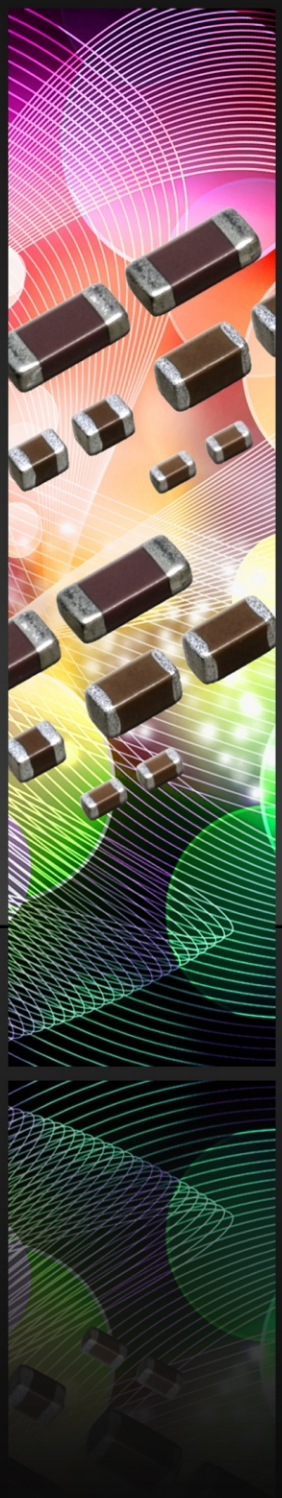
TDK

MULTILAYER CERAMIC CHIP CAPACITORS



CGJ Series
Extended Life Capacitors

Type:

CGJ2 [EIA CC0402]
CGJ3 [EIA CC0603]
CGJ4 [EIA CC0805]
CGJ5 [EIA CC1206]

Issue date: **December 2011**

TDK MLCC
US Catalog

Version B11

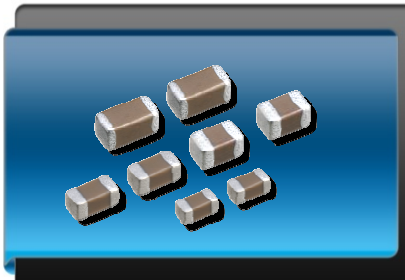
REMINDERS

Please read before using this product

SAFETY REMINDERS

REMINDERS

1. If you intend to use a product listed in this catalog for a purpose that may cause loss of life or other damage, you must contact our company's sales window.
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.



CGJ Series

Extended Life Capacitors

Type: CGJ2 (C1005), CGJ3 (C1608), CGJ4 (C2012), CGJ5 (C3216)

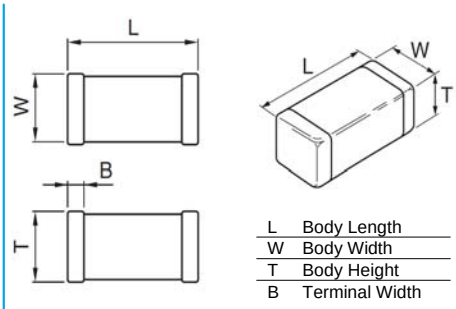
Features

- Extended Life series capacitor featuring increased evaluation during manufacturing to promote longer life
- Life test performs at 2x rated voltage for 2000 hrs
- Reliability tests based on MIL-STD requirements
- Guaranteed TC Bias and Hot IR performance
- Anti-counterfeit/tamper-proof seal to assist in the identification of authentic TDK CGJ products. The condition of the seal also indicates if the product has been tampered with in the supply chain
- Certificate of Compliance (CofC) documentation is provided for each CGJ lot. Consumers of CGJ products can view each lot specific CofC on the TDK website
- Available optional UHF (Ultra High Frequency) RFID tag to allow integration with customer RFID programs such as inventory management
- CGJ customer priority backed by TDK factory support by 3/3/7 policy (3hrs: acknowledgement, 3 days: response with initial failure mode, 7 days: full failure analysis report)

Applications

- Smart Meter
- Smart Grid
- Solar Inverters
- Charging station
- Applications that require extended life performance

Shape & Dimension



L	Body Length
W	Body Width
T	Body Height
B	Terminal Width

Dimensions in mm

Part Number Construction

CGJ 5 L 2 X7R 1A 106 K T XXXX

Series Name

Dimensions L x W (mm)

Symbol	Length	Width
2	1.00 ± 0.05	0.50 ± 0.05
3	1.60 ± 0.10	0.80 ± 0.10
4	2.00 ± 0.20	1.25 ± 0.20
5	3.20 ± 0.20	1.60 ± 0.20
	3.20 +0.30/-0.10	1.60 +0.30/-0.10

Thickness T (mm)

Symbol	Thickness	Symbol	Thickness
B	0.50 mm	H	1.15 mm
C	0.60 mm	J	1.25 mm
E	0.80 mm	L	1.60 mm
F	0.85 mm		

Voltage Condition for Life Test

Symbol	Condition
2	2 × R.V.

Temperature Characteristic

Temperature Characteristics	Capacitance Change	Temperature Range
C0G	0±30 ppm/ºC	-55 to +125ºC
X7R	± 15%	-55 to +125ºC

Internal Codes

Packaging Style

Packaging Code	Style
T	Tape & Reel

Capacitance Tolerance

Tolerance Code	Tolerance
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.

Capacitance Code	Capacitance
0R5	0.5pF
010	1pF
102	1,000pF (1nF)
105	1,000,000pF (1µF)

Rated Voltage (DC)

Voltage Code	Voltage (DC)
0J	6.3V
1A	10V
1C	16V
1E	25V
1H	50V

Capacitance Range Chart

CGJ2 [EIA CC0402]

Capacitance Range Chart

Temperature Characteristics: C0G (0±30 ppm/ºC)
Rated Voltage: 50V (1H)

Capacitance (pF)	Cap Code	Tolerance	C0G
			1H (50V)
100	101	J: ± 5%	
120	121		
150	151		
180	181		
220	221		
270	271		
330	331		
390	391		
470	471		
560	561		
680	681		
820	821		
1000	102		

Standard Thickness 0.50 mm

Capacitance Range Chart

Temperature Characteristics: X7R (± 15%)
Rated Voltage: 50V (1H), 25V (1E), 16V (1C)

Capacitance (pF)	Cap Code	Tolerance	X7R		
			1H (50V)	1E (25V)	1C (16V)
1,000	102	K: ± 10%			
1,500	152				
2,200	222				
3,300	332				
4,700	472				
6,800	682				
10,000	103				
15,000	153				
22,000	223				
33,000	333				
47,000	473				
68,000	683				
100,000	104				

Standard Thickness

0.50 mm

Capacitance Range Table

CGJ2 [EIA CC0402]

Class 1 (Temperature Compensating)

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

TDK Part Number (Ordering Code)	Temperature Characteristics	Rated Voltage	Capacitance (pF)	Capacitance Tolerance	Thickness (mm)
CGJ2B2C0G1H101J	C0G	50V	100	± 5%	0.50 ± 0.05
CGJ2B2C0G1H121J	C0G	50V	120	± 5%	0.50 ± 0.05
CGJ2B2C0G1H151J	C0G	50V	150	± 5%	0.50 ± 0.05
CGJ2B2C0G1H181J	C0G	50V	180	± 5%	0.50 ± 0.05
CGJ2B2C0G1H221J	C0G	50V	220	± 5%	0.50 ± 0.05
CGJ2B2C0G1H271J	C0G	50V	270	± 5%	0.50 ± 0.05
CGJ2B2C0G1H331J	C0G	50V	330	± 5%	0.50 ± 0.05
CGJ2B2C0G1H391J	C0G	50V	390	± 5%	0.50 ± 0.05
CGJ2B2C0G1H471J	C0G	50V	470	± 5%	0.50 ± 0.05
CGJ2B2C0G1H561J	C0G	50V	560	± 5%	0.50 ± 0.05
CGJ2B2C0G1H681J	C0G	50V	680	± 5%	0.50 ± 0.05
CGJ2B2C0G1H821J	C0G	50V	820	± 5%	0.50 ± 0.05
CGJ2B2C0G1H102J	C0G	50V	1,000	± 5%	0.50 ± 0.05

Capacitance Range Table

CGJ2 [EIA CC0402]

Class 2 (Temperature Stable)

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

TDK Part Number (Ordering Code)	Temperature Characteristics	Rated Voltage	Capacitance (pF)	Capacitance Tolerance	Thickness (mm)
CGJ2B2X7R1H102K	X7R	50V	1,000	± 10%	0.50 ± 0.05
CGJ2B2X7R1H152K	X7R	50V	1,500	± 10%	0.50 ± 0.05
CGJ2B2X7R1H222K	X7R	50V	2,200	± 10%	0.50 ± 0.05
CGJ2B2X7R1H332K	X7R	50V	3,300	± 10%	0.50 ± 0.05
CGJ2B2X7R1H472K	X7R	50V	4,700	± 10%	0.50 ± 0.05
CGJ2B2X7R1H682K	X7R	50V	6,800	± 10%	0.50 ± 0.05
CGJ2B2X7R1E102K	X7R	25V	1,000	± 10%	0.50 ± 0.05
CGJ2B2X7R1E152K	X7R	25V	1,500	± 10%	0.50 ± 0.05
CGJ2B2X7R1E222K	X7R	25V	2,200	± 10%	0.50 ± 0.05
CGJ2B2X7R1E332K	X7R	25V	3,300	± 10%	0.50 ± 0.05
CGJ2B2X7R1E472K	X7R	25V	4,700	± 10%	0.50 ± 0.05
CGJ2B2X7R1E682K	X7R	25V	6,800	± 10%	0.50 ± 0.05
CGJ2B2X7R1E103K	X7R	25V	10,000	± 10%	0.50 ± 0.05
CGJ2B2X7R1E153K	X7R	25V	15,000	± 10%	0.50 ± 0.05
CGJ2B2X7R1E223K	X7R	25V	22,000	± 10%	0.50 ± 0.05
CGJ2B2X7R1E333K	X7R	25V	33,000	± 10%	0.50 ± 0.05
CGJ2B2X7R1E473K	X7R	25V	47,000	± 10%	0.50 ± 0.05
CGJ2B2X7R1C102K	X7R	16V	1,000	± 10%	0.50 ± 0.05
CGJ2B2X7R1C152K	X7R	16V	1,500	± 10%	0.50 ± 0.05
CGJ2B2X7R1C222K	X7R	16V	2,200	± 10%	0.50 ± 0.05
CGJ2B2X7R1C332K	X7R	16V	3,300	± 10%	0.50 ± 0.05
CGJ2B2X7R1C472K	X7R	16V	4,700	± 10%	0.50 ± 0.05
CGJ2B2X7R1C682K	X7R	16V	6,800	± 10%	0.50 ± 0.05
CGJ2B2X7R1C103K	X7R	16V	10,000	± 10%	0.50 ± 0.05
CGJ2B2X7R1C153K	X7R	16V	15,000	± 10%	0.50 ± 0.05
CGJ2B2X7R1C223K	X7R	16V	22,000	± 10%	0.50 ± 0.05
CGJ2B2X7R1C333K	X7R	16V	33,000	± 10%	0.50 ± 0.05
CGJ2B2X7R1C473K	X7R	16V	47,000	± 10%	0.50 ± 0.05
CGJ2B2X7R1C683K	X7R	16V	68,000	± 10%	0.50 ± 0.05
CGJ2B2X7R1C104K	X7R	16V	100,000	± 10%	0.50 ± 0.05

Capacitance Range Chart

CGJ3 [EIA CC0603]

Capacitance Range Chart

Temperature Characteristics: C0G (0±30 ppm/ºC)

Rated Voltage: 50V (1H)

Capacitance (pF)	Cap Code	Tolerance	C0G
			1H (50V)
270	271	J: ± 5%	
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		

Standard Thickness

0.80 mm

Capacitance Range Chart

Temperature Characteristics: X7R (± 15%)

Rated Voltage: 50V (1H), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J)

Capacitance (pF)	Cap Code	Tolerance	X7R				
			1H (50V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)
10,000	103	K: ± 10%					
15,000	153						
22,000	223						
33,000	333						
47,000	473						
68,000	683						
100,000	104						
330,000	334						
470,000	474						
680,000	684						
1,000,000	105						

Standard Thickness

0.80 mm

Capacitance Range Table

CGJ3 [EIA CC0603]

Class 1 (Temperature Compensating)

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

TDK Part Number (Ordering Code)	Temperature Characteristics	Rated Voltage	Capacitance (pF)	Capacitance Tolerance	Thickness (mm)
CGJ3E2C0G1H271J	C0G	50V	270	± 5%	0.80 ± 0.07
CGJ3E2C0G1H331J	C0G	50V	330	± 5%	0.80 ± 0.07
CGJ3E2C0G1H391J	C0G	50V	390	± 5%	0.80 ± 0.07
CGJ3E2C0G1H471J	C0G	50V	470	± 5%	0.80 ± 0.07
CGJ3E2C0G1H561J	C0G	50V	560	± 5%	0.80 ± 0.07
CGJ3E2C0G1H681J	C0G	50V	680	± 5%	0.80 ± 0.07
CGJ3E2C0G1H821J	C0G	50V	820	± 5%	0.80 ± 0.07
CGJ3E2C0G1H102J	C0G	50V	1,000	± 5%	0.80 ± 0.07
CGJ3E2C0G1H122J	C0G	50V	1,200	± 5%	0.80 ± 0.07
CGJ3E2C0G1H152J	C0G	50V	1,500	± 5%	0.80 ± 0.07
CGJ3E2C0G1H182J	C0G	50V	1,800	± 5%	0.80 ± 0.07
CGJ3E2C0G1H222J	C0G	50V	2,200	± 5%	0.80 ± 0.07
CGJ3E2C0G1H272J	C0G	50V	2,700	± 5%	0.80 ± 0.07
CGJ3E2C0G1H332J	C0G	50V	3,300	± 5%	0.80 ± 0.07
CGJ3E2C0G1H392J	C0G	50V	3,900	± 5%	0.80 ± 0.07
CGJ3E2C0G1H472J	C0G	50V	4,700	± 5%	0.80 ± 0.07
CGJ3E2C0G1H562J	C0G	50V	5,600	± 5%	0.80 ± 0.07
CGJ3E2C0G1H682J	C0G	50V	6,800	± 5%	0.80 ± 0.07
CGJ3E2C0G1H822J	C0G	50V	8,200	± 5%	0.80 ± 0.07
CGJ3E2C0G1H103J	C0G	50V	10,000	± 5%	0.80 ± 0.07

Capacitance Range Table

CGJ3 [EIA CC0603]

Class 2 (Temperature Stable)

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

TDK Part Number (Ordering Code)	Temperature Characteristics	Rated Voltage	Capacitance (pF)	Capacitance Tolerance	Thickness (mm)
CGJ3E2X7R1H103K	X7R	50V	10,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1H153K	X7R	50V	15,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1H223K	X7R	50V	22,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1H333K	X7R	50V	33,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1H473K	X7R	50V	47,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1H683K	X7R	50V	68,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1H104K	X7R	50V	100,000	± 10%	0.80 ± 0.10
CGJ3E2X7R1E103K	X7R	25V	10,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1E153K	X7R	25V	15,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1E223K	X7R	25V	22,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1E333K	X7R	25V	33,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1E473K	X7R	25V	47,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1E683K	X7R	25V	68,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1E104K	X7R	25V	100,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1C103K	X7R	16V	10,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1C153K	X7R	16V	15,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1C223K	X7R	16V	22,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1C333K	X7R	16V	33,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1C473K	X7R	16V	47,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1C683K	X7R	16V	68,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1C104K	X7R	16V	100,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1A334K	X7R	10V	330,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1A474K	X7R	10V	470,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1A684K	X7R	10V	680,000	± 10%	0.80 ± 0.07
CGJ3E2X7R1A105K	X7R	10V	1,000,000	± 10%	0.80 ± 0.10
CGJ3E2X7R0J334K	X7R	6.3V	330,000	± 10%	0.80 ± 0.07
CGJ3E2X7R0J474K	X7R	6.3V	470,000	± 10%	0.80 ± 0.07
CGJ3E2X7R0J684K	X7R	6.3V	680,000	± 10%	0.80 ± 0.07
CGJ3E2X7R0J105K	X7R	6.3V	1,000,000	± 10%	0.80 ± 0.10

Capacitance Range Chart

CGJ4 [EIA CC0805]

Capacitance Range Chart

Temperature Characteristics: C0G (0±30 ppm/ºC)

Rated Voltage: 50V (1H)

Capacitance (pF)	Cap Code	Tolerance	C0G
			1H (50V)
680	681	J: ± 5%	
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		

Standard Thickness

0.60 mm

0.85 mm

1.25 mm

Capacitance Range Chart

Temperature Characteristics: X7R (± 15%)

Rated Voltage: 50V (1H), 25V (1E), 16V (1C), 10V (1A), 6.3V (0J)

Capacitance (pF)	Cap Code	Tolerance	X7R				
			1H (50V)	1E (25V)	1C (16V)	1A (10V)	0J (6.3V)
33,000	333	K: ± 10%					
47,000	473						
68,000	683						
100,000	104						
150,000	154						
220,000	224						
330,000	334						
470,000	474						
680,000	684						
1,000,000	105						
1,500,000	155						
2,200,000	225						
3,300,000	335						
4,700,000	475						

Standard Thickness

1.25 mm

Capacitance Range Table

CGJ4 [EIA CC0805]

Class 1 (Temperature Compensating)

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

TDK Part Number (Ordering Code)	Temperature Characteristics	Rated Voltage	Capacitance (pF)	Capacitance Tolerance	Thickness (mm)
CGJ4C2C0G1H681J	C0G	50V	680	± 5%	0.60 ± 0.10
CGJ4C2C0G1H821J	C0G	50V	820	± 5%	0.60 ± 0.10
CGJ4C2C0G1H102J	C0G	50V	1,000	± 5%	0.60 ± 0.10
CGJ4C2C0G1H122J	C0G	50V	1,200	± 5%	0.60 ± 0.10
CGJ4C2C0G1H152J	C0G	50V	1,500	± 5%	0.60 ± 0.10
CGJ4C2C0G1H182J	C0G	50V	1,800	± 5%	0.60 ± 0.10
CGJ4C2C0G1H222J	C0G	50V	2,200	± 5%	0.60 ± 0.10
CGJ4C2C0G1H272J	C0G	50V	2,700	± 5%	0.60 ± 0.10
CGJ4C2C0G1H332J	C0G	50V	3,300	± 5%	0.60 ± 0.10
CGJ4C2C0G1H392J	C0G	50V	3,900	± 5%	0.60 ± 0.10
CGJ4C2C0G1H472J	C0G	50V	4,700	± 5%	0.60 ± 0.10
CGJ4C2C0G1H562J	C0G	50V	5,600	± 5%	0.60 ± 0.10
CGJ4C2C0G1H682J	C0G	50V	6,800	± 5%	0.60 ± 0.10
CGJ4C2C0G1H822J	C0G	50V	8,200	± 5%	0.60 ± 0.10
CGJ4C2C0G1H103J	C0G	50V	10,000	± 5%	0.60 ± 0.10
CGJ4F2C0G1H153J	C0G	50V	15,000	± 5%	0.85 +0.02/-0.10
CGJ4J2C0G1H223J	C0G	50V	22,000	± 5%	1.25 ± 0.10
CGJ4J2C0G1H333J	C0G	50V	33,000	± 5%	1.25 ± 0.20

Capacitance Range Table

CGJ4 [EIA CC0805]

Class 2 (Temperature Stable)

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

TDK Part Number (Ordering Code)	Temperature Characteristics	Rated Voltage	Capacitance (pF)	Capacitance Tolerance	Thickness (mm)
CGJ4J2X7R1H333K	X7R	50V	33,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1H473K	X7R	50V	47,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1H683K	X7R	50V	68,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1H104K	X7R	50V	100,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1H154K	X7R	50V	150,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1H224K	X7R	50V	220,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1H334K	X7R	50V	330,000	± 10%	1.25 ± 0.20
CGJ4J2X7R1E333K	X7R	25V	33,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1E473K	X7R	25V	47,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1E683K	X7R	25V	68,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1E104K	X7R	25V	100,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1E154K	X7R	25V	150,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1E224K	X7R	25V	220,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1E334K	X7R	25V	330,000	± 10%	1.25 ± 0.20
CGJ4J2X7R1E474K	X7R	25V	470,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1E684K	X7R	25V	680,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1E105K	X7R	25V	1,000,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1C333K	X7R	16V	33,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1C473K	X7R	16V	47,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1C683K	X7R	16V	68,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1C104K	X7R	16V	100,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1C154K	X7R	16V	150,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1C224K	X7R	16V	220,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1C334K	X7R	16V	330,000	± 10%	1.25 ± 0.20
CGJ4J2X7R1C474K	X7R	16V	470,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1C684K	X7R	16V	680,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1C105K	X7R	16V	1,000,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1A224K	X7R	10V	220,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1A334K	X7R	10V	330,000	± 10%	1.25 ± 0.20
CGJ4J2X7R1A474K	X7R	10V	470,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1A684K	X7R	10V	680,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1A105K	X7R	10V	1,000,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1A155K	X7R	10V	1,500,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1A225K	X7R	10V	2,200,000	± 10%	1.25 ± 0.20
CGJ4J2X7R1A335K	X7R	10V	3,300,000	± 10%	1.25 ± 0.10
CGJ4J2X7R1A475K	X7R	10V	4,700,000	± 10%	1.25 ± 0.20
CGJ4J2X7R0J224K	X7R	6.3V	220,000	± 10%	1.25 ± 0.10
CGJ4J2X7R0J334K	X7R	6.3V	330,000	± 10%	1.25 ± 0.20
CGJ4J2X7R0J474K	X7R	6.3V	470,000	± 10%	1.25 ± 0.10
CGJ4J2X7R0J684K	X7R	6.3V	680,000	± 10%	1.25 ± 0.10
CGJ4J2X7R0J105K	X7R	6.3V	1,000,000	± 10%	1.25 ± 0.10
CGJ4J2X7R0J155K	X7R	6.3V	1,500,000	± 10%	1.25 ± 0.10
CGJ4J2X7R0J225K	X7R	6.3V	2,200,000	± 10%	1.25 ± 0.20
CGJ4J2X7R0J335K	X7R	6.3V	3,300,000	± 10%	1.25 ± 0.10
CGJ4J2X7R0J475K	X7R	6.3V	4,700,000	± 10%	1.25 ± 0.20

Capacitance Range Chart

CGJ5 [EIA CC1206]

Capacitance Range Chart

Temperature Characteristics: C0G (0±30 ppm/ºC)

Rated Voltage: 50V (1H)

Capacitance (pF)	Cap Code	Tolerance	C0G 1H (50V)
3,900	392	J: ± 5%	
4,700	472		
5,600	562		
6,800	682		
8,200	822		
10,000	103		
15,000	153		
22,000	223		
33,000	333		
47,000	473		
68,000	683		
100,000	104		

Standard Thickness

- 0.60 mm
- 0.85 mm
- 1.15 mm
- 1.60 mm

Capacitance Range Chart

Temperature Characteristics: X7R (± 15%)

Rated Voltage: 25V (1E), 16V (1C), 10V (1A), 6.3V (0J)

Capacitance (pF)	Cap Code	Tolerance	X7R 1E (25V)	1C (16V)	1A (10V)	0J (6.3V)
1,500,000	155	K: ± 10%				
2,200,000	225					
3,300,000	335					
4,700,000	475					
6,800,000	685					
10,000,000	106					

Standard Thickness

- 1.60 mm

Capacitance Range Table

CGJ5 [EIA CC1206]

Class 1 (Temperature Compensating)

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

TDK Part Number (Ordering Code)	Temperature Characteristics	Rated Voltage	Capacitance (pF)	Capacitance Tolerance	Thickness (mm)
CGJ5C2C0G1H392J	C0G	50V	3,900	± 5%	0.60 ± 0.10
CGJ5C2C0G1H472J	C0G	50V	4,700	± 5%	0.60 ± 0.10
CGJ5C2C0G1H562J	C0G	50V	5,600	± 5%	0.60 ± 0.10
CGJ5C2C0G1H682J	C0G	50V	6,800	± 5%	0.60 ± 0.10
CGJ5C2C0G1H822J	C0G	50V	8,200	± 5%	0.60 ± 0.10
CGJ5C2C0G1H103J	C0G	50V	10,000	± 5%	0.60 ± 0.10
CGJ5C2C0G1H153J	C0G	50V	15,000	± 5%	0.60 ± 0.10
CGJ5C2C0G1H223J	C0G	50V	22,000	± 5%	0.60 ± 0.10
CGJ5F2C0G1H333J	C0G	50V	33,000	± 5%	0.85 +0.02/-0.10
CGJ5H2C0G1H473J	C0G	50V	47,000	± 5%	1.15 ± 0.10
CGJ5L2C0G1H683J	C0G	50V	68,000	± 5%	1.60 +0.20/-0.10
CGJ5L2C0G1H104J	C0G	50V	100,000	± 5%	1.60 +0.20/-0.10

Class 2 (Temperature Stable)

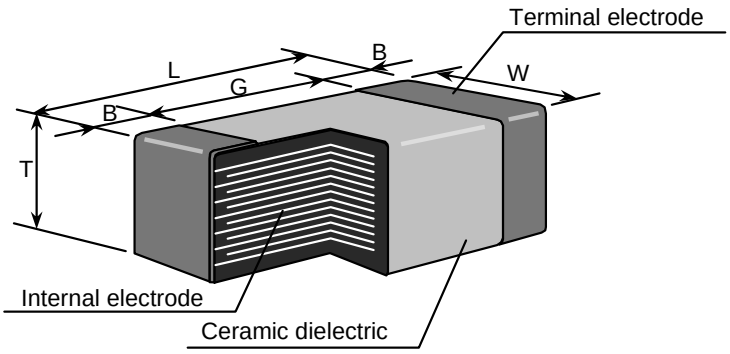
Temperature Characteristics: X7R (-55 to +125ºC, ±15%)

TDK Part Number (Ordering Code)	Temperature Characteristics	Rated Voltage	Capacitance (pF)	Capacitance Tolerance	Thickness (mm)
CGJ5L2X7R1E155K	X7R	25V	1,500,000	± 10%	1.60 ± 0.10
CGJ5L2X7R1E225K	X7R	25V	2,200,000	± 10%	1.60 +0.20/-0.10
CGJ5L2X7R1C155K	X7R	16V	1,500,000	± 10%	1.60 ± 0.10
CGJ5L2X7R1C225K	X7R	16V	2,200,000	± 10%	1.60 +0.20/-0.10
CGJ5L2X7R1C335K	X7R	16V	3,300,000	± 10%	1.60 ± 0.10
CGJ5L2X7R1C475K	X7R	16V	4,700,000	± 10%	1.60 +0.20/-0.10
CGJ5L2X7R1A155K	X7R	10V	1,500,000	± 10%	1.60 ± 0.10
CGJ5L2X7R1A225K	X7R	10V	2,200,000	± 10%	1.60 +0.20/-0.10
CGJ5L2X7R1A335K	X7R	10V	3,300,000	± 10%	1.60 ± 0.10
CGJ5L2X7R1A475K	X7R	10V	4,700,000	± 10%	1.60 +0.20/-0.10
CGJ5L2X7R1A685K	X7R	10V	6,800,000	± 10%	1.60 ± 0.10
CGJ5L2X7R1A106K	X7R	10V	10,000,000	± 10%	1.60 +0.20/-0.10
CGJ5L2X7R0J155K	X7R	6.3V	1,500,000	± 10%	1.60 ± 0.10
CGJ5L2X7R0J225K	X7R	6.3V	2,200,000	± 10%	1.60 +0.20/-0.10
CGJ5L2X7R0J335K	X7R	6.3V	3,300,000	± 10%	1.60 ± 0.10
CGJ5L2X7R0J475K	X7R	6.3V	4,700,000	± 10%	1.60 +0.20/-0.10
CGJ5L2X7R0J685K	X7R	6.3V	6,800,000	± 10%	1.60 ± 0.10
CGJ5L2X7R0J106K	X7R	6.3V	10,000,000	± 10%	1.60 +0.20/-0.10

Additional Information

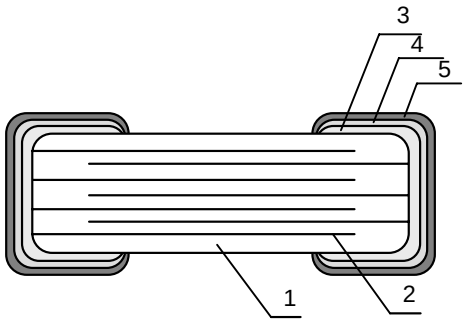
CGJ Series – Extended Life Capacitors

• Shape & Dimensions



Case Code			Dimensions (mm)				
Series	JIS	EIA	L	W	T	B	G
CGJ2	C1005	CC0402	1.00	0.50	0.50	0.10	0.30 min.
CGJ3	C1608	CC0603	1.60	0.80	0.80	0.20	0.50 min.
CGJ4	C2012	CC0805	2.00	1.25	0.60	0.20 min.	0.50 min.
					0.85		
					1.25		
CGJ5	C3216	CC1206	3.20	1.60	0.60	0.20 min.	1.00 min.
					0.85		
					1.15		
					1.60		

• Inside Structure & Material System



No.	NAME	MATERIAL	
		Class 1	Class 2
(1)	Ceramic Dielectric	$CaZrO_3$	$BaTiO_3$
(2)	Internal Electrode	Nickel (Ni)	
(3)	Termination	Copper (Cu)	
(4)		Nickel (Ni)	
(5)		Tin (Sn)	

• Environmental Information

TDK Corporation established internal product environmental assurance standards that include the six hazardous substances banned by the EU RoHS Directive[1] enforced on July 1, 2006 along with additional substances independently banned by TDK and has successfully completed making general purpose electronic components conform to the RoHS Directive[2].

1. Abbreviation for Restriction on Hazardous Substances, which refers to the regulation EU Directive 2002/95/EC on hazardous substances by the European Union (EU) effective from July 1, 2006. The Directive bans the use of six specific hazardous substances in electric and electronic devices and products handled within the EU. The six substances are lead, mercury, cadmium, hexavalent chromium, PBB (polybrominated biphenyls), and PBDE (polybrominated diphenyl ethers).

2. This means that, in conformity with the EU Directive 2002/95/EC, lead, cadmium, mercury, hexavalent chromium, and specific bromine-based flame retardants, PBB and PBDE, have not been used, except for exempted applications.

For REACH (SVHC : 15 substances according to ECHA / October 2008) : All TDK MLCC do not contain these 15 substances.

For European Directive 2000/53/CE and 2005/673/CE : Cadmium, Hexavalent Chromium, Mercury, Lead are not contained in all TDK MLCC.

For European Directive 2003/11/CE : Pentabromodiphenyl-ether, Octabromodiphenyl-ether are not contained in all TDK MLCC.

TDK Sales Representatives Contact Information

South Bridge, LLC
South Carolina, USA
Email: crystal@southbridge.net
Website: www.southbridge.net

South Bridge, LLC
Alabama, USA
Email: sherrill@southbridge.net
Website: www.southbridge.net

South Bridge, LLC
Mississippi, USA
Email: sherrill@southbridge.net
Website: www.southbridge.net

South Bridge, LLC
North Carolina, USA
Email: crystal@southbridge.net
Website: www.southbridge.net

South Bridge, LLC
Western Tennessee, USA
Email: sherrill@southbridge.net
Website: www.southbridge.net

South Bridge, LLC
Georgia, USA
Email: bobbi@southbridge.net
Website: www.southbridge.net

South Bridge, LLC
Eastern Tennessee, USA
Email: bobbi@southbridge.net
Website: www.southbridge.net

South Bridge, LLC
Florida, USA
Email: kim@southbridge.net
Website: www.southbridge.net

Seltec Sales Corporation
Missouri, USA
Email: christy.meyer@seltec-sales.com
Website: www.seltecsales.com

Seltec Sales Corporation
Kansas, USA
Email: brian.young@seltec-sales.com
Website: www.seltecsales.com

Seltec Sales Corporation
Southern Illinois, USA
Email: christy.meyer@seltec-sales.com
Website: www.seltecsales.com

Seltec Sales Corporation
Nebraska, USA
Email: brian.young@seltec-sales.com
Website: www.seltecsales.com

Quad State Sales and Marketing
Texas, USA
Email: kbrayman@quadstatesales.com
Website: www.quadstatesales.com

Quad State Sales and Marketing
Oklahoma, USA
Email: kbrayman@quadstatesales.com
Website: www.quadstatesales.com

Quad State Sales and Marketing
Arkansas, USA
Email: kbrayman@quadstatesales.com
Website: www.quadstatesales.com

Quad State Sales and Marketing
Louisiana, USA
Email: kbrayman@quadstatesales.com
Website: www.quadstatesales.com

Procyon Technical Sales
Southern Nevada, USA
Email: lfisher@procyonsales.com
Website: www.procyonsales.com

Procyon Technical Sales
New Mexico, USA
Email: lfisher@procyonsales.com
Website: www.procyonsales.com

Procyon Technical Sales
New Mexico, USA
Email: lfisher@procyonsales.com
Website: www.procyonsales.com

Procyon Technical Sales
Arizona, USA
Email: lfisher@procyonsales.com
Website: www.procyonsales.com

Procyon Technical Sales
Southern California, USA
Email: lfisher@procyonsales.com
Website: www.procyonsales.com

Paragon Electronic Systems
Vermont, USA
Email: sales@paragonelect.com
Website: www.paragonelect.com

Paragon Electronic Systems
Rhode Island, USA
Email: sales@paragonelect.com
Website: www.paragonelect.com

Paragon Electronic Systems
New Hampshire, USA
Email: sales@paragonelect.com
Website: www.paragonelect.com

Paragon Electronic Systems
Maine, USA
Email: sales@paragonelect.com
Website: www.paragonelect.com

Paragon Electronic Systems
Massachusetts, USA
Email: sales@paragonelect.com
Website: www.paragonelect.com

Paragon Electronic Systems
Connecticut, USA
Email: sales@paragonelect.com
Website: www.paragonelect.com

Omega Electronic Sales, Inc.
Southern New Jersey, USA
Email: office@omegasales.com
Website: www.omegasales.com

Omega Electronic Sales, Inc.
Delaware, USA
Email: office@omegasales.com
Website: www.omegasales.com

Omega Electronic Sales, Inc.
Eastern Pennsylvania, USA
Email: office@omegasales.com
Website: www.omegasales.com

Mel Foster Company
Iowa, USA
Email: sonja@melfoster.com
Website: www.melfoster.com

Mel Foster Company
North Dakota, USA
Email: kristine@melfoster.com
Website: www.melfoster.com

Mel Foster Company
South Dakota, USA
Email: kristine@melfoster.com
Website: www.melfoster.com

Mel Foster Company
Minnesota, USA
Email: kristine@melfoster.com
Website: www.melfoster.com

Mel Foster Company
Northwest Wisconsin, USA
Email: kristine@melfoster.com
Website: www.melfoster.com

Luscombe Engineering Company
Northern California, USA
Email: dbrown@lecsf.com
Website: www.lecsf.com

Luscombe Engineering Company
Northern Nevada, All products, USA
Email: dbrown@lecsf.com
Website: www.lecsf.com

Innovatech Rocky Mountains
Colorado, USA
Email: ggoodenow@innovatechrm.com
Website: www.innovatechrm.com

Innovatech Rocky Mountains
Utah, USA
Email: ggoodenow@innovatechrm.com
Website: www.innovatechrm.com

Innovatech Rocky Mountains
Montana, USA
Email: ggoodenow@innovatechrm.com
Website: www.innovatechrm.com

Innovatech Rocky Mountains
Wyoming, USA
Email: ggoodenow@innovatechrm.com
Website: www.innovatechrm.com

HLC Ltd
Northern Illinois, USA
Email: djohnson@hlcltd.com
Website: www.hlcltd.com

HLC Ltd
Southeast Wisconsin, USA
Email: djohnson@hlcltd.com
Website: www.hlcltd.com

Fusion Sourcing Group
New York, USA
Email: TDKsales@fusionsourcing.com
Website: www.fusionsourcing.com

Fusion Sourcing Group
Northern New Jersey, USA
Email: TDKsales@fusionsourcing.com
Website: www.fusionsourcing.com

Enco Marketing
Michigan, USA
Email: Brett.kauffman@encomarketing.com
Website: www.encomarketing.com

Electro Reps Inc
Kentucky, USA
Email: eri@electro-reps.com
Website: www.electro-reps.com

Electro Reps Inc
Ohio, USA
Email: eri@electro-reps.com
Website: www.electro-reps.com

Electro Reps Inc
Indiana, USA
Email: eri@electro-reps.com
Website: www.electro-reps.com

Electro Reps Inc
Western Pennsylvania, USA
Email: eri@electro-reps.com
Website: www.electro-reps.com

Earl & Brown Co., Inc.
Washington, USA
Email: dpoulos@earlbrownrep.com
Website: www.earlbrownrep.com

Earl & Brown Co., Inc.
Idaho, USA
Email: dpoulos@earlbrownrep.com
Website: www.earlbrownrep.com

Earl & Brown Co., Inc.
Oregon, USA
Email: jchinn@earlbrownrep.com
Website: www.earlbrownrep.com

TDK Corporation of America
475 Half Day Road
Lincolnshire, IL 60069-2934
Web: http://www.tdk.com
Reps: http://www.tdk.com/rep.php
Sales: http://www.tdk.com/sales.php
Distributors: http://www.tdk.com/distributor.php