

## MULTILAYER CERAMIC CHIP CAPACITORS



### **CGJ Series High Reliability Grade General (Up to 50V)**

**Type:**

**CGJ2 [EIA CC0402]  
CGJ3 [EIA CC0603]  
CGJ4 [EIA CC0805]  
CGJ5 [EIA CC1206]  
CGJ6 [EIA CC1210]**



## REMINDERS

Please read before using this product

### SAFETY REMINDERS



### REMINDERS

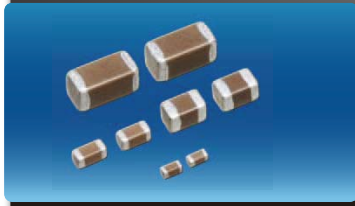
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Notice: Effective January 2013, TDK will use a new catalog number which adds product thickness and packaging specification detail. This new catalog number should be referenced on all catalog orders going forward, and is not applicable for OEM part 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(080AA) | C1608C0G1E103JT000N                  |
| January 2013 and Later | C1608C0G1E103J080AA   | C1608C0G1E103JT000N                  |

# MULTILAYER CERAMIC CHIP CAPACITORS



## CGJ Series General (Up to 50V)

Type: CGJ2 [EIA CC0402], CGJ3 [EIA CC0603], CGJ4 [EIA CC0805],  
CGJ5 [EIA CC1206], CGJ6 [EIA CC1210]

### Features

- Highly reliable products with long lifespans.
- Reliability tests based on AEC-Q200 requirements.
- Guaranteed TC Bias.
- UHF (Ultra High Frequency) RFID tag to allow integration with customer RFID programs such as inventory management is available by option.
- Tamper proof seal to assist in the identification of authentic TDK CGJ products.
- CGJ customer priority backed by TDK factory support.

### Applications

- Smart Meter, Smart Grid, LED Lighting
- Industrial Application, Telecom Base Station
- Solar Micro-inverters, Charging station
- Military Communication Equipment
- Class 1 & 2 Medical Equipment
- Applications that require extended life performance

### Shape & Dimensions



|   |                  |
|---|------------------|
| L | Body Length      |
| W | Body Width       |
| T | Body Height      |
| B | Terminal Width   |
| G | Terminal Spacing |

### Catalog Number Construction

**CGJ • 5 • L • 2 • X7R • 1A • 106 • K • 160 • A • A**

#### Series Name

#### Dimensions L x W (mm)

| Code | Length      | Width       | Terminal  |
|------|-------------|-------------|-----------|
| 2    | 1.00 ± 0.05 | 0.50 ± 0.05 | 0.10 min. |
| 3    | 1.60 ± 0.10 | 0.80 ± 0.10 | 0.20 min. |
| 4    | 2.00 ± 0.20 | 1.25 ± 0.20 | 0.20 min. |
| 5    | 3.20 ± 0.20 | 1.60 ± 0.20 | 0.20 min. |
| 6    | 3.20 ± 0.40 | 2.50 ± 0.30 | 0.20 min. |

\* Standard dimensions

#### Thickness T Code (mm)

| Code | Thickness |
|------|-----------|
| B    | 0.50 mm   |
| C    | 0.60 mm   |
| E    | 0.80 mm   |
| F    | 0.85 mm   |
| H    | 1.15 mm   |
| J    | 1.25 mm   |
| L    | 1.60 mm   |
| M    | 2.00 mm   |
| N    | 2.30 mm   |
| P    | 2.50 mm   |

#### 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. |

#### 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     |

#### Rated Voltage (DC)

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

#### 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

#### Capacitance Tolerance

| Code | Tolerance |
|------|-----------|
| C    | ± 0.25 pF |
| D    | ± 0.5 pF  |
| J    | ± 5%      |
| K    | ± 10%     |

#### Nominal 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   |
| 160  | 1.60 mm   |
| 200  | 2.00 mm   |
| 230  | 2.30 mm   |
| 250  | 2.50 mm   |

#### Packaging Style

| Code | Style                   |
|------|-------------------------|
| A    | 178 mm Reel, 4 mm Pitch |
| B    | 178 mm Reel, 2 mm Pitch |

#### Special Reserved Code

| Code   | Description       |
|--------|-------------------|
| A to C | TDK Internal Code |

# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Chart

## CGJ2(1005) [EIA CC0402]

### Capacitance Range Chart

Temperature Characteristics: C0G ( $0 \pm 30\text{ppm}/^\circ\text{C}$ ), X7R ( $\pm 15\%$ )

Rated Voltage: 50V (1H), 25V (1E), 16V (1C)

| Capacitance |      | Tolerance               | C0G         | X7R         |             |             |
|-------------|------|-------------------------|-------------|-------------|-------------|-------------|
| (pF)        | Code |                         | 1H<br>(50V) | 1H<br>(50V) | 1E<br>(25V) | 1C<br>(16V) |
| 1           | 010  | C : $\pm 0.25\text{pF}$ |             |             |             |             |
| 1.5         | 1R5  |                         |             |             |             |             |
| 2           | 020  |                         |             |             |             |             |
| 2.2         | 2R2  |                         |             |             |             |             |
| 3           | 030  |                         |             |             |             |             |
| 3.3         | 3R3  |                         |             |             |             |             |
| 4           | 040  |                         |             |             |             |             |
| 4.7         | 4R7  |                         |             |             |             |             |
| 5           | 050  |                         |             |             |             |             |
| 6           | 060  | D : $\pm 0.5\text{pF}$  |             |             |             |             |
| 6.8         | 6R8  |                         |             |             |             |             |
| 7           | 070  |                         |             |             |             |             |
| 8           | 080  |                         |             |             |             |             |
| 9           | 090  |                         |             |             |             |             |
| 10          | 100  |                         |             |             |             |             |
| 12          | 120  | J : $\pm 5\%$           |             |             |             |             |
| 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  | C0G;<br>J : $\pm 5\%$   |             |             |             |             |
| 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  |                         |             |             |             |             |
|             |      | X7R;<br>K : $\pm 10\%$  |             |             |             |             |
|             |      |                         |             |             |             |             |
|             |      |                         |             |             |             |             |
|             |      |                         |             |             |             |             |
|             |      |                         |             |             |             |             |
|             |      |                         |             |             |             |             |

Standard Thickness  0.50 mm

# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Chart

## CGJ3(1608) [EIA CC0603]

### Capacitance Range Chart

Temperature Characteristics: C0G ( $0 \pm 30\text{ppm}/^\circ\text{C}$ ), X7R ( $\pm 15\%$ )

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

| Capacitance |      | Tolerance              | C0G      | X7R      |          |          |          |           |
|-------------|------|------------------------|----------|----------|----------|----------|----------|-----------|
| (pF)        | Code |                        | 1H (50V) | 1H (50V) | 1E (25V) | 1C (16V) | 1A (10V) | 0J (6.3V) |
| 1           | 010  | C: $\pm 0.25\text{pF}$ |          |          |          |          |          |           |
| 1.5         | 1R5  |                        |          |          |          |          |          |           |
| 2           | 020  |                        |          |          |          |          |          |           |
| 2.2         | 2R2  |                        |          |          |          |          |          |           |
| 3           | 030  |                        |          |          |          |          |          |           |
| 3.3         | 3R3  |                        |          |          |          |          |          |           |
| 4           | 040  |                        |          |          |          |          |          |           |
| 4.7         | 4R7  |                        |          |          |          |          |          |           |
| 5           | 050  | D: $\pm 0.5\text{pF}$  |          |          |          |          |          |           |
| 6           | 060  |                        |          |          |          |          |          |           |
| 6.8         | 6R8  |                        |          |          |          |          |          |           |
| 7           | 070  |                        |          |          |          |          |          |           |
| 8           | 080  |                        |          |          |          |          |          |           |
| 9           | 090  |                        |          |          |          |          |          |           |
| 10          | 100  |                        |          |          |          |          |          |           |
| 12          | 120  | J: $\pm 5\%$           |          |          |          |          |          |           |
| 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  | C0G;<br>J: $\pm 5\%$   |          |          |          |          |          |           |
| 15,000      | 153  |                        |          |          |          |          |          |           |
| 22,000      | 223  | X7R;<br>K: $\pm 10\%$  |          |          |          |          |          |           |
| 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  |                        |          |          |          |          |          |           |

Standard Thickness  
0.80 mm

⚠ 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.

# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Chart

## CGJ4(2012) [EIA CC0805]

### Capacitance Range Chart

Temperature Characteristics: C0G ( $0 \pm 30\text{ppm}/^\circ\text{C}$ ), X7R ( $\pm 15\%$ )

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

| Capacitance |      | Tolerance              | C0G         | X7R         |             |             |             |              |
|-------------|------|------------------------|-------------|-------------|-------------|-------------|-------------|--------------|
| (pF)        | Code |                        | 1H<br>(50V) | 1H<br>(50V) | 1E<br>(25V) | 1C<br>(16V) | 1A<br>(10V) | 0J<br>(6.3V) |
| 100         | 101  | J : $\pm 5\%$          |             |             |             |             |             |              |
| 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  | C0G;<br>J : $\pm 5\%$  |             |             |             |             |             |              |
| 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  | X7R;<br>K : $\pm 10\%$ |             |             |             |             |             |              |
| 4,700,000   | 475  |                        |             |             |             |             |             |              |
| 6,800,000   | 685  |                        |             |             |             |             |             |              |
| 10,000,000  | 106  |                        |             |             |             |             |             |              |
|             |      |                        |             |             |             |             |             |              |

Standard Thickness

|  |         |
|--|---------|
|  | 0.60 mm |
|  | 0.85 mm |
|  | 1.25 mm |

# MULTILAYER CERAMIC CHIP CAPACITORS



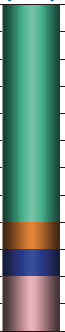
## Capacitance Range Chart

## CGJ5(3216) [EIA CC1206]

### Capacitance Range Chart

Temperature Characteristics: C0G ( $0 \pm 30\text{ppm}/^\circ\text{C}$ ), X7R ( $\pm 15\%$ )

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

| Capacitance |      | Tolerance     | C0G                                                                               | X7R                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-------------|------|---------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| (pF)        | Code |               | 1H (50V)                                                                          | 1H (50V)                                                                          | 1E (25V)                                                                          | 1C (16V)                                                                          | 1A (10V)                                                                          | 0J (6.3V)                                                                         |
| 3,900       | 392  | J: $\pm 5\%$  |  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| 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  |               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| 470,000     | 474  | K: $\pm 10\%$ |                                                                                   |  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| 680,000     | 684  |               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| 1,000,000   | 105  |               |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |                                                                                   |
| 1,500,000   | 155  |               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| 2,200,000   | 225  |               |                                                                                   |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |
| 3,300,000   | 335  |               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| 4,700,000   | 475  |               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |  |                                                                                   |
| 6,800,000   | 685  |               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| 10,000,000  | 106  |               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |  |
|             |      |               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |

Standard Thickness

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

## Capacitance Range Chart

## CGJ6(3225) [EIA CC1210]

### Capacitance Range Chart

Temperature Characteristics: X7R ( $\pm 15\%$ ), X7S ( $\pm 22\%$ )

Rated Voltage: 50V (1H), 25V (1E), 16V (1C)

| Capacitance |      | Tolerance     | X7R                                                                                 |                                                                                     |                                                                                     | X7S                                                                                 |
|-------------|------|---------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| (pF)        | Code |               | 1H (50V)                                                                            | 1E (25V)                                                                            | 1C (16V)                                                                            | 1H (50V)                                                                            |
| 1,000,000   | 105  | K: $\pm 10\%$ |  |  |  |                                                                                     |
| 1,500,000   | 155  |               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| 4,700,000   | 475  |               |                                                                                     |                                                                                     |                                                                                     |  |
| 6,800,000   | 685  |               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
| 10,000,000  | 106  |               |                                                                                     |                                                                                     |                                                                                     |                                                                                     |

Standard Thickness

|                                                                                     |         |
|-------------------------------------------------------------------------------------|---------|
|  | 1.60 mm |
|  | 2.00 mm |
|  | 2.30 mm |
|  | 2.50 mm |

# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Table

### Class 1 (Temperature Compensating)

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

| Capacitance | Size | Thickness (mm) | Capacitance Tolerance | Catalog Number         |
|-------------|------|----------------|-----------------------|------------------------|
|             |      |                |                       | Rated Voltage Edc: 50V |
| 1 pF        | 1005 | 0.50 ± 0.05    | ± 0.25pF              | CGJ2B2C0G1H010C050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 0.25pF              | CGJ3E2C0G1H010C080AA   |
| 1.5 pF      | 1005 | 0.50 ± 0.05    | ± 0.25pF              | CGJ2B2C0G1H1R5C050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 0.25pF              | CGJ3E2C0G1H1R5C080AA   |
| 2 pF        | 1005 | 0.50 ± 0.05    | ± 0.25pF              | CGJ2B2C0G1H020C050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 0.25pF              | CGJ3E2C0G1H020C080AA   |
| 2.2 pF      | 1005 | 0.50 ± 0.05    | ± 0.25pF              | CGJ2B2C0G1H2R2C050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 0.25pF              | CGJ3E2C0G1H2R2C080AA   |
| 3 pF        | 1005 | 0.50 ± 0.05    | ± 0.25pF              | CGJ2B2C0G1H030C050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 0.25pF              | CGJ3E2C0G1H030C080AA   |
| 3.3 pF      | 1005 | 0.50 ± 0.05    | ± 0.25pF              | CGJ2B2C0G1H3R3C050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 0.25pF              | CGJ3E2C0G1H3R3C080AA   |
| 4 pF        | 1005 | 0.50 ± 0.05    | ± 0.25pF              | CGJ2B2C0G1H040C050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 0.25pF              | CGJ3E2C0G1H040C080AA   |
| 4.7 pF      | 1005 | 0.50 ± 0.05    | ± 0.25pF              | CGJ2B2C0G1H4R7C050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 0.25pF              | CGJ3E2C0G1H4R7C080AA   |
| 5 pF        | 1005 | 0.50 ± 0.05    | ± 0.25pF              | CGJ2B2C0G1H050C050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 0.25pF              | CGJ3E2C0G1H050C080AA   |
| 6 pF        | 1005 | 0.50 ± 0.05    | ± 0.5pF               | CGJ2B2C0G1H060D050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 0.5pF               | CGJ3E2C0G1H060D080AA   |
| 6.8 pF      | 1005 | 0.50 ± 0.05    | ± 0.5pF               | CGJ2B2C0G1H6R8D050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 0.5pF               | CGJ3E2C0G1H6R8D080AA   |
| 7 pF        | 1005 | 0.50 ± 0.05    | ± 0.5pF               | CGJ2B2C0G1H070D050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 0.5pF               | CGJ3E2C0G1H070D080AA   |
| 8 pF        | 1005 | 0.50 ± 0.05    | ± 0.5pF               | CGJ2B2C0G1H080D050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 0.5pF               | CGJ3E2C0G1H080D080AA   |
| 9 pF        | 1005 | 0.50 ± 0.05    | ± 0.5pF               | CGJ2B2C0G1H090D050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 0.5pF               | CGJ3E2C0G1H090D080AA   |
| 10 pF       | 1005 | 0.50 ± 0.05    | ± 0.5pF               | CGJ2B2C0G1H100D050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 0.5pF               | CGJ3E2C0G1H100D080AA   |
| 12 pF       | 1005 | 0.50 ± 0.05    | ± 5pF                 | CGJ2B2C0G1H120J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5pF                 | CGJ3E2C0G1H120J080AA   |
| 15 pF       | 1005 | 0.50 ± 0.05    | ± 5pF                 | CGJ2B2C0G1H150J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5pF                 | CGJ3E2C0G1H150J080AA   |
| 18 pF       | 1005 | 0.50 ± 0.05    | ± 5pF                 | CGJ2B2C0G1H180J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5pF                 | CGJ3E2C0G1H180J080AA   |
| 22 pF       | 1005 | 0.50 ± 0.05    | ± 5pF                 | CGJ2B2C0G1H220J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5pF                 | CGJ3E2C0G1H220J080AA   |
| 27 pF       | 1005 | 0.50 ± 0.05    | ± 5pF                 | CGJ2B2C0G1H270J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5pF                 | CGJ3E2C0G1H270J080AA   |
| 33 pF       | 1005 | 0.50 ± 0.05    | ± 5pF                 | CGJ2B2C0G1H330J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5pF                 | CGJ3E2C0G1H330J080AA   |
| 39 pF       | 1005 | 0.50 ± 0.05    | ± 5pF                 | CGJ2B2C0G1H390J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5pF                 | CGJ3E2C0G1H390J080AA   |
| 47 pF       | 1005 | 0.50 ± 0.05    | ± 5pF                 | CGJ2B2C0G1H470J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5pF                 | CGJ3E2C0G1H470J080AA   |
| 56 pF       | 1005 | 0.50 ± 0.05    | ± 5pF                 | CGJ2B2C0G1H560J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5pF                 | CGJ3E2C0G1H560J080AA   |
| 68 pF       | 1005 | 0.50 ± 0.05    | ± 5pF                 | CGJ2B2C0G1H680J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5pF                 | CGJ3E2C0G1H680J080AA   |
| 82 pF       | 1005 | 0.50 ± 0.05    | ± 5pF                 | CGJ2B2C0G1H820J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5pF                 | CGJ3E2C0G1H820J080AA   |
| 100 pF      | 1005 | 0.50 ± 0.05    | ± 5%                  | CGJ2B2C0G1H101J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H101J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H101J060AA   |
| 120 pF      | 1005 | 0.50 ± 0.05    | ± 5%                  | CGJ2B2C0G1H121J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H121J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H121J060AA   |
| 150 pF      | 1005 | 0.50 ± 0.05    | ± 5%                  | CGJ2B2C0G1H151J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H151J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H151J060AA   |



# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Table

### Class 1 (Temperature Compensating)

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

| Capacitance | Size | Thickness (mm) | Capacitance Tolerance | Catalog Number         |
|-------------|------|----------------|-----------------------|------------------------|
|             |      |                |                       | Rated Voltage Edc: 50V |
| 180 pF      | 1005 | 0.50 ± 0.05    | ± 5%                  | CGJ2B2C0G1H181J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H181J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H181J060AA   |
| 220 pF      | 1005 | 0.50 ± 0.05    | ± 5%                  | CGJ2B2C0G1H221J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H221J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H221J060AA   |
| 270 pF      | 1005 | 0.50 ± 0.05    | ± 5%                  | CGJ2B2C0G1H271J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H271J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H271J060AA   |
| 330 pF      | 1005 | 0.50 ± 0.05    | ± 5%                  | CGJ2B2C0G1H331J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H331J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H331J060AA   |
| 390 pF      | 1005 | 0.50 ± 0.05    | ± 5%                  | CGJ2B2C0G1H391J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H391J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H391J060AA   |
| 470 pF      | 1005 | 0.50 ± 0.05    | ± 5%                  | CGJ2B2C0G1H471J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H471J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H471J060AA   |
| 560 pF      | 1005 | 0.50 ± 0.05    | ± 5%                  | CGJ2B2C0G1H561J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H561J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H561J060AA   |
| 680 pF      | 1005 | 0.50 ± 0.05    | ± 5%                  | CGJ2B2C0G1H681J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H681J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H681J060AA   |
| 820 pF      | 1005 | 0.50 ± 0.05    | ± 5%                  | CGJ2B2C0G1H821J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H821J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H821J060AA   |
| 1 nF        | 1005 | 0.50 ± 0.05    | ± 5%                  | CGJ2B2C0G1H102J050BA   |
|             | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H102J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H102J060AA   |
| 1.2 nF      | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H122J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H122J060AA   |
| 1.5 nF      | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H152J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H152J060AA   |
| 1.8 nF      | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H182J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H182J060AA   |
| 2.2 nF      | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H222J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H222J060AA   |
| 2.7 nF      | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H272J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H272J060AA   |
| 3.3 nF      | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H332J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H332J060AA   |
| 3.9 nF      | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H392J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H392J060AA   |
| 4.7 nF      | 3216 | 0.60 ± 0.15    | ± 5%                  | CGJ5C2C0G1H392J060AA   |
|             | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H472J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H472J060AA   |
| 5.6 nF      | 3216 | 0.60 ± 0.15    | ± 5%                  | CGJ5C2C0G1H472J060AA   |
|             | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H562J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H562J060AA   |
| 6.8 nF      | 3216 | 0.60 ± 0.15    | ± 5%                  | CGJ5C2C0G1H562J060AA   |
|             | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H682J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H682J060AA   |
| 8.2 nF      | 3216 | 0.60 ± 0.15    | ± 5%                  | CGJ5C2C0G1H682J060AA   |
|             | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H822J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H822J060AA   |
| 10 nF       | 3216 | 0.60 ± 0.15    | ± 5%                  | CGJ5C2C0G1H822J060AA   |
|             | 1608 | 0.80 ± 0.10    | ± 5%                  | CGJ3E2C0G1H103J080AA   |
|             | 2012 | 0.60 ± 0.15    | ± 5%                  | CGJ4C2C0G1H103J060AA   |
|             | 3216 | 0.60 ± 0.15    | ± 5%                  | CGJ5C2C0G1H103J060AA   |

# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Table

### Class 1 (Temperature Compensating)

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

| Capacitance | Size | Thickness (mm) | Capacitance Tolerance | Catalog Number         |
|-------------|------|----------------|-----------------------|------------------------|
|             |      |                |                       | Rated Voltage Edc: 50V |
| 15 nF       | 2012 | 0.85 ± 0.15    | ± 5%                  | CGJ4F2C0G1H153J085AA   |
|             | 3216 | 0.60 ± 0.15    | ± 5%                  | CGJ5C2C0G1H153J060AA   |
| 22 nF       | 2012 | 1.25 ± 0.20    | ± 5%                  | CGJ4J2C0G1H223J125AA   |
|             | 3216 | 0.60 ± 0.15    | ± 5%                  | CGJ5C2C0G1H223J060AA   |
| 33 nF       | 2012 | 1.25 ± 0.20    | ± 5%                  | CGJ4J2C0G1H333J125AA   |
|             | 3216 | 0.85 ± 0.15    | ± 5%                  | CGJ5F2C0G1H333J085AA   |
| 47 nF       | 3216 | 1.15 ± 0.15    | ± 5%                  | CGJ5H2C0G1H473J115AA   |
| 68 nF       | 3216 | 1.60 ± 0.20    | ± 5%                  | CGJ5L2C0G1H683J160AA   |
| 100 nF      | 3216 | 1.60 ± 0.20    | ± 5%                  | CGJ5L2C0G1H104J160AA   |

### Class 2 (Temperature Stable)

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

| Capacitance | Size | Thickness (mm)    | Capacitance Tolerance | Catalog Number         |                        |                        |                        |
|-------------|------|-------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|
|             |      |                   |                       | Rated Voltage Edc: 50V | Rated Voltage Edc: 25V | Rated Voltage Edc: 16V | Rated Voltage Edc: 10V |
| 1 nF        | 1005 | 0.50 ± 0.05       | ± 10%                 | CGJ2B2X7R1H102K050BA   | CGJ2B2X7R1E102K050BA   | CGJ2B2X7R1C102K050BA   |                        |
| 1.5 nF      | 1005 | 0.50 ± 0.05       | ± 10%                 | CGJ2B2X7R1H152K050BA   | CGJ2B2X7R1E152K050BA   | CGJ2B2X7R1C152K050BA   |                        |
| 2.2 nF      | 1005 | 0.50 ± 0.05       | ± 10%                 | CGJ2B2X7R1H222K050BA   | CGJ2B2X7R1E222K050BA   | CGJ2B2X7R1C222K050BA   |                        |
| 3.3 nF      | 1005 | 0.50 ± 0.05       | ± 10%                 | CGJ2B2X7R1H332K050BA   | CGJ2B2X7R1E332K050BA   | CGJ2B2X7R1C332K050BA   |                        |
| 4.7 nF      | 1005 | 0.50 ± 0.05       | ± 10%                 | CGJ2B2X7R1H472K050BA   | CGJ2B2X7R1E472K050BA   | CGJ2B2X7R1C472K050BA   |                        |
| 6.8 nF      | 1005 | 0.50 ± 0.05       | ± 10%                 | CGJ2B2X7R1H682K050BA   | CGJ2B2X7R1E682K050BA   | CGJ2B2X7R1C682K050BA   |                        |
| 10 nF       | 1005 | 0.50 ± 0.05       | ± 10%                 | CGJ2B3X7R1H103K050BB   | CGJ2B2X7R1E103K050BA   | CGJ2B2X7R1C103K050BA   |                        |
|             | 1608 | 0.80 ± 0.10       | ± 10%                 | CGJ3E2X7R1H103K080AA   | CGJ3E2X7R1E103K080AA   | CGJ3E2X7R1C103K080AA   |                        |
| 15 nF       | 1005 | 0.50 ± 0.05       | ± 10%                 | CGJ2B3X7R1H153K050BB   | CGJ2B2X7R1E153K050BA   | CGJ2B2X7R1C153K050BA   |                        |
|             | 1608 | 0.80 ± 0.10       | ± 10%                 | CGJ3E2X7R1H153K080AA   | CGJ3E2X7R1E153K080AA   | CGJ3E2X7R1C153K080AA   |                        |
| 22 nF       | 1005 | 0.50 ± 0.05       | ± 10%                 | CGJ2B3X7R1H223K050BB   | CGJ2B2X7R1E223K050BA   | CGJ2B2X7R1C223K050BA   |                        |
|             | 1608 | 0.80 ± 0.10       | ± 10%                 | CGJ3E2X7R1H223K080AA   | CGJ3E2X7R1E223K080AA   | CGJ3E2X7R1C223K080AA   |                        |
| 33 nF       | 1005 | 0.50 ± 0.05       | ± 10%                 | CGJ2B3X7R1H333K050BB   | CGJ2B2X7R1E333K050BA   | CGJ2B2X7R1C333K050BA   |                        |
|             | 1608 | 0.80 ± 0.10       | ± 10%                 | CGJ3E2X7R1H333K080AA   | CGJ3E2X7R1E333K080AA   | CGJ3E2X7R1C333K080AA   |                        |
| 47 nF       | 2012 | 1.25 ± 0.20       | ± 10%                 | CGJ4J2X7R1H333K125AA   | CGJ4J2X7R1E333K125AA   | CGJ4J2X7R1C333K125AA   |                        |
|             | 1005 | 0.50 ± 0.05       | ± 10%                 | CGJ2B3X7R1H473K050BB   | CGJ2B2X7R1E473K050BA   | CGJ2B2X7R1C473K050BA   |                        |
| 68 nF       | 1608 | 0.80 ± 0.10       | ± 10%                 | CGJ3E2X7R1H473K080AA   | CGJ3E2X7R1E473K080AA   | CGJ3E2X7R1C473K080AA   |                        |
|             | 2012 | 1.25 ± 0.20       | ± 10%                 | CGJ4J2X7R1H473K125AA   | CGJ4J2X7R1E473K125AA   | CGJ4J2X7R1C473K125AA   |                        |
| 100 nF      | 1005 | 0.50 ± 0.05       | ± 10%                 | CGJ2B3X7R1E683K050BB   | CGJ2B2X7R1E683K050BA   | CGJ2B2X7R1C683K050BA   |                        |
|             | 1608 | 0.80 ± 0.10       | ± 10%                 | CGJ3E2X7R1H683K080AA   | CGJ3E2X7R1E683K080AA   | CGJ3E2X7R1C683K080AA   |                        |
| 150 nF      | 2012 | 1.25 ± 0.20       | ± 10%                 | CGJ4J2X7R1H683K125AA   | CGJ4J2X7R1E683K125AA   | CGJ4J2X7R1C683K125AA   |                        |
|             | 1005 | 0.50 ± 0.05       | ± 10%                 | CGJ2B3X7R1E104K050BB   | CGJ2B2X7R1E104K050BA   | CGJ2B2X7R1C104K050BA   |                        |
| 220 nF      | 1608 | 0.80 ± 0.10       | ± 10%                 | CGJ3E2X7R1H104K080AA   | CGJ3E2X7R1E104K080AA   | CGJ3E2X7R1C104K080AA   |                        |
|             | 2012 | 1.25 ± 0.20       | ± 10%                 | CGJ4J2X7R1H104K125AA   | CGJ4J2X7R1E104K125AA   | CGJ4J2X7R1C104K125AA   |                        |
| 330 nF      | 1608 | 0.80 ± 0.10       | ± 10%                 | CGJ3E3X7R1H154K080AB   | CGJ3E2X7R1E154K080AA   | CGJ3E2X7R1C154K080AA   |                        |
|             | 2012 | 1.25 ± 0.20       | ± 10%                 | CGJ4J2X7R1H154K125AA   | CGJ4J2X7R1E154K125AA   | CGJ4J2X7R1C154K125AA   |                        |
| 470 nF      | 1608 | 0.80 ± 0.10       | ± 10%                 | CGJ3E3X7R1H224K080AB   | CGJ3E2X7R1E224K080AA   | CGJ3E2X7R1C224K080AA   |                        |
|             | 2012 | 1.25 ± 0.20       | ± 10%                 | CGJ4J2X7R1H224K125AA   | CGJ4J2X7R1E224K125AA   | CGJ4J2X7R1C224K125AA   | CGJ4J2X7R1A224K125AA   |
| 680 nF      | 1608 | 0.80 ± 0.10       | ± 10%                 | CGJ3E3X7R1H334K080AB   | CGJ3E2X7R1E334K080AA   | CGJ3E2X7R1C334K080AA   | CGJ3E2X7R1A334K080AA   |
|             | 2012 | 1.25 ± 0.20       | ± 10%                 | CGJ4J2X7R1H334K125AA   | CGJ4J2X7R1E334K125AA   | CGJ4J2X7R1C334K125AA   | CGJ4J2X7R1A334K125AA   |
| 1 μF        | 1608 | 0.80 ± 0.10       | ± 10%                 | CGJ3E3X7R1E474K080AB   | CGJ3E2X7R1E474K080AA   | CGJ3E2X7R1C474K080AA   | CGJ3E2X7R1A474K080AA   |
|             | 2012 | 1.25 ± 0.20       | ± 10%                 | CGJ4J2X7R1E474K125AA   | CGJ4J2X7R1E474K125AA   | CGJ4J2X7R1C474K125AA   | CGJ4J2X7R1A474K125AA   |
| 1.5 μF      | 3216 | 1.60 ± 0.30/-0.10 | ± 10%                 | CGJ5L2X7R1H474K160AA   |                        |                        |                        |
|             | 1608 | 0.80 ± 0.10       | ± 10%                 |                        | CGJ3E1X7R1E684K080AC   | CGJ3E3X7R1C684K080AB   | CGJ3E2X7R1A684K080AA   |
|             | 2012 | 1.25 ± 0.20       | ± 10%                 | CGJ4J3X7R1H684K125AB   | CGJ4J2X7R1E684K125AA   | CGJ4J2X7R1C684K125AA   | CGJ4J2X7R1A684K125AA   |
|             | 3216 | 1.60 ± 0.30/-0.10 | ± 10%                 | CGJ5L2X7R1H684K160AA   |                        |                        |                        |
|             | 1608 | 0.80 ± 0.10       | ± 10%                 |                        | CGJ3E1X7R1E105K080AC   | CGJ3E3X7R1C105K080AB   | CGJ3E2X7R1A105K080AA   |
|             | 2012 | 1.25 ± 0.20       | ± 10%                 | CGJ4J3X7R1H105K125AB   | CGJ4J2X7R1E105K125AA   | CGJ4J2X7R1C105K125AA   | CGJ4J2X7R1A105K125AA   |
|             | 3216 | 1.60 ± 0.30/-0.10 | ± 10%                 |                        | CGJ5L2X7R1E105K160AA   |                        |                        |
|             | 3225 | 1.60 ± 0.20       | ± 10%                 | CGJ6L2X7R1H105K160AA   | CGJ6L2X7R1E105K160AA   | CGJ6L2X7R1C105K160AA   |                        |
|             | 2012 | 1.25 ± 0.20       | ± 10%                 |                        | CGJ4J3X7R1E155K125AB   | CGJ4J2X7R1C155K125AA   | CGJ4J2X7R1A155K125AA   |
|             | 3216 | 1.60 ± 0.30/-0.10 | ± 10%                 | CGJ5L3X7R1H155K160AB   | CGJ5L2X7R1E155K160AA   | CGJ5L2X7R1C155K160AA   | CGJ5L2X7R1A155K160AA   |
|             | 3225 | 1.60 ± 0.20       | ± 10%                 |                        | CGJ6L2X7R1E155K160AA   | CGJ6L2X7R1C155K160AA   |                        |
|             |      | 2.00 ± 0.20       | ± 10%                 | CGJ6M2X7R1H155K200AA   |                        |                        |                        |

# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Table

### Class 2 (Temperature Stable)

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

| Capacitance | Size | Thickness (mm)   | Capacitance Tolerance | Catalog Number         |                        |                        |                        |
|-------------|------|------------------|-----------------------|------------------------|------------------------|------------------------|------------------------|
|             |      |                  |                       | Rated Voltage Edc: 50V | Rated Voltage Edc: 25V | Rated Voltage Edc: 16V | Rated Voltage Edc: 10V |
| 2.2 µF      | 2012 | 1.25 ± 0.20      | ± 10%                 |                        | CGJ4J3X7R1E225K125AB   | CGJ4J2X7R1C225K125AA   | CGJ4J2X7R1A225K125AA   |
|             | 3216 | 1.60 +0.30/-0.10 | ± 10%                 | CGJ5L3X7R1H225K160AB   | CGJ5L2X7R1E225K160AA   | CGJ5L2X7R1C225K160AA   | CGJ5L2X7R1A225K160AA   |
| 3.3 µF      | 2012 | 1.25 ± 0.20      | ± 10%                 |                        | CGJ4J1X7R1E335K125AC   | CGJ4J3X7R1C335K125AB   | CGJ4J2X7R1A335K125AA   |
|             | 3216 | 1.60 +0.30/-0.10 | ± 10%                 |                        | CGJ5L3X7R1E335K160AB   | CGJ5L2X7R1C335K160AA   | CGJ5L2X7R1A335K160AA   |
| 4.7 µF      | 2012 | 1.25 ± 0.20      | ± 10%                 |                        | CGJ4J1X7R1E475K125AC   | CGJ4J3X7R1C475K125AB   | CGJ4J2X7R1A475K125AA   |
|             | 3216 | 1.60 +0.30/-0.10 | ± 10%                 |                        | CGJ5L3X7R1E475K160AB   | CGJ5L2X7R1C475K160AA   | CGJ5L2X7R1A475K160AA   |
| 6.8 µF      | 3216 | 1.60 +0.30/-0.10 | ± 10%                 |                        |                        |                        | CGJ5L2X7R1A685K160AA   |
| 10 µF       | 3216 | 1.60 +0.30/-0.10 | ± 10%                 |                        |                        |                        | CGJ5L2X7R1A106K160AA   |

### Class 2 (Temperature Stable)

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

| Capacitance | Size | Thickness (mm)   | Capacitance Tolerance | Catalog Number          |  |
|-------------|------|------------------|-----------------------|-------------------------|--|
|             |      |                  |                       | Rated Voltage Edc: 6.3V |  |
| 220 nF      | 2012 | 1.25 ± 0.20      | ± 10%                 | CGJ4J2X7R0J224K125AA    |  |
| 330 nF      | 1608 | 0.80 ± 0.10      | ± 10%                 | CGJ3E2X7R0J334K080AA    |  |
|             | 2012 | 1.25 ± 0.20      | ± 10%                 | CGJ4J2X7R0J334K125AA    |  |
| 470 nF      | 1608 | 0.80 ± 0.10      | ± 10%                 | CGJ3E2X7R0J474K080AA    |  |
|             | 2012 | 1.25 ± 0.20      | ± 10%                 | CGJ4J2X7R0J474K125AA    |  |
| 680 nF      | 1608 | 0.80 ± 0.10      | ± 10%                 | CGJ3E2X7R0J684K080AA    |  |
|             | 2012 | 1.25 ± 0.20      | ± 10%                 | CGJ4J2X7R0J684K125AA    |  |
| 1 µF        | 1608 | 0.80 ± 0.10      | ± 10%                 | CGJ3E2X7R0J105K080AA    |  |
|             | 2012 | 1.25 ± 0.20      | ± 10%                 | CGJ4J2X7R0J105K125AA    |  |
| 1.5 µF      | 1608 | 0.80 ± 0.10      | ± 10%                 | CGJ3E1X7R0J155K080AC    |  |
|             | 2012 | 1.25 ± 0.20      | ± 10%                 | CGJ4J2X7R0J155K125AA    |  |
| 2.2 µF      | 3216 | 1.60 +0.30/-0.10 | ± 10%                 | CGJ5L2X7R0J155K160AA    |  |
|             | 1608 | 0.80 ± 0.10      | ± 10%                 | CGJ3E1X7R0J225K080AC    |  |
| 3.3 µF      | 2012 | 1.25 ± 0.20      | ± 10%                 | CGJ4J2X7R0J225K125AA    |  |
|             | 3216 | 1.60 +0.30/-0.10 | ± 10%                 | CGJ5L2X7R0J225K160AA    |  |
| 4.7 µF      | 2012 | 1.25 ± 0.20      | ± 10%                 | CGJ4J2X7R0J335K125AA    |  |
|             | 3216 | 1.60 +0.30/-0.10 | ± 10%                 | CGJ5L2X7R0J335K160AA    |  |
| 6.8 µF      | 2012 | 1.25 ± 0.20      | ± 10%                 | CGJ4J2X7R0J475K125AA    |  |
|             | 3216 | 1.60 +0.30/-0.10 | ± 10%                 | CGJ5L2X7R0J475K160AA    |  |
| 10 µF       | 2012 | 1.25 ± 0.20      | ± 10%                 | CGJ4J1X7R0J685K125AC    |  |
|             | 3216 | 1.60 +0.30/-0.10 | ± 10%                 | CGJ5L2X7R0J685K160AA    |  |
| 10 µF       | 2012 | 1.25 ± 0.20      | ± 10%                 | CGJ4J1X7R0J106K125AC    |  |
|             | 3216 | 1.60 +0.30/-0.10 | ± 10%                 | CGJ5L2X7R0J106K160AA    |  |

### Class 2 (Temperature Stable)

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

| Capacitance | Size | Thickness (mm) | Capacitance Tolerance | Catalog Number         |  |
|-------------|------|----------------|-----------------------|------------------------|--|
|             |      |                |                       | Rated Voltage Edc: 50V |  |
| 4.7 µF      | 3225 | 2.30 ± 0.20    | ± 10%                 | CGJ6N3X7S1H475K230AB   |  |
| 6.8 µF      | 3225 | 2.50 ± 0.30    | ± 10%                 | CGJ6P3X7S1H685K250AB   |  |
| 10 µF       | 3225 | 2.50 ± 0.30    | ± 10%                 | CGJ6P3X7S1H106K250AB   |  |