216		±5%	CGA5F4C0G2J821J085AA			
InF 2012 DSBQL 15 ± 5% COAACCOOSLIVELUBORAL COAACCOOSLIVELUBORAL 1216 DSBQL 15 ± 5% COAACCOOSLIVELUBORAL COAACCOOSLIVELUBORAL 1217 DDBQL 05 DSBQL 15 ± 5% COAACCOOSLIVELUBORAL COAACCOOSLIVELUBORAL 1216 DSBQL 15 ± 5% COAACCOOSLIVELUBORAL COAACCOOSLIVELUBORAL COAACCOOSLIVELUBORAL 1216 DSBQL 15 ± 5% COAACCOOSLIVELUBORAL COAACCOOSLIVELUBORAL COAACCOOSLIVELUBORAL 1516 DSBQL 15 ± 5% COAACCOOSLIVELUBORAL COAACCOOSLIVELUBORAL COAACCOOSLIVELUBORAL 1516 DSBQL 15 ± 5% COAACCOOSLIVELUBORAL COAA		1005	0.50±0.05	±5%				CGA2B1C0G2A102J050B
2012 0.850.15 ±5% COLMF2002E102.08AA 120F 0.850.10 ±5% CGA4F20022.02.08AA CGA4S2002E122.080AA CGA4S2002E122.080AA CGA4S2002E122.080AA CGA4S2002E122.080AA CGA4S2002E122.085AA CGA4F2002E122.085AA CGA4F2002E122.085AA CGA4F2002E122.085AA CGA4F2002E122.085AA CGA4F2002E122.085AA CGA4F2002E122.085AA CGA4F2002E152.085AA CGA4F2002E152.085A		1608	0.80±0.10	±5%			CGA3E3C0G2E102J080AA	CGA3E2C0G2A102J080A
	1nF					CGA4C4C0G2W102J060AA		CGA4C2C0G2A102J060A
1988 0.80-0.10 4.5% CGA4ECOCO2+122.000A CGA4ECOCO2+122.000A 12.87 2012 0.65-0.15 4.5% CGA4CCO2W122.000A CGA4CCO202+122.000A 15.06 0.85-0.15 4.5% CGA4ECOCO2+122.000AA CGA4ECOCO2+122.000AA 15.06 0.80-0.10 4.5% CGA4ECOCO2+122.000AA CGA4ECOCO2+122.000AA 2012 0.80-0.10 4.5% CGA4ECOCO2+122.000AA CGA4ECOCO2+122.000AA 218.0 1.56-0.15 4.5% CGA4ECOCO2+122.000AA CGA4ECOCO2+122.000AA 218.0 0.80-0.10 4.5% CGA4ECOCO2+122.000AA CGA4ECOCO2+122.000AA 218.0 0.80-0.10 4.5% CGA4ECOCO2+122.000AA CGA4ECOCO2+122.000AA 22.06 0.80-0.20 4.5% CGA4ECOCO2+122.000AA CGA4ECOCO2+122.000AA 22.07 0.80-0.20 4.5% CGA4ECOCO2+122.000AA CGA4ECOCO2+22.000AA 21012 0.80-0.20 4.5% CGA4ECOCO2+122.000AA CGA4ECOCO2+22.000AA 21012 1.56-0.15 4.5% CGA4ECOCO2+22.000AA CGA4ECOCO2+22.000AA 21012 <td></td> <td>2012 -</td> <td>0.85±0.15</td> <td>±5%</td> <td></td> <td></td> <td>CGA4F3C0G2E102J085AA</td> <td></td>		2012 -	0.85±0.15	±5%			CGA4F3C0G2E102J085AA	
1.2nF 0010 0050-15 ±5% CGA4C4C002W122J080AA CGA4F2C002E122J085AA 1.5nF 2016 0.850-15 ±5% CGA5F4C002J122J085AA CGA4F2C002E122J085AA 1.5nF 2012 0.650-15 ±5% CGA5F4C002J122J085AA CGA4F2C002P152J085AA CGA4F2C002P152J085AA 2012 0.650-15 ±5% CGA5F4C002J152J115AA CGA4F2C002P152J085AA CGA4F2C002P152J085AA 18nF 2012 0.850-10 ±5% CGA5F4C002J152J115AA CGA4F2C002P152J085AA CGA4F2C002P152J085AA 2012 0.850-10 ±5% CGA5F4C002J152J115AA CGA4F2C002P152J085AA CGA4F2C002P12Z2AA 216 1.156-15 ±5% CGA5F4C002J152J115AA CGA4F2C002P22J085AA CGA4F2C002P22J085AA 22:nF 1.256-20 ±5% CGA4F4C002P22J18AA CGA4F2C002P22J18AA 22:nF 1.550-15 ±5% CGA4F4C002P22J18AA CGA4F2C002P22J18AA 22:nF 1.550-15 ±5% CGA4F4C002P22J18AA CGA4F2C002P23J18AA 21:nF 1.550-15 ±5% CGA4F4C002P272J18AA CGA4F2C002P		3216	0.85±0.15	±5%	CGA5F4C0G2J102J085AA			
12.h+ 2012 0.65:0.15 1:5% CCA4F90002E123/085AA 15.nF 0.66:0.15 4:5% CGA452C002J122,085AA CGA4250002E152,085AA 11.5nF 2012 0.66:0.15 4:5% CGA474C002V152,085AA CGA472C002E152,085AA 217.6 1.15:0.15 4:5% CGA4F4C002V152,085AA CGA472C002E152,005AA 218.n 1.66:0.15 4:5% CGA4F4C002V152,085AA CGA472C002E152,005AA 218.n 2012 0.85:0.15 4:5% CGA4F4C002V152,005AA CGA472C002E152,005AA 218.n 1.05:0.15 4:5% CGA4F4C002V152,015AA CGA4F2C002A152,005AA 219.0 0.85:0.15 4:5% CGA4F4C002V152,015AA CGA4F2C002A152,005AA 210.1 0.65:0.15 4:5% CGA4F4C002V22,005AA CGA4F2C002A222,005AA 210.1 0.85:0.15 4:5% CGA4F4C002V22,005AA CGA4F2C002A222,005AA 210.1 1.55:0.15 CGA5HC002,022,021,15AA CGA4F2C002A222,005AA CGA4F2C002A222,005AA 217.nF 2012 1.25:0.20 4:5% CGA4F4C002,022,022,125AA CGA4		1608	0.80±0.10	±5%			CGA3E3C0G2E122J080AA	CGA3E2C0G2A122J080A
Serie OBSA:015 ±5% CGASECOG2E122.008AA 1506 0.880.010 ±5% CGASECOG2E152.008A CGASECOG2A152.008A CGASECOG2A152.008A CGASECOG2A152.008A CGASECOG2A152.008A CGASECOG2A152.008A CGASECOG2A152.008A CGASECOG2A162.008A CGASECOG2A22.008A CGASECOG2A22.008A<	10.5	0010	0.60±0.15	±5%		CGA4C4C0G2W122J060AA		CGA4C2C0G2A122J060A
1686 0.80e.010 ±5% CGA4ESC002ETE3JB8AA CGA4ESC002ATE3J CGA4ESC002ATE3J 085e.015 ±5% 216 0.85e.015 ±5% CGA4F4C002W152J085AA CGA4F3C002ETE3J085AA 3216 1.15e.015 ±5% CGA4F4C002W182J085AA CGA4F3C002ETE3J085AA 218 0.85e.015 ±5% CGA4F4C002W182J085AA CGA4F3C002ETE3J2085AA 3216 1.15e.015 ±5% CGA4F4C002W182J085AA CGA4F3C002ETE3J208AA 3216 1.15e.015 ±5% CGA4F4C002W182J085AA CGA4F2C002A222 2.2nF 0.85e.015 ±5% CGA4F4C002W182J085AA CGA4F2C002A222 1.15e.015 ±5% CGA4F4C002W22J085AA CGA4F2C002A222 2.2nF 0.85e.015 ±5% CGA4F4C002W22J15AA CGA4F2C002A222 3.216 1.66e.020 ±5% CGA4F4C002W27J12SAA CGA4F2C002A2273 3.216 1.66e.020 ±5% CGA4F4C002W32J12SAA CGA4F2C002A322 3.216 1.66e.020 ±5% CGA4F4C002W32J12SAA CGA4F2C002H2732 3.216 1.66e.020 ±5%	1.2nF	2012 -	0.85±0.15	±5%			CGA4F3C0G2E122J085AA	
1.5nF 2012 0.690-015 ±5% CGA4F4C0G2W152.085AA CGA4F4C0G2W152.085AA 3216 1.15±0.15 ±5% CGA4F4C0G2W152.085AA CGA4F3C0G2E182.085AA CGA4F2C0G2W182.085AA CGA4F2C0G2W282.085AA CGA4F2C0G2W282.08		3216	0.85±0.15	±5%	CGA5F4C0G2J122J085AA			
1.5n 2012 0.85:0 15 ±5% CGAAF4C052W152.085AA CGAAF4C062W152.085AA 1.8n 2126 0.85:0.15 ±5% CGAAF4C052W182.085AA CGAAF3C052E182.085AA CGAAF3C052E22.085AA CGAAF3C052E22.085AA CGAAF3C052E22.085AA CGAAF3C052E22.085AA CGAAF3C052E22.085AA CGAAF3C052E22.085AA CGAAF3C052E22.0125AA CGAAF3C052E32.0125AA CGAAF3C052E32.0125AA CGAAF3C052E32.0125AA CGAAF3C052E32.0125AA CGAAF3C052E32.0125AA CGAAF3C052E32.0125AA CGAAF3C052E332.0125A CGAAF3C052E332.015AA CG		1608	0.80±0.10	±5%			CGA3E3C0G2E152J080AA	CGA3E2C0G2A152J080A
1.8.6 0.856.015 ±5% CGA8H20032/152085AA 1608 0.806.010 ±5% CGA8H20032/152085AA CGA8E30032E182085AA 1.8.6F 2012 0.855.015 ±5% CGA8F20032N182085AA CGA4F20032V182085AA CGA4F20032V182085AA 2166 1.156.015 ±5% CGA4F20032V182085AA CGA4F20032V182085AA CGA4F20032V220085AA 22.0F 1608 0.800.020 ±5% CGA4F20032V220085AA CGA4F20032V220085AA 2012 1.256.020 ±5% CGA4F20032V220085AA CGA4F20032V220085AA 21012 1.256.020 ±5% CGA4F20032V220085AA CGA4F20032V220085AA 21012 1.256.020 ±5% CGA4F20032V22015AA CGA4F20032V22015AA 21012 1.256.020 ±5% CGA4F20032V22015AA CGA4F20032V22015AA 21012 1.256.020 ±5% CGA4F20032V22015AA CGA4F20032V23005AA 2112 1.256.020 ±5% CGA4F20032V22015AA CGA4F20032V23005AA 2112 1.256.020 ±5% CGA4F20032V27015AA CGA4F20032V28094A	4.5.5	0010	0.60±0.15	±5%				CGA4C2C0G2A152J060A
1608 0.809-0.10 ±5% CGA4F2002W182J085AA CGA4F2002W182J085AA CGA4F20022V182J085AA 2012 0.85x0.15 ±5% CGA4F2002U182J115AA CGA4F20022V182J085AA CGA4F20022V182J085AA 22nF 0.85x0.10 ±5% CGA4F20022V182J085AA CGA4E3002E222J12SAA 22nF 0.85x0.15 ±5% CGA4F20022V085AA CGA4E3002E222J12SAA 2121 0.85x0.15 ±5% CGA4F40022V085AA CGA4F20022V22J085AA 22nF 2012 1.25x0.20 ±5% CGA4F20022V22J12SAA CGA4F20022V22J12SAA 2166 1.15x0.15 ±5% CGA4F40032W272J12SAA CGA4J30002E272J12SAA CGA4J20022V27J12SAA 21012 1.25x0.20 ±5% CGA4J40032W272J12SAA CGA4J20032W272J12SAA CGA4J20032W272J12SAA 21012 0.85x0.15 ±5% CGA4J40032W32J12SAA CGA4J20032W272J12SAA CGA4J20032W32J12SAA 21012 1.25x0.20 ±5% CGA4J4C002W32J12SAA CGA4J20032W32J12SAA CGA4J20032W32J12SAA CGA4J20032W32J12SAA CGA4J20032W32J12SAA CGA4J20032W32J12SAA CGA4J20032W32J12SAA CGA4J20032W3	1.50F	2012 -	0.85±0.15	±5%		CGA4F4C0G2W152J085AA	CGA4F3C0G2E152J085AA	
1.8nF 2012 0.85n.0.15 ±5% CGA4F4C0G2W182J085AA CGA4F2C0G2A182J 1608 0.80x-0.10 ±5% CGA4J2C0G2W182J115AA CGA4SEC0G2A22Z 22.2nF 1608 0.80x-0.20 ±5% CGA4SEC0G2A22Z CGA4SEC0G2A22Z 2102 1.55x.0.20 ±5% CGA4F4C0G2W22J085AA CGA4SEC0G2A22Z 3216 1.15x.0.15 ±5% CGA4SEC0G2W22J15AA CGA4SEC0G2A22Z 2.7nF 2012 1.25x.02 ±5% CGA4J4C0G2W27J125AA CGA4J2C0G2E2ZJ15AA 3216 1.15x.0.15 ±5% CGA5L4C0G2W27J125AA CGA4J2C0G2E2ZJ15AA CGA4J2C0G2E2ZJ125AA CGA4J2C0G2E2ZJ125AA CGA4J2C0G2E2ZJ125AA CGA4J2C0G2E2ZJ125AA CGA4J2C0G2E2ZJ125AA CGA4J2C0G2E2ZJ125AA CGA4J2C0G2E2ZJ125AA CGA4J2C0G2E2ZJ125AA CGA4J2C0G2E2ZJ125AA CGA4J2C0G2EZJ125AA CGA4J2C0G2E2ZJ125AA CGA4J2C0G2E2ZJ125AA CGA4J2C0G2E2ZJ125AA CGA4J2C0G2E2ZJ125AA CGA4J2C0G2E2ZJ125AA CGA4J2C0G2E2ZJ125AA CGA4J2C0G2E2ZJ125AA CGA4J2C0G2E2ZJ125AA CGA4J2C0G2EZJ125AA CGA4J2C0G2E2ZJ125AA CGA4J2C0G2E2ZJ125AA CGA4J2C0G2E2ZJ12J2J2GA CGAAJ2C0G2E3ZJ12GAA CGAA		3216	1.15±0.15	±5%	CGA5H4C0G2J152J115AA			
1.8n+ 2012 1.25-0.20 ±5% CGA4J9C0G2E182J125AA 3216 1.156.015 ±5% CGASH4C0G2J182J115AA CGA3E2C0G2A222J 2.2nF 2012 0.850.015 ±5% CGA4F4C0G2W222J085AA CGA4F2C0G2A222J 2161 1.156.015 ±5% CGA4F4C0G2W222J085AA CGA4F2C0G2A22ZJ 2161 1.156.015 ±5% CGA4F4C0G2W222J085AA CGA4J3C0G2E22J125AA 22.7nF 2012 1.256.020 ±5% CGA4L4C0G2W272J125AA CGA4J3C0G2E727J125AA 3216 1.660.02 ±5% CGA4L4C0G2W32J125AA CGA4J3C0G2E72J125AA CGA4L2C0G2A33L 3216 1.660.02 ±5% CGA4L4C0G2W32J125AA CGA4J3C0G2E32J085AA CGA4L2C0G2A33L 3216 0.860.010 ±5% CGA4L4C0G2W32J125AA CGA4J3C0G2E32J085AA CGA4J3C0G2E32J085AA 1.150.015 ±5% CGA4L4C0G2W32J125AA CGA4J3C0G2E32J085AA CGA4J3C0G2E32J085AA 2012 1.255.020 ±5% CGA4J4C0G2W32J125AA CGA4J3C0G2E32J205AA CGA4J3C0G2E32J205AA 1.608 0.890.10 ±5		1608	0.80±0.10	±5%			CGA3E3C0G2E182J080AA	CGA3E2C0G2A182J080A
1259.020 ±5% CGAH3C062E182115AA 2216 1155.015 ±5% CGASH2C062J182115AA CGAH3C062E1821125AA 2.207F 0850.010 ±5% CGASE2C062A2221 CGAH2C062W2221065AA CGAASE2C062A2221 2012 1256.020 ±5% CGASE2C062W222105AA CGA4J3C062E2221125AA CGA4J3C062E2221125AA 21012 1155.015 ±5% CGASE1C062W222105AA CGA4J3C062E2221125AA CGA4J3C062E2221125AA 21012 1255.020 ±5% CGASE1C062W222115AA CGA4J3C062E2221125AA CGA4J2C062A2721 3216 1600.020 ±5% CGASE1C062W222115AA CGA4J3C062E2221125AA CGA4J2C062A2721 3.3nF 2012 1255.020 ±5% CGA4J4C062W3221125AA CGA4J3C062E321085AA 3.3nF 2012 1255.020 ±5% CGA5L4C062J3231150AA CGA4J3C062E321085AA CGA4J2C062A3321 3.3nF 2012 1255.020 ±5% CGA5L4C062J32J150AA CGA4J3C062E3221085AA CGA4J3C062E321085AA CGA4J3C062E321085AA CGA4J3C062E321085AA CGA4J3C062E321085AA CGA4J3C062E321085AA CGA4J3C062E3	1.0	0010	0.85±0.15	±5%		CGA4F4C0G2W182J085AA		CGA4F2C0G2A182J085A
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2.2nF 0.89:0.20 ±5% CGAFECOG2/222.080A CGAFECOG2/222.080A 2.2nF 2012 1.25x0.20 ±5% CGAFECOG2/222.108AA CGAFECOG2/222.1128AA 2.7nF 2016 1.15x0.15 ±5% CGAFECOG2/222.1128AA CGAAL3COG2/222.1128AA 2.7nF 2012 1.25x0.20 ±5% CGASELCOG2/272.1128AA CGAAL3COG2/272.1128AA 3.3nF 1608 0.80x0.20 ±5% CGAAL4COG2/272.1128AA CGAAL3COG2/272.1128AA 3.3nF 2012 1.25x0.20 ±5% CGAAL4COG2/272.1128AA CGAAL3COG2/273.21 3.3nF 2012 1.25x0.20 ±5% CGAAL4COG2/273.21 CGAAL3COG2/233.21 3.3nF 2012 1.25x0.20 ±5% CGAAL4COG2/233.21 CGAAL3COG2/233.21 3.3nF 2012 1.25x0.20 ±5% CGAAL4COG2/233.21 CGAAL3COG2/233.21 3.3nF 2012 1.25x0.20 ±5% CGAAL4COG2/332.21 CGAAL4COG2/332.21 3.3nF 2012 1.25x0.20 ±5% CGAAL4COG2/332.21 CGAAL4COG2/332.21 3.3nF <td></td> <td>4000</td> <td>0.80±0.10</td> <td>±5%</td> <td></td> <td></td> <td></td> <td>CGA3E2C0G2A222J080A</td>		4000	0.80±0.10	±5%				CGA3E2C0G2A222J080A
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2.7nF 2012 1.25±0.20 ±5% CGA4J4C0G2W272J125AA CGA4J3C0G2E272J125AA CGA4J3C0G2E272J125AA CGA4J3C0G2E272J125AA CGA4J3C0G2E272J125AA CGA4J3C0G2E272J125AA CGA4J2C0G2A322J 3.3nF 2012 1.60±0.20 ±5% CGA5L4C0G2J272J160AA CGA4J3C0G2E332J065AA CGA4J2C0G2A322J 3.3nF 2012 0.85±0.15 ±5% CGA5L4C0G2J332J160AA CGA4J3C0G2E332J065AA 3.3nF 1608 0.80±0.10 ±5% CGA4J4C0G2W332J125AA CGA4J3C0G2E332J065AA 3.9nF 1608 0.80±0.10 ±5% CGA5L4C0G2J332J160AA CGA4J3C0G2E332J125AA CGA4J2C0G2A392J 2012 1.25±0.20 ±5% CGA5L4C0G2J392J085AA CGA5L3C0G2E392J125AA CGA5L2C0G2A392J 3.9nF 1.608 0.80±0.10 ±5% CGA5L4C0G2J392J125AA CGA5L3C0G2E392J115AA CGA5L2C0G2A472J 4.7nF 1.608 0.80±0.10 ±5% CGA5L4C0G2J392J125AA CGA5L3C0G2E472J125AA CGA5L2C0G2A472J 2012 1.25±0.20 ±5% CGA5L4C0G2J362J125AA CGA5L3C0G2E472J115AA CGA5L2C0G2A472J		3216	1.15±0.15	±5%	CGA5H4C0G2J222J115AA			
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1608 0.80±0.10 ±5% CGA4J4C0G2W562J125AA CGA4J3C0G2E562J125AA CGA4J2C0G2A562J 5.6nF 3216 0.85±0.15 ±5% CGA5H4C0G2J562J115AA CGA4J3C0G2E562J115AA CGA5F2C0G2A562J 3216 0.85±0.15 ±5% CGA5H4C0G2J562J115AA CGA5H3C0G2E562J115AA CGA5F2C0G2A562J 3225 1.60±0.20 ±5% CGA6L4C0G2J562J160AA CGA3E1C0G2A682J 2012 1.25±0.20 ±5% CGA5H4C0G2J682J115AA CGA4J3C0G2E682J125AA CGA4J2C0G2A682J 6.8nF 1608 0.80±0.10 ±5% CGA5H4C0G2J682J115AA CGA4J3C0G2E682J125AA CGA4J2C0G2A682J 3216 1.15±0.15 ±5% CGA5H4C0G2J682J200AA CGA5L3C0G2E682J160AA CGA3E1C0G2A682Z 8.2nF 3216 1.15±0.15 ±5% CGA5H4C0G2U82ZJ115AA CGA5H2C0G2A82ZJ 8.2nF 3216 1.15±0.15 ±5% CGA5L4C0G2J62ZJ125AA CGA5H2C0G2A82ZJ 8.2nF 3216 1.15±0.15 ±5% CGA5L4C0G2J82ZJ160AA CGA5H2C0G2A82ZJ		0210	1.15±0.15	±5%			CGA5H3C0G2E472J115AA	
2012 1.25±0.20 ±5% CGA4J4C0G2W562J125AA CGA4J3C0G2E562J125AA CGA4J2C0G2A562J 5.6nF 3216 0.85±0.15 ±5% CGA5H4C0G2J562J115AA CGA5F2C0G2A562J 3225 1.60±0.20 ±5% CGA6L4C0G2J562J115AA CGA5H3C0G2E562J115AA 3225 1.60±0.20 ±5% CGA6L4C0G2J562J160AA CGA3E1C0G2A682J 6.8nF 1068 0.80±0.10 ±5% CGA5H4C0G2J682J115AA CGA4J3C0G2E682J125AA CGA4J2C0G2A682J 2012 1.25±0.20 ±5% CGA5H4C0G2J682J115AA CGA5H4C0G2W682J115AA CGA5L3C0G2E682J160AA 3216 1.15±0.15 ±5% CGA6M4C0G2J682J200AA CGA4J3C0G2E682J160AA 8.2nF 3216 1.15±0.15 ±5% CGA5H4C0G2W822J115AA CGA5L3C0G2E822J125AA CGA4J2C0G2A822J 8.2nF 3216 1.15±0.15 ±5% CGA5L4C0G2J822J160AA CGA5H2C0G2A822J		3225	1.60±0.20	±5%	CGA6L4C0G2J472J160AA			
5.6nF 3216 0.85±0.15 ±5% CGA5H2C0G2J562J115AA CGA5F2C0G2A562J 3225 1.60±0.20 ±5% CGA6L4C0G2J562J115AA CGA5H3C0G2E562J115AA 3225 1.60±0.20 ±5% CGA6L4C0G2J562J160AA CGA3E1C0G2A682J 6.8nF 1608 0.80±0.10 ±5% CGA5H4C0G2J682J115AA CGA4J3C0G2E682J125AA CGA3E1C0G2A682J 2012 1.25±0.20 ±5% CGA5H4C0G2J682J115AA CGA5H4C0G2W682J115AA CGA5H2C0G2A682J 6.8nF 3216 1.15±0.15 ±5% CGA5H4C0G2J682J100AA CGA5L3C0G2E682J160AA 3225 2.00±0.20 ±5% CGA6M4C0G2J682J200AA CGA3E1C0G2A682J 3225 2.00±0.20 ±5% CGA6M4C0G2J682J200AA CGA3E1C0G2A822J 2012 1.25±0.20 ±5% CGA6M4C0G2J682J200AA CGA3E1C0G2A822J 8.2nF 3216 1.15±0.15 ±5% CGA5H4C0G2W822J115AA CGA5H4C0G2B822J15AA 8.2nF 3216 1.15±0.15 ±5% CGA5L4C0G2J822J160AA CGA5H2C0G2A822J		1608	0.80±0.10	±5%				CGA3E1C0G2A562J080A
3216 1.15±0.15 ±5% CGA5H4C0G2J562J115AA CGA5H3C0G2E562J115AA 3225 1.60±0.20 ±5% CGA6L4C0G2J562J160AA CGA3E1C0G2A682J 4 1608 0.80±0.10 ±5% CGA6L4C0G2J562J160AA CGA3E1C0G2A682J 6.8nF 2012 1.25±0.20 ±5% CGA5H4C0G2J682J115AA CGA4J3C0G2E682J125AA CGA4J2C0G2A682J 3216 1.15±0.15 ±5% CGA5H4C0G2J682J100AA CGA5L3C0G2E682J160AA CGA5H2C0G2A682J 8.2nF 3216 1.15±0.15 ±5% CGA5L4C0G2J822J160AA CGA5H4C0G2B822J115AA CGA5H2C0G2A822J 8.2nF 3216 1.15±0.15 ±5% CGA5L4C0G2J822J115AA CGA5H4C0G2B822J115AA CGA5H2C0G2A822J		2012	1.25±0.20	±5%		CGA4J4C0G2W562J125AA	CGA4J3C0G2E562J125AA	CGA4J2C0G2A562J125A
Instants ±5% CGA5H4C0G2J562J115AA CGA5H3C0G2E562J115AA 3225 1.60±0.20 ±5% CGA6L4C0G2J562J160AA CGA3E1C0G2A682J 6.8nF 1608 0.80±0.10 ±5% CGA5H4C0G2J682J125AA CGA4J3C0G2E682J125AA CGA4J2C0G2A682J 2012 1.25±0.20 ±5% CGA5H4C0G2U682J115AA CGA5H4C0G2W682J115AA CGA4J3C0G2E682J125AA CGA4J2C0G2A682J 3216 1.15±0.15 ±5% CGA6M4C0G2J682J200AA CGA5H4C0G2W82ZJ115AA CGA5L3C0G2E682J160AA 8.2nF 3216 1.15±0.15 ±5% CGA5L4C0G2J82ZJ160AA CGA5H2C0G2A82ZJ 8.2nF 3216 1.15±0.15 ±5% CGA5L4C0G2J82ZJ160AA CGA5L3C0G2E82ZJ125AA CGA5H2C0G2A82ZJ	5.6nF	3216 -	0.85±0.15	±5%				CGA5F2C0G2A562J085A
1608 0.80±0.10 ±5% CGA3E1C0G2A682J 2012 1.25±0.20 ±5% CGA4J3C0G2E682J125AA CGA4J2C0G2A682J 3216 1.15±0.15 ±5% CGA5H4C0G2J682J115AA CGA5H4C0G2M682J115AA CGA5H2C0G2A682J 3216 1.15±0.15 ±5% CGA5H4C0G2J682J115AA CGA5L3C0G2E682J160AA CGA5H2C0G2A682J 3225 2.00±0.20 ±5% CGA6M4C0G2J682J00AA CGA3E1C0G2A822J CGA3E1C0G2A822J 2012 1.25±0.20 ±5% CGA5H4C0G2W822J115AA CGA4J3C0G2E822J125AA CGA4J2C0G2A822J 8.2nF 3216 1.15±0.15 ±5% CGA5L4C0G2W822J115AA CGA5L3C0G2E822J160AA		0210	1.15±0.15	±5%	CGA5H4C0G2J562J115AA		CGA5H3C0G2E562J115AA	
2012 1.25±0.20 ±5% CGA4J3C0G2E682J125AA CGA4J2C0G2A682J 6.8nF 3216 1.15±0.15 ±5% CGA5H4C0G2J682J115AA CGA5H4C0G2M682J115AA CGA5H2C0G2A682J 3216 1.15±0.15 ±5% CGA5H4C0G2J682J115AA CGA5H4C0G2M682J115AA CGA5H2C0G2A682J 3225 2.00±0.20 ±5% CGA6M4C0G2J682J00AA CGA3E1C0G2A822J 2012 1.25±0.20 ±5% CGA5H4C0G2W822J115AA CGA4J3C0G2E822J125AA CGA4J2C0G2A822J 8.2nF 3216 1.15±0.15 ±5% CGA5L4C0G2J822J160AA CGA5L4C0G2W822J115AA CGA5L3C0G2E822J160AA		3225	1.60±0.20	±5%	CGA6L4C0G2J562J160AA			
6.8nF 3216 1.15±0.15 ±5% CGA5H4C0G2J682J115AA CGA5H4C0G2W682J115AA CGA5H2C0G2A682J 3225 2.00±0.20 ±5% CGA6M4C0G2J682J200AA CGA3E1C0G2A682J 1608 0.80±0.10 ±5% CGA5H4C0G2W682J115AA CGA3E1C0G2A682J 2012 1.25±0.20 ±5% CGA5H4C0G2W682J115AA CGA4J3C0G2E822J125AA CGA4J2C0G2A822J 8.2nF 3216 1.15±0.15 ±5% CGA5L4C0G2W822J115AA CGA5L3C0G2E822J160AA		1608	0.80±0.10	±5%				CGA3E1C0G2A682J080/
3216 1.60±0.20 ±5% CGA5L3C0G2E682J160AA 3225 2.00±0.20 ±5% CGA6M4C0G2J682J200AA 1608 0.80±0.10 ±5% CGA6M4C0G2J682J200AA 2012 1.25±0.20 ±5% CGA5L3C0G2E822J125AA CGA4J3C0G2E822J125AA 8.2nF 3216 1.15±0.15 ±5% CGA5L4C0G2J822J160AA CGA5L4C0G2E822J160AA		2012	1.25±0.20	±5%			CGA4J3C0G2E682J125AA	CGA4J2C0G2A682J125/
1.60±0.20 ±5% CGA5L3C0G2E682J160AA 3225 2.00±0.20 ±5% CGA6M4C0G2J682J200AA 1608 0.80±0.10 ±5% CGA5L3C0G2E682J125AA 2012 1.25±0.20 ±5% CGA5L4C0G2W822J125AA 3216 1.15±0.15 ±5% CGA5L4C0G2W822J115AA 1.60±0.20 ±5% CGA5L4C0G2W822J115AA CGA5H2C0G2A822J	6.8nF	3216 -	1.15±0.15	±5%	CGA5H4C0G2J682J115AA	CGA5H4C0G2W682J115AA		CGA5H2C0G2A682J115/
1608 0.80±0.10 ±5% CGA3E1C0G2A822J 2012 1.25±0.20 ±5% CGA4J3C0G2E822J125AA CGA4J2C0G2A822J 8.2nF 3216 1.15±0.15 ±5% CGA5L4C0G2J822J160AA CGA5L3C0G2E822J160AA		0210	1.60±0.20	±5%			CGA5L3C0G2E682J160AA	
2012 1.25±0.20 ±5% CGA4J3C0G2E822J125AA CGA4J2C0G2A822J 8.2nF 3216 1.15±0.15 ±5% CGA5L4C0G2W822J115AA CGA5L3C0G2E822J160AA 8.2nF 3216 1.60±0.20 ±5% CGA5L4C0G2J822J160AA CGA5L3C0G2E822J160AA		3225	2.00±0.20	±5%	CGA6M4C0G2J682J200AA			
8.2nF 3216 1.15±0.15 ±5% CGA5H4C0G2W822J115AA CGA5H2C0G2A822J 1.60±0.20 ±5% CGA5L4C0G2J822J160AA CGA5L3C0G2E822J160AA		1608	0.80±0.10	±5%				CGA3E1C0G2A822J080/
8.2n+ 3216 1.60±0.20 ±5% CGA5L4C0G2J822J160AA CGA5L3C0G2E822J160AA		2012	1.25±0.20	±5%			CGA4J3C0G2E822J125AA	CGA4J2C0G2A822J125A
1.60±0.20 ±5% CGA5L4C0G2J822J160AA CGA5L3C0G2E822J160AA	8 2n⊑	3216	1.15±0.15	±5%		CGA5H4C0G2W822J115AA		CGA5H2C0G2A822J115A
3225 1.25±0.20 ±5% CGA6J4C0G2J822J125AA	0.211	0210	1.60±0.20	±5%	CGA5L4C0G2J822J160AA		CGA5L3C0G2E822J160AA	
		3225	1.25±0.20	±5%	CGA6J4C0G2J822J125AA			

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

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⊗TDK

MULTILAYER CERAMIC CHIP CAPACITORS

Capacitance range table

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

Capacitance	Dimensions	Thickness	Capacitance	Catalog number			
Japachanec	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			
	3225	1.60±0.20	±5%			CGA6L3C0G2E103J160AA	
	4532	1.60±0.20	±5%	CGA8L4C0G2J103J160KA			
	2012	0.85±0.15	±5%				CGA4F1C0G2A153J085A0
		1.15±0.15	±5%				CGA5H2C0G2A153J115A
	3216	1.60+0.30,-0.10	±5%		CGA5L4C0G2W153J160AA		
15-5		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	±5%			CGA5L3C0G2E223J160AA	
	3216	1.60±0.20	±5%				CGA5L2C0G2A223J160AA
22nF		1.60±0.20	±5%			CGA6L3C0G2E223J160AA	CGA6L2C0G2A223J160AA
	3225 	2.30±0.20	±5%	CGA6N4C0G2J223J230AA	CGA6N4C0G2W223J230AA		
		1.60±0.20	±5%			CGA8L3C0G2E223J160KA	
		3.20±0.30	±5%	CGA8R4C0G2J223J320KA			
	2012	1.25±0.20	±5%				CGA4J1C0G2A333J125AC
	3216	1.60+0.30,-0.10	±5%				CGA5L2C0G2A333J160AA
		2.00±0.20	±5%				CGA6M2C0G2A333J200A
33nF	3225	2.30±0.20	±5%			CGA6N3C0G2E333J230AA	
		2.50±0.30	±5%	CGA6P4C0G2J333J250AA	CGA6P4C0G2W333J250AA		
	4532	2.00±0.20	±5%	CGA8M4C0G2J333J200KA		CGA8M3C0G2E333J200KA	
	3216	1.15±0.15	±5%				CGA5H1C0G2A473J115A0
		2.30±0.20	±5%				CGA6N2C0G2A473J230A
	3225	2.50±0.30	±5%			CGA6P3C0G2E473J250AA	
47nF		2.00±0.20	±5%				CGA8M2C0G2A473J200K
	4532	2.30±0.20	±5%		CGA8N4C0G2W473J230KA		
		3.20±0.30	±5%	CGA8R4C0G2J473J320KA		CGA8R3C0G2E473J320KA	
	3216	1.60±0.20	±5%				CGA5L1C0G2A683J160AC
	3225	2.30±0.20	±5%				CGA6N2C0G2A683J230AA
	OLLO	2.30±0.20	±5%			CGA8N4C0G2E683J230KN	00/10/120002/10000200/1
68nF	4532	2.50±0.30	±5%				CGA8P2C0G2A683J250K/
	4532	3.20±0.30	±5%		CGA8R4C0G2W683J320KA		0 G. 101 200 GE1 10000 20010
	5750	2.30±0.20	±5%	CGA9N1C0G2J683J230KC	0.0.101140002002010A		
	3216	1.60±0.20	±5%	00/01/10002000020010			CGA5L1C0G2A104J160A0
100nF	4532	3.20±0.20	±5%			CGA8R4C0G2E104J320KN	CGA8R2C0G2A104J320KA
10011	5750	2.80±0.30	±5%	CGA9Q1C0G2J104J280KC	CGA9Q4C0G2W104J280KA		00A0120002A104J020NA
150nF	5750	2.30±0.30	±5%			CGA9N4C0G2E154J230KN	CGA9N2C0G2A154J230KA
ISUIIF	5750	2.30±0.20	±0%			CGA9114CUG2E134J230KIN	CGASNZCUGZA 134J230KA

MULTILAYER CERAMIC CHIP CAPACITORS

Capacitance range table

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

apacitance	Dimensions	Thickness (mm)	Capacitance tolerance ±10%	Catalog number Rated voltage Edc: 630V	Rated voltage Edc: 250V	Rated voltage Edc: 100V CGA3E2X7R2A102K080A
4.5	1608	0.80±0.10	±10% ±20%			CGA3E2X7R2A102K080A7 CGA3E2X7R2A102M080A
1nF	3216	1.15±0.15	±10% ±20%	CGA5H4X7R2J102K115AA CGA5H4X7R2J102M115AA		
	1608	0.80±0.10	±10%			CGA3E2X7R2A152K080A
1.5nF	3216	1.15±0.15	±20% ±10%	CGA5H4X7R2J152K115AA		CGA3E2X7R2A152M080A
	0210	1.10±0.10	±20% ±10%	CGA5H4X7R2J152M115AA		CGA3E2X7R2A222K080A
2.2nF	1608	0.80±0.10	±10%			CGA3E2X7R2A222R080A
2.2111	3216	1.15±0.15	±10%	CGA5H4X7R2J222K115AA		
	1000	0.00.040	±20% ±10%	CGA5H4X7R2J222M115AA		CGA3E2X7R2A332K080A
3.3nF	1608	0.80±0.10	±20%			CGA3E2X7R2A332M080A
	3216	1.15±0.15	±10% ±20%	CGA5H4X7R2J332K115AA CGA5H4X7R2J332M115AA		
	1608	0.80±0.10	±10%	Canonaxinesoceminion		CGA3E2X7R2A472K080A
4.7nF	1000	0.00±0.10	±20%			CGA3E2X7R2A472M080A
	3216	1.15±0.15	±10% ±20%	CGA5H4X7R2J472K115AA CGA5H4X7R2J472M115AA		
	1608	0.80±0.10	±10%			CGA3E2X7R2A682K080A
			±20% ±10%		CGA4J3X7R2E682K125AA	CGA3E2X7R2A682M080A
6.8nF	2012	1.25±0.20	±20%		CGA4J3X7R2E682M125AA	
	3216	1.15±0.15	±10%	CGA5H4X7R2J682K115AA		
			±20% ±10%	CGA5H4X7R2J682M115AA		CGA3E2X7R2A103K080A
	1608	0.80±0.10	±20%			CGA3E2X7R2A103M080A
10nF	2012	1.25±0.20	±10% ±20%		CGA4J3X7R2E103K125AA CGA4J3X7R2E103M125AA	
	3216		±20%	CGA5H4X7R2J103K115AA	OGA-00XTHZE TOOMTZOAA	
	5210	1.15±0.15	±20%	CGA5H4X7R2J103M115AA		004050175044501/0004
	1608	0.80±0.10	±10% ±20%			CGA3E2X7R2A153K080A CGA3E2X7R2A153M080A
	2012	1.25±0.20	±10%		CGA4J3X7R2E153K125AA	CGA4J2X7R2A153K125A
15nF	LUIL	1.2010.20	±20% ±10%		CGA4J3X7R2E153M125AA CGA5H3X7R2E153K115AA	CGA4J2X7R2A153M125A
	0010	1.15±0.15	±10%		CGA5H3X7R2E153M115AA	
	3216 -	1.30±0.20	±10%	CGA5K4X7R2J153K130AA		
			±20% ±10%	CGA5K4X7R2J153M130AA		CGA3E2X7R2A223K080A
	1608	0.80±0.10	±20%			CGA3E2X7R2A223M080A
	2012	1.25±0.20	±10%		CGA4J3X7R2E223K125AA	CGA4J2X7R2A223K125A
22nF			±20% ±10%		CGA4J3X7R2E223M125AA CGA5H3X7R2E223K115AA	CGA4J2X7R2A223M125A
	3216 -	1.15±0.15	±20%		CGA5H3X7R2E223M115AA	
	0210	1.30±0.20	±10% ±20%	CGA5K4X7R2J223K130AA CGA5K4X7R2J223M130AA		
	0010		±20%	00A3R4X7H23223W130AA		CGA4J2X7R2A333K125A
	2012	1.25±0.20	±20%			CGA4J2X7R2A333M125A
33nF		1.15±0.15	±10% ±20%			CGA5H2X7R2A333K115A CGA5H2X7R2A333M115A
	3216 -	1 60 0 20	±10%	CGA5L4X7R2J333K160AA	CGA5L3X7R2E333K160AA	OGASHZATIZASSSWITTSA
		1.60±0.20	±20%	CGA5L4X7R2J333M160AA	CGA5L3X7R2E333M160AA	00110770017070170
	2012	1.25±0.20	±10% ±20%			CGA4J2X7R2A473K125A CGA4J2X7R2A473M125A
		1.15±0.15	±10%			CGA5H2X7R2A473K115A
47nF	3216 -	1.1010.10	±20%			CGA5H2X7R2A473M115A
		1.60±0.20	±10% ±20%		CGA5L3X7R2E473K160AA CGA5L3X7R2E473M160AA	
	3225	2.00±0.20	±10%	CGA6M4X7R2J473K200AA	-	
	0220	2.0010.20	±20%	CGA6M4X7R2J473M200AA		
	3216	1.60±0.20	±10% ±20%		CGA5L3X7R2E683K160AA CGA5L3X7R2E683M160AA	CGA5L2X7R2A683K160A CGA5L2X7R2A683M160A
68nF	3225	2.00±0.20	±10%	CGA6M4X7R2J683K200AA	-	
			±20% ±10%	CGA6M4X7R2J683M200AA CGA8L4X7R2J683K160KA		
	4532	1.60±0.20	±10% ±20%	CGA8L4X7R2J683K160KA CGA8L4X7R2J683M160KA		

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

Capacitance range table

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

apacitance	Dimensions	Thickness (mm)	Capacitance tolerance	Rated voltage Edc: 630V	Rated voltage Edc: 250V	Rated voltage Edc: 100			
	2012	1.25±0.20	±10%			CGA4J2X7R2A104K125A			
	-		±20%			CGA4J2X7R2A104M125/			
	3216	1.60±0.20	±10%		CGA5L3X7R2E104K160AA	CGA5L2X7R2A104K160/			
100nF			±20%		CGA5L3X7R2E104M160AA	CGA5L2X7R2A104M160/			
	3225	2.00±0.20	±10%		CGA6M3X7R2E104K200AA				
			±20%		CGA6M3X7R2E104M200AA				
	4532	2.30±0.20	±10%	CGA8N4X7R2J104K230KA					
			±20%	CGA8N4X7R2J104M230KA					
	3216	1.60±0.20	±10%			CGA5L2X7R2A154K160			
			±20%			CGA5L2X7R2A154M160			
	3225	2.00±0.20	±10%		CGA6M3X7R2E154K200AA				
150nF			±20%		CGA6M3X7R2E154M200AA				
	4532	1.60±0.20	±10%		CGA8L3X7R2E154K160KA				
			±20%		CGA8L3X7R2E154M160KA				
	5750	1.60±0.20	±10%	CGA9L4X7R2J154K160KA					
			±20%	CGA9L4X7R2J154M160KA		00451107770400414445			
	3216	1.15±0.15	±10%			CGA5H2X7R2A224K115			
			±20%			CGA5H2X7R2A224M115			
	3225	2.00±0.20	±10%		CGA6M3X7R2E224K200AA				
220nF			±20%		CGA6M3X7R2E224M200AA				
	4532	2.30±0.20	±10%		CGA8N3X7R2E224K230KA				
			±20%		CGA8N3X7R2E224M230KA				
	5750	2.30±0.20	±10%	CGA9N4X7R2J224K230KA					
			±20%	CGA9N4X7R2J224M230KA					
	3216	1.30±0.20	±10%			CGA5K2X7R2A334K130			
			±20%			CGA5K2X7R2A334M130			
	3225	2.00±0.20	±10%			CGA6M2X7R2A334K200			
330nF			±20%			CGA6M2X7R2A334M200			
		2.30±0.20	±10%		CGA8N3X7R2E334K230KA				
			±20%		CGA8N3X7R2E334M230KA				
	5750		±10%		CGA9L3X7R2E334K160KA				
			±20%		CGA9L3X7R2E334M160KA				
	3216	1.60±0.20	±10%			CGA5L2X7R2A474K160			
			±20%			CGA5L2X7R2A474M160			
	3225	3225	3225	3225	2.00±0.20	±10%			CGA6M2X7R2A474K200
470nF			±20%			CGA6M2X7R2A474M200			
	4532	2.30±0.20	±10%		CGA8N3X7R2E474K230KA				
			±20%		CGA8N3X7R2E474M230KA				
	5750	2.30±0.20	±10%		CGA9N3X7R2E474K230KA				
			±20%		CGA9N3X7R2E474M230KA				
	3216	1.60±0.20	±10%			CGA5L2X7R2A684K160			
			±20%			CGA5L2X7R2A684M160			
	3225	1.60±0.20	±10%			CGA6L2X7R2A684K160			
			±20%			CGA6L2X7R2A684M160			
680nF	4532	2.30±0.20	±10%			CGA8N2X7R2A684K230			
			±20%			CGA8N2X7R2A684M230			
		1.60±0.20	±10%			CGA9L2X7R2A684K160			
	5750 -		±20%			CGA9L2X7R2A684M160			
	0.00	2.30±0.20	±10%		CGA9N3X7R2E684K230KA				
		2.00±0.20	±20%		CGA9N3X7R2E684M230KA				
	3216	1.60±0.20	±10%			CGA5L2X7R2A105K160			
	GETO	1.00±0.20	±20%			CGA5L2X7R2A105M160			
	3225	2.00±0.20	±10%			CGA6M2X7R2A105K200			
1	3223	2.00±0.20	±20%			CGA6M2X7R2A105M200			
1µF	4532	2 30+0 20	±10%			CGA8N2X7R2A105K230			
		2.30±0.20	±20%			CGA8N2X7R2A105M230			
	EZEO	0.00.000	±10%		CGA9N3X7R2E105K230KA	CGA9N2X7R2A105K230			
	5750	2.30±0.20	±20%		CGA9N3X7R2E105M230KA	CGA9N2X7R2A105M230			
	0007	0.00.0.00	±10%			CGA6M3X7R2A155K200			
	3225	2.00±0.20	±20%			CGA6M3X7R2A155M200			
	1505		±10%			CGA8N2X7R2A155K230			
1.5µF	4532	2.30±0.20	±20%			CGA8N2X7R2A155M230			
			±10%			CGA9N2X7R2A155K230			
	5750	2.30±0.20	±20%			CGA9N2X7R2A155M230			

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

A 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.

⊗TDK

Capacitance range table

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

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

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

MULTILAYER CERAMIC CHIP CAPACITORS

Capacitance range table

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

Capacitance	Dimensions	nensions Thickness		Catalog number
		(mm)	tolerance	Rated voltage Edc: 100V
1nF	1005	0.50±0.05	±10%	CGA2B3X7S2A102K050BB
	1005	0.30±0.03	±20%	CGA2B3X7S2A102M050BB
1.5nF	1005	0.50±0.05	±10%	CGA2B3X7S2A152K050BB
1.0HF	1005	0.50±0.05	±20%	CGA2B3X7S2A152M050BB
0.0nE	1005	0.50.0.05	±10%	CGA2B3X7S2A222K050BB
2.2nF	1005	0.50±0.05	±20%	CGA2B3X7S2A222M050BB
0.0.5	1005		±10%	CGA2B3X7S2A332K050BB
3.3nF	1005	0.50±0.05	±20%	CGA2B3X7S2A332M050BB
	1005		±10%	CGA2B3X7S2A472K050BB
4.7nF	1005	0.50±0.05	±20%	CGA2B3X7S2A472M050BB
			±10%	CGA2B3X7S2A682K050BB
6.8nF	1005	0.50±0.05	±20%	CGA2B3X7S2A682M050BB
			±10%	CGA2B3X7S2A103K050BB
10nF	1005	0.50±0.05	±10%	CGA2B3X7S2A103M050BB
				CGA3E3X7S2A333K080AB
33nF	1608	0.80±0.10	±10%	
			±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
room	1000	0.0010.10	±20%	CGA3E3X7S2A104M080AB
330nF	2012	1.25±0.20	±10%	CGA4J3X7S2A334K125AB
55011	2012	1.23±0.20	±20%	CGA4J3X7S2A334M125AB
470nF	2012	1.25±0.20	±10%	CGA4J3X7S2A474K125AB
4700F	2012	1.25±0.20	±20%	CGA4J3X7S2A474M125AB
000±F	0010	1.05.0.00	±10%	CGA4J3X7S2A684K125AB
680nF	2012	1.25±0.20	±20%	CGA4J3X7S2A684M125AB
			±10%	CGA4J3X7S2A105K125AB
1µF	2012	1.25±0.20	±20%	CGA4J3X7S2A105M125AB
			±10%	CGA5L3X7S2A155K160AB
1.5µF	3216	1.60±0.20	±20%	CGA5L3X7S2A155M160AB
			±10%	CGA5L3X7S2A225K160AB
2.2µF	3216	1.60±0.20	±20%	CGA5L3X7S2A225M160AB
			±10%	CGA5L3X7S2A335K160AB
	3216	1.60+0.30,-0.10	±10%	CGA5L3X7S2A335M160AB
			±20%	CGA6M3X7S2A335K200AB
3.3µF	3225	2.00±0.20	±10%	CGA6M3X7S2A335M200AB
			±20%	CGA8M3X7S2A335M200AB
	4532	2.00±0.20		
			±20%	CGA8M3X7S2A335M200KB CGA6M3X7S2A475K200AB
	3225	2.00±0.20	±10%	
4.7µF			±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.

MULTILAYER CERAMIC CHIP CAPACITORS

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
			±10%	Halou Vollago Luci Coo I	CGA4J4X7T2W223K125AA	Halou Follago Euci 2001
22nF	2012	1.25±0.20	±20%		CGA4J4X7T2W223M125AA	
	3216	1.15±0.15	±10%	CGA5H1X7T2J223K115AC		
			±20%	CGA5H1X7T2J223M115AC		
33nF	2012	1.25±0.20	±10%		CGA4J4X7T2W333K125AA	CGA4J3X7T2E333K125A
			±20%		CGA4J4X7T2W333M125AA	CGA4J3X7T2E333M125A
	3216	1.15±0.15	±10%	CGA5H1X7T2J333K115AC		
			±20%	CGA5H1X7T2J333M115AC		
47nF	2012	1.25±0.20	±10%		CGA4J4X7T2W473K125AA	CGA4J3X7T2E473K125A
			±20%		CGA4J4X7T2W473M125AA	CGA4J3X7T2E473M125A
	3216	1.60±0.20	±10%	CGA5L1X7T2J473K160AC		
			±20%	CGA5L1X7T2J473M160AC		
68nF	2012	1.25±0.20	±10%			CGA4J3X7T2E683K125A
			±20%			CGA4J3X7T2E683M125A
	3216	1.30±0.20	±10%		CGA5K4X7T2W683K130AA	
			±20%		CGA5K4X7T2W683M130AA	
100nF	2012	1.25±0.20	±10%			CGA4J3X7T2E104K125A
			±20%			CGA4J3X7T2E104M125A
	3216	1.60±0.20	±10% ±20%		CGA5L4X7T2W104K160AA CGA5L4X7T2W104M160AA	
	3225	1.60±0.20	±20%	CGA6L1X7T2J104K160AC	CASE4X/12W104W100AA	
			±20%	CGA6L1X7T2J104M160AC		
			±10%			CGA5K3X7T2E154K130A
150nF	3216	1.30±0.20	±20%			CGA5K3X7T2E154M130A
	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%			CGA5L3X7T2E224K160A
			±20%			CGA5L3X7T2E224M160A
	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%			CGA6M3X7T2E334K200A
			±20%			CGA6M3X7T2E334M200A
	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	
	5750	2.50±0.30	±20% ±10%		CGA8N4X7T2W474M230KA	
			±10% ±20%	CGA9P1X7T2J474K250KC CGA9P1X7T2J474M250KC		
	4532	1.60±0.20	±20%	CGASF 177123474102301CC		CGA8L3X7T2E684K160K
680nF			±20%			CGA8L3X7T2E684M160K
	5750	2.00±0.20	±10%		CGA9M4X7T2W684K200KA	COADESXTTZEOOHINTOON
			±20%		CGA9M4X7T2W684M200KA	
1µF	4532	2.50±0.30	±10%			CGA8P3X7T2E105K250K
			±20%			CGA8P3X7T2E105M250K
	5750	2.50±0.30	±10%		CGA9P4X7T2W105K250KA	
			±20%		CGA9P4X7T2W105M250KA	
1.5µF	5750	2.00±0.20	±10%			CGA9M3X7T2E155K200K
			±20%			CGA9M3X7T2E155M200K
			±10%			CGA9P3X7T2E225K250K
2.2µF	5750	2.50±0.30	±20%			CGA9P3X7T2E225M250K

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

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