



CGA Series Automotive Grade Mid Voltage (100 to 630V)

Type: CGA2 [EIA CC0402]

CGA3 [EIA CC0603] CGA4 [EIA CC0805] CGA5 [EIA CC1206] CGA6 [EIA CC1210] CGA8 [EIA CC1812] CGA9 [EIA CC2220]

Issue date: Mar 2015





### REMINDERS

Please read before using this product

### SAFETY REMINDERS



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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	C1608C0G1E103JT000N
January 2013 and Later	C1608C0G1E103J080AA	C1608C0G1E103JT000N



# **CGA Series**







# Mid Voltage (100 to 630V)

Type: CGA2 [EIA CC0402], CGA3 [EIA CC0603], CGA4 [EIA CC0805], CGA5 [EIA CC1206], CGA6 [EIA CC1210], CGA8 [EIA CC1812], CGA9 [EIA CC2220]

#### **Features**



- Voltage rating of 100V to 630V with capacitance range up to 15µF.
- · High capacitance has been achieved through precision technologies that enable the use of multiple thinner ceramic dielectric layers.
- Low residual inductance assures superior frequency characteristics.
- · Excellent DC Bias properties.
- A lineup with wide-ranging rated voltages that enables selections that are suitable for needs.
- AEC-Q200 compliant.

#### **Applications**



- · Application in decoupling, smoothing, and snubber circuits of inverters or DC-DC converters of HEVs or EVs
- Countermeasure against voltage surge and noise in connectors







- Body Length W Body Width
- T Body Height
- Terminal Width



### P • 3 • X7S • 2A • 156 • M • 250 • K • B

#### Series Name

#### Dimensions L x W (mm)

Code	Length	Width	Terminal
2	1.00 ± 0.05	$0.50 \pm 0.05$	0.10 min.
3	$1.60 \pm 0.10$	$0.80 \pm 0.10$	0.20 min.
4	$2.00 \pm 0.20$	$1.25 \pm 0.20$	0.20 min.
5	$3.20 \pm 0.20$	$1.60 \pm 0.20$	0.20 min.
6	$3.20 \pm 0.40$	$2.50 \pm 0.30$	0.20 min.
8	$4.50 \pm 0.40$	$3.20 \pm 0.40$	0.20 min.
9	$5.70 \pm 0.40$	$5.00 \pm 0.40$	0.20 min.
*Dimension tol	erance are typical valu	98	

#### Thickness T Code (mm)

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
M	2.00 mm
N	2.30 mm
Р	2.50 mm
Q	2.80 mm
R	3.20 mm

#### **Voltage Condition** for Life Test

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

#### Temperature Characteristics

Characteristics	Capacitance Change	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

#### Rated Voltage (DC)

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

#### **Capacitance Tolerance**

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

#### 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.

Ex. 0R2 = 0.2pF; 103 = 10,000pF; 105 = 1,000,000pF = 1,000nF = 1µF

#### Nominal Thickness •

Code	Thickness
050	0.50 mm
060	0.60 mm
125	1.25 mm
230	2.30 mm
280	2.80 mm
320	3.20 mm

#### \*See Thickness T Code for complete list

#### Packaging Style •

Code	Style
Α	178 mm Reel, 4 mm Pitch
В	178 mm Reel, 2 mm Pitch
K	178 mm Reel, 8 mm Pitch

#### **Special Reserved Code**

Code	Description
A, B, C	TDK Internal Code

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## CGA2(1005) [EIA CC0402]

#### **Capacitance Range Chart**

Temperature Characteristics: C0G (0 ± 30ppm/°C), X7S (±22%) Rated Voltage: 100V (2A)

O		` '			
Canacitanas			COG	X7S	
Capacitance (pF)	Code	Tolerance	2A (100V)	2A (100V)	
100	101	J: ± 5%			
120	121	K: ± 10%			
150	151	M: ± 20%			
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				Standard Thickness
6,800	682				0.50
10,000	103				0.50 mm





# CGA3(1608) [EIA CC0603]

#### Capacitance Range Chart

Temperature Characteristics: C0G (0 ± 30ppm/°C), X7R (±15%), X7S (±22%) Rated Voltage: 250V (2E), 100V (2A)

Canacitanas			C	)G	X7R	X7S
Capacitance (pF)	Code	Tolerance	2E (250V)	2A (100V)	2A (100V)	2A (100V)
1	010	C: ± 0.25pF				
1.5	1R5	D:± 0.50pF				
2	020	J:±5%				
2.2	2R2	K:± 10%				
3	030	M: ± 20%				
3.3	3R3					
4	040					
4.7	4R7					
5	050					
6	060					
6.8	6R8					
7	070					
8	080					
9	090					
10	100					
12	120					
15	150					
18	180					
22	220					
27	270					
33	330					
39	390					
47	470					
56	560					
68	680					
82	820					
100	101					
120	121					
150	151					
180	181					
220	221					
270	271					
330	331					
390	391					
470	471					
560	561					
680	681					
820	821					
1,000	102					
1,200	122					
1,500	152					
1,800	182					
2,200	222					
2,700	272					
3,300	332					
3,900	392					
4,700	472					
5,600	562					
6,800	682					
8,200	822					
10,000	103					
15,000	153	1				
22,000	223					
33,000	333	1				
47,000	473	1				
68,000	683	1				
100,000	104					

Standard Thickness
0.80 mm





## CGA4(2012) [EIA CC0805]

#### **Capacitance Range Chart**

Temperature Characteristics: C0G (0 ± 30ppm/°C), X7R (±15%), X7S (±22%), X7T (+22/-33%) Rated Voltage: 450V (2W), 250V (2E), 100V (2A)

Canacitanas				COG		X	7R	X7S	X.	7T	
Capacitance (pF)	Code	Tolerance	2W (450V)	2E (250V)	2A (100V)	2E (250V)	2A (100V)	2A (100V)	2W (450V)	2E (250V)	
100	101	J:±5%		,		,	,	,	,	,	
120	121	K: ± 10%									
150	151	M: ± 20%									
180	181	= =0 70									
220	221										
270	271										
330	331										
390	391										
470	471										
560	561										
680	681										
820	821										
1,000	102										
1,200	122										
1,500	152										
1,800	182										
2,200	222										
2,700	272										
3,300	332										
3,900	392										
4,700	472										
5,600	562										
6,800	682										
8,200	822										
10,000	103										
15,000	153										
22,000	223										
33,000	333										
47,000	473										
68,000	683										Standard Thickn
100,000	104										
330,000	334										0.60 mm
470,000	474										0.85 mm
680,000	684										
1,000,000	105										1.25 mm

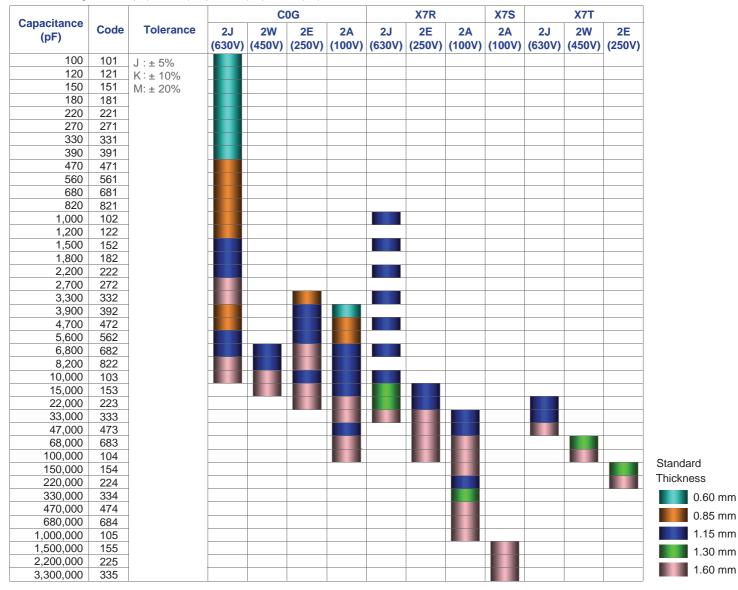




### CGA5(3216) [EIA CC1206]

#### **Capacitance Range Chart**

Temperature Characteristics: C0G (0 ± 30ppm/°C), X7R (±15%), X7S (±22%), X7T (+22/-33%) Rated Voltage: 630V (2J), 450V (2W), 250V (2E), 100V (2A)



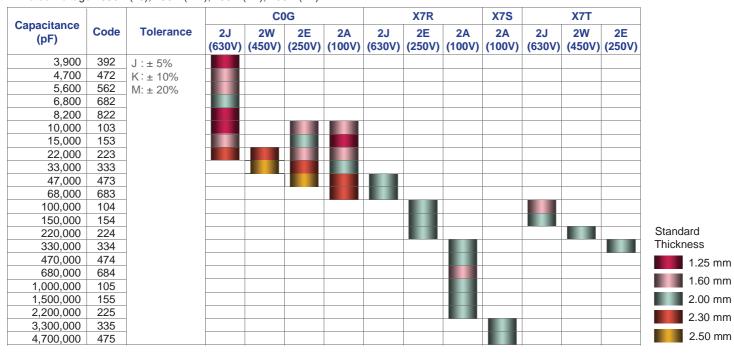




### CGA6(3225) [EIA CC1210]

#### **Capacitance Range Chart**

Temperature Characteristics: C0G (0 ± 30ppm/°C), X7R (±15%), X7S (±22%), X7T (+22/-33%) Rated Voltage: 630V (2J), 450V (2W), 250V (2E), 100V (2A)







# CGA8(4532) [EIA CC1812]

#### **Capacitance Range Chart**

Temperature Characteristics: C0G (0 ± 30ppm/°C), X7R (±15%), X7S (±22%), X7T (+22/-33%) Rated Voltage: 630V (2J), 450V (2W), 250V (2E), 100V (2A)

Consoltones				C	0G			X7R		X7S		X7T		
Capacitance (pF)	Code	Tolerance	2J (630V)	2W (450V)	2E (250V)	2A (100V)	2J (630V)	2E (250V)	2A (100V)	2A (100V)	2J (630V)	2W (450V)	2E (250V)	
8,200	822	J:±5%												
10,000	103	K: ± 10%												
15,000	153	M: ± 20%												
22,000	223													
33,000	333													
47,000	473													
68,000	683													
100,000	104													
150,000	154													
220,000	224													
330,000	334													Standard
470,000	474													Thickness
680,000	684													1.60 mm
1,000,000	105													
1,500,000	155													2.00 mm
2,200,000	225													2.30 mm
3,300,000	335													3.20 mm
4,700,000	475													3.20 MM



### CGA9(5750) [EIA CC2220]

#### **Capacitance Range Chart**

Temperature Characteristics: C0G (0 ± 30ppm/°C), X7R (±15%), X7S (±22%), X7T (+22/-33%) Rated Voltage: 630V (2J), 450V (2W), 250V (2E), 100V (2A)

				C	)G			X7R		X7S		X7T		
Capacitance (pF)	Code	Tolerance	2J (630V)	2W (450V)	2E (250V)	2A (100V)	2J (630V)	2E (250V)	2A (100V)	2A (100V)	2J (630V)	2W (450V)	2E (250V)	
68,000	683	J:±5%												
100,000	104	K: ± 10%												
150,000	154	M: ± 20%												
220,000	224	101. 2 2070												
330,000	334													
470,000	474													0, 1, 1
680,000	684													Standard
1,000,000	105													Thickness
1,500,000	155													1.60 m
2,200,000	225													2.00 n
3,300,000	335													
4,700,000	475													2.30 m
6,800,000	685													2.50 m
10,000,000	106													
15,000,000	156													2.80 m





#### **Class 1 (Temperature Compensating)**

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

Conseitance	C:=-	Thickness	Capacitance	Catalog Number			
Capacitance	Size	(mm)	Tolerance	Rated Voltage Edc: 630V	Rated Voltage Edc: 450V	Rated Voltage Edc: 250V	Rated Voltage Edc: 100V
1 pF	1608	$0.80 \pm 0.10$	± 0.25pF				CGA3E2C0G2A010C080AA
1.5 pF	1608	$0.80 \pm 0.10$	± 0.25pF				CGA3E2C0G2A1R5C080AA
2 pF	1608	$0.80 \pm 0.10$	± 0.25pF				CGA3E2C0G2A020C080AA
2.2 pF	1608	$0.80 \pm 0.10$	± 0.25pF				CGA3E2C0G2A2R2C080AA
3 pF	1608	$0.80 \pm 0.10$	± 0.25pF				CGA3E2C0G2A030C080AA
3.3 pF	1608	$0.80 \pm 0.10$	± 0.25pF				CGA3E2C0G2A3R3C080AA
4 pF	1608	0.80 ± 0.10	± 0.25pF				CGA3E2C0G2A040C080AA
4.7 pF	1608	$0.80 \pm 0.10$	± 0.25pF				CGA3E2C0G2A4R7C080AA
5 pF	1608	$0.80 \pm 0.10$	± 0.25pF				CGA3E2C0G2A050C080AA
6 pF	1608	$0.80 \pm 0.10$	± 0.50pF				CGA3E2C0G2A060D080AA
6.8 pF	1608	0.80 ± 0.10	± 0.50pF				CGA3E2C0G2A6R8D080AA
7 pF	1608	$0.80 \pm 0.10$	± 0.50pF				CGA3E2C0G2A070D080AA
8 pF	1608	$0.80 \pm 0.10$	± 0.50pF				CGA3E2C0G2A080D080AA
9 pF	1608	0.80 ± 0.10	± 0.50pF				CGA3E2C0G2A090D080AA
10 pF	1608	0.80 ± 0.10	± 0.50pF				CGA3E2C0G2A100D080AA
12 pF	1608	0.80 ± 0.10	± 5%				CGA3E2C0G2A120J080AA
15 pF	1608	0.80 ± 0.10	± 5%				CGA3E2C0G2A150J080AA
18 pF	1608	0.80 ± 0.10	± 5%				CGA3E2C0G2A180J080AA
22 pF	1608	0.80 ± 0.10	± 5%				CGA3E2C0G2A220J080AA
27 pF	1608	0.80 ± 0.10	± 5%				CGA3E2C0G2A270J080AA
33 pF	1608	0.80 ± 0.10	± 5%				CGA3E2C0G2A330J080AA
39 pF	1608	0.80 ± 0.10	± 5%				CGA3E2C0G2A390J080AA
47 pF	1608	0.80 ± 0.10	± 5%				CGA3E2C0G2A470J080AA
56 pF	1608	$0.80 \pm 0.10$	± 5%				CGA3E2C0G2A560J080AA
68 pF	1608	0.80 ± 0.10	± 5%				CGA3E2C0G2A680J080AA
82 pF	1608	0.80 ± 0.10	± 5%				CGA3E2C0G2A820J080AA
02 pi	1005	0.50 ± 0.05	± 5%				CGA2B2C0G2A101J050BA
	1608	0.80 ± 0.10	± 5%			CGA3E3C0G2E101J080AA	CGA3E2C0G2A101J080AA
100 pF —			± 5%		CGA4C4C0G2W101J060AA	COASESCOOZETOTOOOOAA	CGA4C2C0G2A101J060AA
	2012 0.60 ± 0.15 3216 0.60 ± 0.15	± 5%	CGA5C4C0G2J101J060AA	CGA4C4C0G2W1013000AA		CGA4C2C0G2AT0TJ000AA	
	1005	$0.50 \pm 0.15$	± 5%	CGA3C4C0G231013000AA			CGA2B2C0G2A121J050BA
						CCA2E2C0C2E101 I020AA	
120 pF	1608	0.80 ± 0.10	± 5%		CC A 4C 4C0C0[M404 I0C0 A A	CGA3E3C0G2E121J080AA	CGA3E2C0G2A121J080AA
	2012	0.60 ± 0.15	± 5%	CGA5C4C0G2J121J060AA	CGA4C4C0G2W121J060AA		
	3216	0.60 ± 0.15	± 5%	CGA5C4CUGZJ IZ IJU6UAA			CCA0D0C0C0A4E4 I0E0DA
	1005	0.50 ± 0.05	± 5%			0040500005454 100044	CGA2B2C0G2A151J050BA
150 pF	1608	0.80 ± 0.10	± 5%		004404000004454100044	CGA3E3C0G2E151J080AA	CGA3E2C0G2A151J080AA
	2012	0.60 ± 0.15	± 5%	00.450.400.00.1454.1000.4.4	CGA4C4C0G2W151J060AA		
	3216	0.60 ± 0.15	± 5%	CGA5C4C0G2J151J060AA			
	1005	0.50 ± 0.05	± 5%				CGA2B2C0G2A181J050BA
180 pF	1608	0.80 ± 0.10	± 5%			CGA3E3C0G2E181J080AA	CGA3E2C0G2A181J080AA
·	2012	0.60 ± 0.15	± 5%		CGA4C4C0G2W181J060AA		
	3216	0.60 ± 0.15	± 5%	CGA5C4C0G2J181J060AA			
	1005	$0.50 \pm 0.05$	± 5%				CGA2B2C0G2A221J050BA
220 pF	1608	0.80 ± 0.10	± 5%			CGA3E3C0G2E221J080AA	CGA3E2C0G2A221J080AA
- 1	2012	$0.60 \pm 0.15$	± 5%		CGA4C4C0G2W221J060AA		CGA4C2C0G2A221J060AA
	3216	0.60 ± 0.15	± 5%	CGA5C4C0G2J221J060AA			
	1005	$0.50 \pm 0.05$	± 5%				CGA2B2C0G2A271J050BA
270 pF	1608	$0.80 \pm 0.10$	± 5%			CGA3E3C0G2E271J080AA	CGA3E2C0G2A271J080AA
2. 0 pi	2012	0.60 ± 0.15	± 5%		CGA4C4C0G2W271J060AA		
	3216	$0.60 \pm 0.15$	± 5%	CGA5C4C0G2J271J060AA			
	1005	$0.50 \pm 0.05$	± 5%				CGA2B2C0G2A331J050BA
330 pF	1608	$0.80 \pm 0.10$	± 5%			CGA3E3C0G2E331J080AA	CGA3E2C0G2A331J080AA
000 pi	2012	$0.60 \pm 0.15$	± 5%		CGA4C4C0G2W331J060AA		
	3216	0.60 ± 0.15	± 5%	CGA5C4C0G2J331J060AA			
	1005	0.50 ± 0.05	± 5%				CGA2B2C0G2A391J050BA
200 [	1608	0.80 ± 0.10	± 5%			CGA3E3C0G2E391J080AA	CGA3E2C0G2A391J080AA
390 pF	2012	$0.60 \pm 0.15$	± 5%		CGA4C4C0G2W391J060AA		
	3216	0.60 ± 0.15	± 5%	CGA5C4C0G2J391J060AA			
							CGA2B2C0G2A471J050BA
470 pF	1005	$0.50 \pm 0.05$	± 5%				CGAZBZCUGZA47 IJUJUBA





#### **Class 1 (Temperature Compensating)**

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

o :	0:	Thickness	Capacitance	Catalog Number			
Capacitance	Size	(mm)	Tolerance	Rated Voltage Edc: 630V	Rated Voltage Edc: 450V	Rated Voltage Edc: 250V	Rated Voltage Edc: 100V
470 mF	2012	$0.60 \pm 0.15$	± 5%		CGA4C4C0G2W471J060AA		CGA4C2C0G2A471J060AA
470 pF	3216	0.85 ± 0.15	± 5%	CGA5F4C0G2J471J085AA			
	1005	0.50 ± 0.05	± 5%				CGA2B1C0G2A561J050BC
500 - F	1608	0.80 ± 0.10	± 5%			CGA3E3C0G2E561J080AA	CGA3E2C0G2A561J080AA
560 pF	2012	0.60 ± 0.15	± 5%		CGA4C4C0G2W561J060AA		
	3216	0.85 ± 0.15	± 5%	CGA5F4C0G2J561J085AA			
	1005	0.50 ± 0.05	± 5%				CGA2B1C0G2A681J050BC
	1608	0.80 ± 0.10	± 5%			CGA3E3C0G2E681J080AA	CGA3E2C0G2A681J080AA
680 pF	2012	0.60 ± 0.15	± 5%		CGA4C4C0G2W681J060AA		
	3216	0.85 ± 0.15	± 5%	CGA5F4C0G2J681J085AA			
	1005	0.50 ± 0.05	± 5%				CGA2B1C0G2A821J050BC
	1608	0.80 ± 0.10	± 5%			CGA3E3C0G2E821J080AA	CGA3E2C0G2A821J080AA
820 pF	2012	0.60 ± 0.15	± 5%		CGA4C4C0G2W821J060AA	CGA4C3C0G2E821J060AA	04/0220042/02/0000/1/
	3216	0.85 ± 0.15	± 5%	CGA5F4C0G2J821J085AA	CG/140400GZW0210000/1/1	Od/140000d2E0210000/1/1	
	1005	0.50 ± 0.05	± 5%	CAA31 40002302 13003AA			CGA2B1C0G2A102J050BC
	1608	0.80 ± 0.00	± 5%			CGA3E3C0G2E102J080AA	CGA3E2C0G2A102J080AA
1	1000				CC A 4C 4C0C0\M100 l0C0 A A	CGASESCUGZE 102J080AA	
1 nF	2012	0.60 ± 0.15	± 5%		CGA4C4C0G2W102J060AA	0044500005400100544	CGA4C2C0G2A102J060AA
		0.85 ± 0.15	± 5%	00455400001400100544		CGA4F3C0G2E102J085AA	
	3216	0.85 ± 0.15	± 5%	CGA5F4C0G2J102J085AA			
	1608	$0.80 \pm 0.10$	± 5%			CGA3E3C0G2E122J080AA	CGA3E2C0G2A122J080AA
1.2 nF	2012	0.60 ± 0.15	± 5%		CGA4C4C0G2W122J060AA		CGA4C2C0G2A122J060AA
		$0.85 \pm 0.15$	± 5%			CGA4F3C0G2E122J085AA	
	3216	$0.85 \pm 0.15$	± 5%	CGA5F4C0G2J122J085AA			
	1608	0.80 ± 0.10	± 5%			CGA3E3C0G2E152J080AA	CGA3E2C0G2A152J080AA
1.5 nF	2012	0.60 ± 0.15	± 5%				CGA4C2C0G2A152J060AA
1.5111	1.5111 2012	$0.85 \pm 0.15$	± 5%		CGA4F4C0G2W152J085AA	CGA4F3C0G2E152J085AA	
	3216	1.15 ± 0.15	± 5%	CGA5H4C0G2J152J115AA			
	1608	$0.80 \pm 0.10$	± 5%			CGA3E3C0G2E182J080AA	CGA3E2C0G2A182J080AA
4.0 5	0040	0.85 ± 0.15	± 5%		CGA4F4C0G2W182J085AA		CGA4F2C0G2A182J085AA
1.8 nF	2012	1.25 ± 0.20	± 5%			CGA4J3C0G2E182J125AA	
	3216	1.15 ± 0.15	± 5%	CGA5H4C0G2J182J115AA			
		0.80 ± 0.10	± 5%				CGA3E2C0G2A222J080AA
	1608	0.80 +0.15/-0.1	± 5%			CGA3E3C0G2E222J080AA	
2.2 nF		0.85 ± 0.15	± 5%		CGA4F4C0G2W222J085AA		CGA4F2C0G2A222J085AA
	2012	1.25 ± 0.20	± 5%			CGA4J3C0G2E222J125AA	
	3216	1.15 ± 0.15	± 5%	CGA5H4C0G2J222J115AA			
	1608	0.80 +0.15/-0.1	± 5%				CGA3E2C0G2A272J080AA
2.7 nF	2012	1.25 ± 0.20	± 5%		CGA4J4C0G2W272J125AA	CGA4J3C0G2E272J125AA	CGA4J2C0G2A272J125AA
2.7 111	3216	1.60 ± 0.20	± 5%	CGA5L4C0G2J272J160AA	Car (10 100 az (VZ / 20 12 6 / 4 )	Car (100000a22272012670)	04/1020042/12/20120/01
	1608	0.80 +0.15/-0.1	± 5%	04/1024004202720100777			CGA3E2C0G2A332J080AA
	1000	0.85 ± 0.15	± 5%			CGA4F3C0G2E332J085AA	Cariol200a270020000777
3.3 nF	2012	1.25 ± 0.20	± 5%		CGA4J4C0G2W332J125AA	CUA+I 3CUAZESSZSUSSAA	CGA4J2C0G2A332J125AA
3.3111					CGA434C0G2W3323123AA	CGA5F3C0G2E332J085AA	CGA4J2CUGZASSZJ IZSAA
	3216	0.85 ± 0.15	± 5%	CGAEL 4C0G0 1000 1460 4 4		UGAUFOUUZE33ZJU85AA	
	1000	1.60 ± 0.20	± 5%	CGA5L4C0G2J332J160AA			OO A 0 E 1 O O O O O O O O O O O O O O O O O O
	1608	0.80 ± 0.10	± 5%		004414000004000400	004410000050001405	CGA3E1C0G2A392J080AC
	2012	1.25 ± 0.20	± 5%		CGA4J4C0G2W392J125AA	CGA4J3C0G2E392J125AA	CGA4J2C0G2A392J125AA
3.9 nF	00:0	0.60 ± 0.15	± 5%	00155100001000100			CGA5C2C0G2A392J060AA
	3216	0.85 ± 0.15	± 5%	CGA5F4C0G2J392J085AA			
		1.15 ± 0.15	± 5%			CGA5H3C0G2E392J115AA	
	3225	1.25 ± 0.20	± 5%	CGA6J4C0G2J392J125AA			
	1608	$0.80 \pm 0.10$	± 5%				CGA3E1C0G2A472J080AC
	2012	1.25 ± 0.20	± 5%		CGA4J4C0G2W472J125AA	CGA4J3C0G2E472J125AA	CGA4J2C0G2A472J125AA
4.7 nF	3216	0.85 ± 0.15	± 5%	CGA5F4C0G2J472J085AA			CGA5F2C0G2A472J085AA
	UZ 10	1.15 ± 0.15	± 5%			CGA5H3C0G2E472J115AA	
	3225	1.60 ± 0.20	± 5%	CGA6L4C0G2J472J160AA	<del></del>	<del></del>	<del></del>
	1608	$0.80 \pm 0.10$	± 5%				CGA3E1C0G2A562J080AC
	2012	1.25 ± 0.20	± 5%		CGA4J4C0G2W562J125AA	CGA4J3C0G2E562J125AA	CGA4J2C0G2A562J125AA
5.6 nF 3216		0.85 ± 0.15	± 5%				CGA5F2C0G2A562J085AA
	3216			00.451140000.1500.1445.4		CGA5H3C0G2E562J115AA	
0.0111	0210	1.15 ± 0.15	± 5%	CGA5H4C0G2J562J115AA		CGASHSCUGZESUZJITSAA	





#### **Class 1 (Temperature Compensating)**

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

Capacitance	Size	Thickness (mm)	Capacitance Tolerance	Catalog Number	D-4-41/-16 51 4501	Detect Value E. L. OFFI	Detect Value - Ed. 4007
· ·	1608	0.80 ± 0.10	± 5%	Rated Voltage Edc: 630V	Rated Voltage Edc: 450V	Rated Voltage Edc: 250V	Rated Voltage Edc: 100V CGA3E1C0G2A682J080AC
	2012	1.25 ± 0.20	± 5%			CGA4J3C0G2E682J125AA	CGA3L1C0G2A682J125AA
C 0	2012			CC 451 14C0C0 1600 1445 4 4	CGA5H4C0G2W682J115AA	CGA4J3CUGZE602J123AA	
6.8 nF	3216	1.15 ± 0.15 1.60 ± 0.20	± 5%	CGA5H4C0G2J682J115AA	CGA5H4CUG2W68ZJTI5AA	CGA5L3C0G2E682J160AA	CGA5H2C0G2A682J115AA
	2005		± 5%	CCACNACOCO ICOO IOOOAA		CGASESCUGZE662J 160AA	
	3225	2.00 ± 0.20	± 5%	CGA6M4C0G2J682J200AA			00405400004000100040
	1608	0.80 ± 0.10	± 5%			00441000005000140544	CGA3E1C0G2A822J080AC
8.2 nF	2012	1.25 ± 0.20	± 5%		0000011400000144500	CGA4J3C0G2E822J125AA	CGA4J2C0G2A822J125AA
	3216	1.15 ± 0.15	± 5%		CGA5H4C0G2W822J115AA		CGA5H2C0G2A822J115AA
		1.60 ± 0.20	± 5%	CGA5L4C0G2J822J160AA		CGA5L3C0G2E822J160AA	
8.2 nF	3225	1.25 ± 0.20	± 5%	CGA6J4C0G2J822J125AA			
	4532	1.60 ± 0.20	± 5%	CGA8L4C0G2J822J160KA			
	1608	$0.80 \pm 0.10$	± 5%				CGA3E1C0G2A103J080AC
	2012	1.25 ± 0.20	± 5%			CGA4J3C0G2E103J125AA	CGA4J2C0G2A103J125AA
	3216	1.15 ± 0.15	± 5%			CGA5H3C0G2E103J115AA	CGA5H2C0G2A103J115AA
10 nF		1.60 ± 0.20	± 5%	CGA5L4C0G2J103J160AA	CGA5L4C0G2W103J160AA		
	3225	1.25 ± 0.20	± 5%	CGA6J4C0G2J103J125AA			
		1.60 ± 0.20	± 5%			CGA6L3C0G2E103J160AA	
	4532	$1.60 \pm 0.20$	± 5%	CGA8L4C0G2J103J160KA			
	2012	$0.85 \pm 0.15$	± 5%				CGA4F1C0G2A153J085AC
		1.15 ± 0.15	± 5%				CGA5H2C0G2A153J115AA
	3216	$1.60 \pm 0.20$	± 5%			CGA5L3C0G2E153J160AA	
45 5		1.60 +0.3/-0.1	± 5%		CGA5L4C0G2W153J160AA		
15 nF		1.25 ± 0.20	± 5%				CGA6J2C0G2A153J125AA
	3225	1.60 ± 0.20	± 5%	CGA6L4C0G2J153J160AA			
		2.00 ± 0.20	± 5%			CGA6M3C0G2E153J200AA	
	4532 2.50 :	2.50 ± 0.30	± 5%	CGA8P4C0G2J153J250KA			
	2012	1.25 ± 0.20	± 5%				CGA4J1C0G2A223J125AC
		1.60 ± 0.20	± 5%				CGA5L2C0G2A223J160AA
	3216	1.60 +0.3/-0.1	± 5%			CGA5L3C0G2E223J160AA	
22 nF		1.60 ± 0.20	± 5%			CGA6L3C0G2E223J160AA	CGA6L2C0G2A223J160AA
	3225	2.30 ± 0.20	± 5%	CGA6N4C0G2J223J230AA	CGA6N4C0G2W223J230AA		
		1.60 ± 0.20	± 5%			CGA8L3C0G2E223J160KA	
	4532	3.20 ± 0.30	± 5%	CGA8R4C0G2J223J320KA			
	2012	1.25 ± 0.20	± 5%				CGA4J1C0G2A333J125AC
	3216	1.60 +0.3/-0.1	± 5%				CGA5L2C0G2A333J160AA
	0210	2.00 ± 0.20	± 5%				CGA6M2C0G2A333J200AA
33 nF	3225	2.30 ± 0.20	± 5%			CGA6N3C0G2E333J230AA	COADIVIZCOOZAGGGGZOOAA
	5225	2.50 ± 0.20	± 5%	CGA6P4C0G2J333J250AA	CGA6P4C0G2W333J250AA	CAAGINGCOAZEGGGGZGOAA	
	4532	2.00 ± 0.20	± 5%	CGA8M4C0G2J333J200KA	CGA01 400G2W0000200AA	CGA8M3C0G2E333J200KA	
	3216	1.15 ± 0.15	± 5%	CGA6W4CUGZJ333JZUUNA		CGAOMSCUGZESSSJZUUNA	CGA5H1C0G2A473J115AC
	3210		± 5%				CGA6N2C0G2A473J113AC
	3225	2.30 ± 0.20				CC ACD2C0C0E 472 J0E0A A	CGA6N2C0G2A473J230AA
47 nF		2.50 ± 0.30	± 5%			CGA6P3C0G2E473J250AA	00 4040000004 470 10001/4
	4500	2.00 ± 0.20	± 5%		00 4 04 14 00 0 014 14 70 10 00 17 4		CGA8M2C0G2A473J200KA
	4532	2.30 ± 0.20	± 5%		CGA8N4C0G2W473J230KA	00.100000000000000000000000000000000000	
		3.20 ± 0.30	± 5%	CGA8R4C0G2J473J320KA		CGA8R3C0G2E473J320KA	
	3216	1.60 ± 0.20	± 5%				CGA5L1C0G2A683J160AC
	3225	$2.30 \pm 0.20$	± 5%				CGA6N2C0G2A683J230AA
68 nF		2.30 ± 0.20	± 5%			CGA8N4C0G2E683J230KN	
==	4532	$2.50 \pm 0.30$	± 5%				CGA8P2C0G2A683J250KA
		$3.20 \pm 0.30$	± 5%		CGA8R4C0G2W683J320KA		
	5750	$2.30 \pm 0.20$	± 5%	CGA9N1C0G2J683J230KC			
	3216	1.60 ± 0.20	± 5%				CGA5L1C0G2A104J160AC
100 nF	4532	3.20 ± 0.30	± 5%			CGA8R4C0G2E104J320KN	CGA8R2C0G2A104J320KA
	5750	2.80 ± 0.30	± 5%	CGA9Q1C0G2J104J280KC	CGA9Q4C0G2W104J280KA		
150nF	5750	2.30 ± 0.20	± 5%			CGA9N4C0G2E154J230KN	CGA9N2C0G2A154J230KA





#### Class 2 (Temperature Stable)

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

Capacitance	Size	Thickness	Capacitance	Catalog Number			
		(mm)	Tolerance	Rated Voltage Edc: 630V	Rated Voltage Edc: 450V	Rated Voltage Edc: 250V	Rated Voltage Edc: 100V
	1608	$0.80 \pm 0.10$	± 10%				CGA3E2X7R2A102K080AA
1 nF			± 20%	00 45114/7700 1400//44544			CGA3E2X7R2A102M080AA
	3216	$1.15 \pm 0.15$	± 10%	CGA5H4X7R2J102K115AA			
			± 20%	CGA5H4X7R2J102M115AA			00405077004450700044
	1608	$0.80 \pm 0.10$	± 10%				CGA3E2X7R2A152K080AA
1.5 nF			± 20%	OO AELIAV7DO HEOK11EAA			CGA3E2X7R2A152M080A
	3216	$1.15 \pm 0.15$	± 10%	CGA5H4X7R2J152K115AA			
			± 20% ± 10%	CGA5H4X7R2J152M115AA			CGA3E2X7R2A222K080AA
	1608	$0.80 \pm 0.10$	± 10%				CGA3E2X7R2A222M080A
2.2 nF			± 10%	CGA5H4X7R2J222K115AA			CUASLEXTITEAEZEINIOOOA
	3216	$1.15 \pm 0.15$	± 10%	CGA5H4X7R2J222M115AA			
			± 10%	00/10/14/7/11/2022/21/11/10/17			CGA3E2X7R2A332K080AA
	1608	$0.80 \pm 0.10$	± 20%				CGA3E2X7R2A332M080A
3.3 nF			± 10%	CGA5H4X7R2J332K115AA			OG/ (OLZX/TIZ/ (OOZIWOOO/ V
	3216	$1.15 \pm 0.15$	± 20%	CGA5H4X7R2J332M115AA			
			± 10%	Cartor Darrice Color			CGA3E2X7R2A472K080AA
	1608	$0.80 \pm 0.10$	± 20%				CGA3E2X7R2A472M080A
4.7 nF			± 10%	CGA5H4X7R2J472K115AA			O GA TOLLET THE THE ENTOGOT O
	3216 1.15 ± 0.15	± 20%	CGA5H4X7R2J472M115AA				
			± 10%				CGA3E2X7R2A682K080AA
	1608	$0.80 \pm 0.10$	± 20%				CGA3E2X7R2A682M080A
			± 10%			CGA4J3X7R2E682K125AA	0 0, 1022, 11 112, 1002, 11000, 1
6.8 nF	2012	$1.25 \pm 0.20$	± 20%			CGA4J3X7R2E682M125AA	
			± 10%	CGA5H4X7R2J682K115AA			
	3216 1.15 ± 0	$1.15 \pm 0.15$	± 20%	CGA5H4X7R2J682M115AA			
		± 10%				CGA3E2X7R2A103K080AA	
1608	1608	$0.80 \pm 0.10$	± 20%				CGA3E2X7R2A103M080AA
10 E	0010	1.05 0.00	± 10%			CGA4J3X7R2E103K125AA	
10 nF	2012	$1.25 \pm 0.20$	± 20%			CGA4J3X7R2E103M125AA	
	0010	1.15 0.15	± 10%	CGA5H4X7R2J103K115AA			
	3216	1.15 ± 0.15	± 20%	CGA5H4X7R2J103M115AA			
	1000	0.00 - 0.10	± 10%				CGA3E2X7R2A153K080AA
	1608	$0.80 \pm 0.10$	± 20%				CGA3E2X7R2A153M080AA
	0010	1.05 . 0.00	± 10%			CGA4J3X7R2E153K125AA	CGA4J2X7R2A153K125AA
15	2012	1.25 ± 0.20	± 20%			CGA4J3X7R2E153M125AA	CGA4J2X7R2A153M125AA
15 nF		1.15 . 0.15	± 10%			CGA5H3X7R2E153K115AA	
	2010	1.15 ± 0.15	± 20%			CGA5H3X7R2E153M115AA	
	3216 -		± 10%	CGA5K4X7R2J153K130AA			
		1.30 ± 0.20	± 20%	CGA5K4X7R2J153M130AA			
	1608	0.80 ± 0.10	± 10%				CGA3E2X7R2A223K080AA
	1608	0.80 ± 0.10	± 20%				CGA3E2X7R2A223M080AA
22 nF	2012	1.25 + 0.20	± 10%			CGA4J3X7R2E223K125AA	CGA4J2X7R2A223K125AA
22 11	2012	1.25 ± 0.20	± 20%			CGA4J3X7R2E223M125AA	CGA4J2X7R2A223M125AA
	2016	1.15 ± 0.15	± 10%			CGA5H3X7R2E223K115AA	
	3216	1.15 ± 0.15	± 20%			CGA5H3X7R2E223M115AA	
22 nF	2216	1 20 + 0 20	± 10%	CGA5K4X7R2J223K130AA			
ZZ III	3216	1.30 ± 0.20	± 20%	CGA5K4X7R2J223M130AA			
	2012	1 25 0 20	± 10%				CGA4J2X7R2A333K125AA
	2012	1.25 ± 0.20	± 20%				CGA4J2X7R2A333M125A
33 nF		1.15 ± 0.15	± 10%				CGA5H2X7R2A333K115A
JJ HF	2216		± 20%				CGA5H2X7R2A333M115A
	JZ 10 -	3216	± 10%	CGA5L4X7R2J333K160AA		CGA5L3X7R2E333K160AA	
		1.60 ± 0.20 -	± 20%	CGA5L4X7R2J333M160AA		CGA5L3X7R2E333M160AA	





#### Class 2 (Temperature Stable)

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

Capacitance	Size	Thickness	Capacitance Tolerance		D-411/-16 E 1 4501	D-4-41/-H- E1 0501	D-1-11/-11- E1 1000
•		(mm)		Rated Voltage Edc: 630V	Rated Voltage Edc: 450V	Rated Voltage Edc: 250V	Rated Voltage Edc: 100V
	2012	$1.25 \pm 0.20$	± 10%				CGA4J2X7R2A473K125AA
			± 20%				CGA4J2X7R2A473M125AA
		$1.15 \pm 0.15$	± 10% ± 20%				CGA5H2X7R2A473K115AACGA5H2X7R2A473M115AA
47 nF	3216 <b>-</b>		± 20% ± 10%			CGA5L3X7R2E473K160AA	CGASHZA/ NZA4/ SIVI I ISA/
		$1.60 \pm 0.20$	± 10% ± 20%			CGA5L3X7R2E473M160AA	
			± 20%	CGA6M4X7R2J473K200AA		CGASLSX/ NZL4/ SWITOUAA	
	3225	$2.00 \pm 0.20$	± 10%	CGA6M4X7R2J473M200AA			
			± 20%	CGAOIVI4A7 N2J47 SIVIZOUAA		CGA5L3X7R2E683K160AA	CGA5L2X7R2A683K160AA
	3216	$1.60 \pm 0.20$	± 20%			CGA5L3X7R2E683M160AA	
			± 10%	CGA6M4X7R2J683K200AA		Car (CLO/(TTLLCCCONTTOC) (T	Cartolert Hertocom Toor v
68 nF	3225	$2.00 \pm 0.20$	± 20%	CGA6M4X7R2J683M200AA			
			± 10%	CGA8L4X7R2J683K160KA			
	4532	$1.60 \pm 0.20$	± 20%	CGA8L4X7R2J683M160KA			
			± 10%				CGA4J2X7R2A104K125AA
	2012	$1.25 \pm 0.20$	± 20%				CGA4J2X7R2A104M125AA
			± 10%			CGA5L3X7R2E104K160AA	CGA5L2X7R2A104K160AA
	3216	$1.60 \pm 0.20$	± 20%			CGA5L3X7R2E104M160AA	
100 nF	-		± 10%			CGA6M3X7R2E104K200AA	
	3225	$2.00 \pm 0.20$	± 20%			CGA6M3X7R2E104M200AA	
			± 10%	CGA8N4X7R2J104K230KA			
	4532	$2.30 \pm 0.20$	± 20%	CGA8N4X7R2J104M230KA			
		± 10%				CGA5L2X7R2A154K160AA	
3216	$1.60 \pm 0.20$	± 20%				CGA5L2X7R2A154M160AA	
			± 10%			CGA6M3X7R2E154K200AA	
	3225	$2.00 \pm 0.20$	± 20%			CGA6M3X7R2E154M200AA	
150 nF		22 160 : 0.20	± 10%			CGA8L3X7R2E154K160KA	
	4532	$1.60 \pm 0.20$	± 20%			CGA8L3X7R2E154M160KA	
		1.00 0.00	± 10%	CGA9L4X7R2J154K160KA			
	5750	1.60 ± 0.20	± 20%	CGA9L4X7R2J154M160KA			
	0040	1.15 0.15	± 10%				CGA5H2X7R2A224K115AA
	3216	1.15 ± 0.15	± 20%				CGA5H2X7R2A224M115AA
	2005	0.00 - 0.00	± 10%			CGA6M3X7R2E224K200AA	
000 »F	3225	$2.00 \pm 0.20$	± 20%			CGA6M3X7R2E224M200AA	
220 nF	4520	2.20 . 0.20	± 10%			CGA8N3X7R2E224K230KA	
	4532	$2.30 \pm 0.20$	± 20%			CGA8N3X7R2E224M230KA	
	5750	2.30 ± 0.20	± 10%	CGA9N4X7R2J224K230KA			
	3730	2.30 ± 0.20	± 20%	CGA9N4X7R2J224M230KA			
	3216	1.30 ± 0.20	± 10%				CGA5K2X7R2A334K130AA
	3210	1.50 ± 0.20	± 20%				CGA5K2X7R2A334M130AA
	3225	2.00 ± 0.20	± 10%				CGA6M2X7R2A334K200AA
330 nF	3223	2.00 ± 0.20	± 20%				CGA6M2X7R2A334M200AA
330 HF	4520	2.30 ± 0.20	± 10%			CGA8N3X7R2E334K230KA	
	4532	2.30 ± 0.20	± 20%			CGA8N3X7R2E334M230KA	
	F7F0	1.00 - 0.00	± 10%			CGA9L3X7R2E334K160KA	
	5750	1.60 ± 0.20	± 20%			CGA9L3X7R2E334M160KA	
	2010	1.00 - 0.00	± 10%				CGA5L2X7R2A474K160AA
	3216	1.60 ± 0.20	± 20%				CGA5L2X7R2A474M160AA
	2225	2.00 + 0.20	± 10%				CGA6M2X7R2A474K200AA
470 sE	3225	2.00 ± 0.20	± 20%				CGA6M2X7R2A474M200A
470 nF	4520	2.20 + 0.20	± 10%			CGA8N3X7R2E474K230KA	
	4532	$2.30 \pm 0.20$	± 20%			CGA8N3X7R2E474M230KA	
	57E0	2 20 + 0 20	± 10%			CGA9N3X7R2E474K230KA	
	5750	$2.30 \pm 0.20$	± 20%			CGA9N3X7R2E474M230KA	





#### Class 2 (Temperature Stable)

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

Capacitance	Size	Thickness	Capacitance	Catalog Number			
	0.20	(mm)	Tolerance	Rated Voltage Edc: 630V	Rated Voltage Edc: 450V	Rated Voltage Edc: 250V	Rated Voltage Edc: 100V
	3216	1.60 ± 0.20	± 10%				CGA5L2X7R2A684K160A/
		1.00 = 0.20	± 20%				CGA5L2X7R2A684M160AA
	3225	1.60 ± 0.20	± 10%				CGA6L2X7R2A684K160AA
680 nF		1.00 = 0.20	± 20%				CGA6L2X7R2A684M160A
000 111	4532	2.30 ± 0.20	± 10%				CGA8N2X7R2A684K230KA
		2.00 ± 0.20	± 20%				CGA8N2X7R2A684M230K/
	5750	2.30 ± 0.20	± 10%			CGA9N3X7R2E684K230KA	CGA9L2X7R2A684K160KA
	3730	2.00 ± 0.20	± 20%			CGA9N3X7R2E684M230KA	CGA9L2X7R2A684M160KA
	3216	1.60 ± 0.20	± 10%				CGA5L2X7R2A105K160AA
	3210	1.00 ± 0.20	± 20%				CGA5L2X7R2A105M160AA
	3225	2.00 ± 0.20	± 10%				CGA6M2X7R2A105K200AA
1 μF	3223	2.00 ± 0.20	± 20%				CGA6M2X7R2A105M200A
ιμг	4532	2.30 ± 0.20	± 10%				CGA8N2X7R2A105K230KA
	4002	2.30 ± 0.20	± 20%				CGA8N2X7R2A105M230K/
	5750	2.20 . 0.20	± 10%			CGA9N3X7R2E105K230KA	CGA9N2X7R2A105K230KA
	5/50	$2.30 \pm 0.20$	± 20%			CGA9N3X7R2E105M230KA	CGA9N2X7R2A105M230K/
	3225	2.00 ± 0.20	± 10%				CGA6M3X7R2A155K200AE
	3225	2.00 ± 0.20	± 20%				CGA6M3X7R2A155M200Al
4.55	4500	0.00 0.00	± 10%				CGA8N2X7R2A155K230KA
1.5 µF	4532	$2.30 \pm 0.20$	± 20%				CGA8N2X7R2A155M230K/
		0.00 0.00	± 10%				CGA9N2X7R2A155K230KA
	5750	$2.30 \pm 0.20$	± 20%				CGA9N2X7R2A155M230K/
			± 10%				CGA6N3X7R2A225K230AE
	3225	$2.30 \pm 0.20$	± 20%				CGA6N3X7R2A225M230AE
			± 10%				CGA8N2X7R2A225K230KA
2.2 µF	4532	$2.30 \pm 0.20$	± 20%				CGA8N2X7R2A225M230K/
			± 10%				CGA9N2X7R2A225K230KA
	5750	$2.30 \pm 0.20$	± 20%				CGA9N2X7R2A225M230K/
			± 10%				CGA9N2X7R2A335K230KA
3.3 µF	5750	$2.30 \pm 0.20$	± 20%				CGA9N2X7R2A335M230KA
			± 10%				CGA9N2X7R2A475K230KA
4.7 µF	5750	$2.30 \pm 0.20$	± 20%				CGA9N2X7R2A475M230KA





#### Class 2 (Temperature Stable)

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

0	0:	Thickness	Capacitance	Catalog Number			
Capacitance	Size	(mm)	Tolerance	Rated Voltage Edc: 630V	Rated Voltage Edc: 450V	Rated Voltage Edc: 250V	Rated Voltage Edc: 100V
1 nF	1005	0.50 ± 0.05	± 10%				CGA2B3X7S2A102K050BB
THE	1003	0.50 ± 0.05	± 20%				CGA2B3X7S2A102M050BB
1.5 nF	1005	0.50 ± 0.05	± 10%				CGA2B3X7S2A152K050BB
1.5 HF	1005	$0.50 \pm 0.05$	± 20%				CGA2B3X7S2A152M050BB
0.0	1005	0.50 . 0.05	± 10%				CGA2B3X7S2A222K050BB
2.2 nF	1005	$0.50 \pm 0.05$	± 20%				CGA2B3X7S2A222M050BB
3.3 nF	1005	0.50 ± 0.05	± 10%				CGA2B3X7S2A332K050BB
3.3 111	1005	0.50 ± 0.05	± 20%				CGA2B3X7S2A332M050BB
4.7 nF	1005	0.50 ± 0.05	± 10%				CGA2B3X7S2A472K050BB
4.7 ПГ	1003	0.50 ± 0.05	± 20%				CGA2B3X7S2A472M050BB
6.8 nF	1005	0.50 ± 0.05	± 10%				CGA2B3X7S2A682K050BB
0.8 11F	1005	$0.50 \pm 0.05$	± 20%				CGA2B3X7S2A682M050BB
10 nF	1005	0.50 . 0.05	± 10%				CGA2B3X7S2A103K050BB
IU NF	1005	$0.50 \pm 0.05$	± 20%				CGA2B3X7S2A103M050BB
00 5	4000	0.00 0.10	± 10%				CGA3E3X7S2A333K080AB
33 nF	1608	$0.80 \pm 0.10$	± 20%				CGA3E3X7S2A333M080AB
47	1000	0.00 0.40	± 10%				CGA3E3X7S2A473K080AB
47 nF	1608	$0.80 \pm 0.10$	± 20%				CGA3E3X7S2A473M080AB
00 5	1000	0.00 0.10	± 10%				CGA3E3X7S2A683K080AB
68 nF	1608	$0.80 \pm 0.10$	± 20%				CGA3E3X7S2A683M080AB
100 5	1000	0.00 0.10	± 10%				CGA3E3X7S2A104K080AB
100 nF	1608	$0.80 \pm 0.10$	± 20%				CGA3E3X7S2A104M080AB
			± 10%				CGA4J3X7S2A334K125AB
330 nF	2012	$1.25 \pm 0.20$	± 20%				CGA4J3X7S2A334M125AB
.=. =			± 10%				CGA4J3X7S2A474K125AB
470 nF	2012	$1.25 \pm 0.20$	± 20%				CGA4J3X7S2A474M125AB
			± 10%				CGA4J3X7S2A684K125AB
680 nF	2012	$1.25 \pm 0.20$	± 20%				CGA4J3X7S2A684M125AB
4 -	0010	1.05 0.00	± 10%				CGA4J3X7S2A105K125AB
1 µF	2012	$1.25 \pm 0.20$	± 20%				CGA4J3X7S2A105M125AB
			± 10%				CGA5L3X7S2A155K160AB
1.5 µF	3216	$1.60 \pm 0.20$	± 20%				CGA5L3X7S2A155M160AB
00 5	0010	1.00 0.00	± 10%				CGA5L3X7S2A225K160AB
2.2 µF	3216	$1.60 \pm 0.20$	± 20%				CGA5L3X7S2A225M160AB
	0010	1.00 0.00	± 10%				CGA5L3X7S2A335K160AB
	3216	$1.60 \pm 0.20$	± 20%				CGA5L3X7S2A335M160AB
			± 10%				CGA6M3X7S2A335K200AB
3.3 µF	3225	$2.00 \pm 0.20$	± 20%				CGA6M3X7S2A335M200AB
			± 10%				CGA8M3X7S2A335K200KB
	4532	$2.00 \pm 0.20$	± 20%				CGA8M3X7S2A335M200KB
			± 10%				CGA6M3X7S2A475K200AB
4 7 -	3225	$2.00 \pm 0.20$	± 20%				CGA6M3X7S2A475M200AB
4.7 µF			± 10%				CGA8N3X7S2A475K230KB
	4532	$2.30 \pm 0.20$	± 20%				CGA8N3X7S2A475M230KB
			± 10%				CGA9M3X7S2A685K200KB
6.8 µF	5750	$2.00 \pm 0.20$	± 20%				CGA9M3X7S2A685M200KB
			± 10%				CGA9N3X7S2A106K230KB
10 µF	5750	$2.30 \pm 0.20$	± 20%				CGA9N3X7S2A106M230KB
15 μF	5750	2.50 ± 0.30	± 20%				CGA9P3X7S2A156M250KB





#### Class 2 (Temperature Stable)

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

Capacitance	Size	Thickness (mm)	Capacitance Tolerance	Catalog Number Rated Voltage Edc: 630V	Rated Voltage Edc: 450V	Poted Voltage Ede: 250V	Poted Voltage Ede: 100\
		()	± 10%	Nated Voltage Euc. 050V	CGA4J4X7T2W223K125AA	Rated Voltage Edc: 250V	Rated Voltage Edc: 100V
	2012	$1.25 \pm 0.20$	± 20%		CGA4J4X7T2W223M125AA		
22 nF			± 10%	CGA5H1X7T2J223K115AC	CG/ (10 I// 12W22SW112S/ V)		
	3216	1.15 ± 0.15	± 20%	CGA5H1X7T2J223M115AC			
			± 10%	OG/10111X/120220W110/10	CGA4J4X7T2W333K125AA	CGA4J3X7T2E333K125AA	
	2012	$1.25 \pm 0.20$	± 20%		CGA4J4X7T2W333M125AA	CGA4J3X7T2E333M125AA	
33 nF			± 10%	CGA5H1X7T2J333K115AC	COA404X/12W000W120AA	CUA400X/12E000W1120AA	
	3216	$1.15 \pm 0.15$	± 10%	CGA5H1X7T2J333M115AC			
			± 10%	CGASITIA/120000WITIDAC	CGA4J4X7T2W473K125AA	CGA4J3X7T2E473K125AA	
	2012	$1.25 \pm 0.20$	± 10%		CGA4J4X7T2W473M125AA	CGA4J3X7T2E473M125AA	
47 nF				CC A EL 1V7TO 1470V 100 A C	CGA4J4X712W473W123AA	CGA4J3X/12E4/3W123AA	
	3216	$1.60 \pm 0.20$	± 10% ± 20%	CGA5L1X7T2J473K160AC CGA5L1X7T2J473M160AC			
				CGA5L1X/12J4/3W116UAC		00 44 1077705000740544	
	2012	$1.25 \pm 0.20$	± 10%			CGA4J3X7T2E683K125AA	
68 nF			± 20%			CGA4J3X7T2E683M125AA	
	3216	1.30 ± 0.20	± 10%		CGA5K4X7T2W683K130AA		
			± 20%		CGA5K4X7T2W683M130AA		
	2012	1.25 ± 0.20	± 10%			CGA4J3X7T2E104K125AA	
		1120 2 0.20	± 20%			CGA4J3X7T2E104M125AA	
100 nF	3216	1.60 ± 0.20	± 10%		CGA5L4X7T2W104K160AA		
100 111	3210	1.00 ± 0.20	± 20%		CGA5L4X7T2W104M160AA		
	2005	1.60 ± 0.20	± 10%	CGA6L1X7T2J104K160AC			
	3225	1.60 ± 0.20	± 20%	CGA6L1X7T2J104M160AC			
			± 10%			CGA5K3X7T2E154K130AA	
	3216	$1.30 \pm 0.20$	± 20%			CGA5K3X7T2E154M130AA	
			± 10%	CGA6M1X7T2J154K200AC			
150 nF	3225	$2.00 \pm 0.20$	± 20%	CGA6M1X7T2J154M200AC			
			± 10%	CGA8L1X7T2J154K160KC			
	4532	$1.60 \pm 0.20$	± 20%	CGA8L1X7T2J154M160KC			
			± 10%	CG/16E1X/120104W10010		CGA5L3X7T2E224K160AA	
	3216	$1.60 \pm 0.20$	± 10%			CGA5L3X7T2E224M160AA	
					CGA6M4X7T2W224K200AA	CGASESA7 12E224W1100AA	
220 nF	3225	$2.00 \pm 0.20$	± 10%				
			± 20%	00404477701004700070	CGA6M4X7T2W224M200AA		
	4532	$2.00 \pm 0.20$	± 10%	CGA8M1X7T2J224K200KC			
			± 20%	CGA8M1X7T2J224M200KC			
	3225	$2.00 \pm 0.20$	± 10%			CGA6M3X7T2E334K200AA	
			± 20%			CGA6M3X7T2E334M200AA	
330 nF	4532	1.60 ± 0.20	± 10%		CGA8L4X7T2W334K160KA		
000 1		2 0.20	± 20%		CGA8L4X7T2W334M160KA		
	5750	2.00 ± 0.20	± 10%	CGA9M1X7T2J334K200KC			
	0,00	2.00 ± 0.20	± 20%	CGA9M1X7T2J334M200KC			
	4532	2.30 ± 0.20	± 10%		CGA8N4X7T2W474K230KA		
470 nF	4002	2.30 ± 0.20	± 20%		CGA8N4X7T2W474M230KA		
470 HF	F750	0.50 . 0.20	± 10%	CGA9P1X7T2J474K250KC			
	5750	$2.50 \pm 0.30$	± 20%	CGA9P1X7T2J474M250KC			
			± 10%			CGA8L3X7T2E684K160KA	
	4532	$1.60 \pm 0.20$	± 20%			CGA8L3X7T2E684M160KA	
680 nF			± 10%		CGA9M4X7T2W684K200KA		
	5750	$2.00 \pm 0.20$	± 20%		CGA9M4X7T2W684M200KA		
			± 10%		0 0, 1011 1, 11 12 11 00 111.2001 0	CGA8P3X7T2E105K250KA	
	4532	$2.50 \pm 0.30$	± 10%			CGA8P3X7T2E105M250KA	
1 µF					CC A OD A V 7 TO M 4 OF I/ OF CI/ A	OUMOF DATIZE TUDIVIZOUNA	
	5750	$2.50 \pm 0.30$	± 10%		CGA9P4X7T2W105K250KA		
			± 20%		CGA9P4X7T2W105M250KA	00.4040.77705.4551/000111	
1.5 µF	5750	2.00 ± 0.20	± 10%			CGA9M3X7T2E155K200KA	
•			± 20%			CGA9M3X7T2E155M200KA	
2.2 µF	5750	2.50 ± 0.30	± 10%			CGA9P3X7T2E225K250KA	
h.	2.00		± 20%			CGA9P3X7T2E225M250KA	