

## MULTILAYER CERAMIC CHIP CAPACITORS

### **CKG Series Automotive Grade MEGACAP Type**

**Type:**

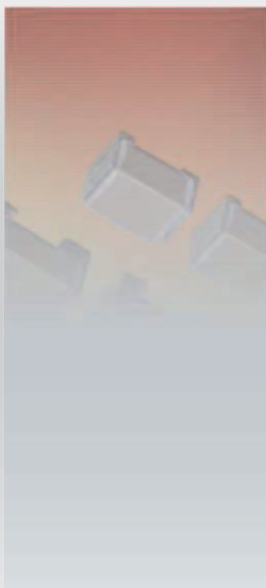
**CKG32K [EIA CC1210]**

**CKG45K [EIA CC1812]**

**CKG45N [EIA CC1812]**

**CKG57K [EIA CC2220]**

**CKG57N [EIA CC2220]**



## REMINDERS

Please read before using this product

### SAFETY REMINDERS



### REMINDERS

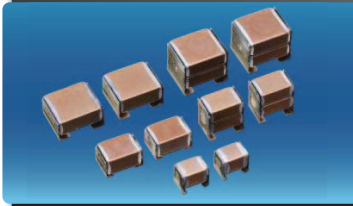
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(Example)

| 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



## CKG Series MEGACAP type

Type:CKG32K [EIA CC1210], CKG45K [EIA CC1812],  
CKG45N [EIA CC1812], CKG57K [EIA CC2220], CKG57N [EIA CC2220]

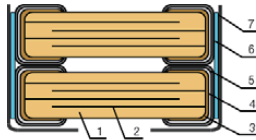
### Features

- Higher mechanical endurance is realized by metal frame connected to termination of MLCC.
- Twice capacitance is realized by double-stacked structure without changing footprint.
- Lower ESR and ESL than AI caps.
- Capable of absorbing thermal and mechanical stress.
- Improved vibration performance.
- AEC-Q200 compliant.

### Applications

- Automotive application (EPS, ABS, EV, HEV, LED lighting etc.)
- Smoothing circuits
- DC-DC converters, inverters, battery chargers
- LED, HID
- Temperature variable applications
- Piezoelectric-effect countermeasure

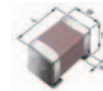
### Design structure



| No. | Name               | Material           |                    |
|-----|--------------------|--------------------|--------------------|
|     |                    | class 1            | class 2            |
| (1) | Ceramic dielectric | CaZrO <sub>3</sub> | BaTiO <sub>3</sub> |
| (2) | Inner electrode    | Nickel (Ni)        |                    |
| (3) | Terminal           | Copper (Cu)        |                    |
| (4) |                    | Nickel (Ni)        |                    |
| (5) |                    | Tin (Sn)           |                    |
| (6) | Metal frame joint  | High temp solder   |                    |
| (7) | Metal frame        | 42 alloy           |                    |

### Shape & Dimensions

Single Type



|   |                      |
|---|----------------------|
| L | Body Length          |
| W | Body Width           |
| T | Body Height          |
| E | Metal Terminal Width |

Stacked Type



|   |                      |
|---|----------------------|
| L | Body Length          |
| W | Body Width           |
| T | Body Height          |
| E | Metal Terminal Width |

### Catalog Number Construction

CKG • 57 • N • X7S • 1C • 107 • M • 500 • J • J

#### Series Name

#### Dimensions L x W (mm)

| Code | Length      | Width       | Metal Terminal Width |
|------|-------------|-------------|----------------------|
| 32   | 3.60 ± 0.30 | 2.60 ± 0.30 | 0.80 ± 0.15          |
| 45   | 5.00 ± 0.50 | 3.50 ± 0.50 | 1.10 ± 0.30          |
| 57   | 6.00 ± 0.50 | 5.00 ± 0.50 | 1.60 ± 0.30          |

#### Structure

| Code | Description  |
|------|--------------|
| K    | Single Type  |
| N    | Stacked Type |

#### Temperature Characteristics

| Temperature Characteristics | Temperature Coefficient or Capacitance Change | Temperature Range |
|-----------------------------|-----------------------------------------------|-------------------|
| C0G                         | 0±30ppm/°C                                    | -55 to +125°C     |
| X5R                         | ±15%                                          | -55 to +85°C      |
| X7R                         | ±15%                                          | -55 to +125°C     |
| X7S                         | ±22%                                          | -55 to +125°C     |
| X7T                         | +22,-33%                                      | -55 to +125°C     |

#### Rated Voltage (DC)

| Code | Voltage (DC) |
|------|--------------|
| 1C   | 16V          |
| 1E   | 25V          |
| 1H   | 50V          |
| 2A   | 100V         |
| 2E   | 250V         |
| 2W   | 450V         |
| 2J   | 630V         |
| 3A   | 1000V        |

#### 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.

Ex. 105 = 1,000,000pF = 1,000nF = 1μF; 107 = 100,000,000pF = 100,000nF = 100μF

#### Capacitance Tolerance

| Code | Tolerance |
|------|-----------|
| J    | ± 5%      |
| K    | ± 10%     |
| M    | ± 20%     |

#### Nominal Thickness

| Code | Thickness |
|------|-----------|
| 290  | 2.90mm    |
| 335  | 3.35mm    |
| 500  | 5.00mm    |

#### Packaging Style

| Code | Style                 |
|------|-----------------------|
| A    | 178mm Reel, 4mm Pitch |
| J    | 330mm Reel, 8mm Pitch |

#### Special Reserved Code

| Code | Description          |
|------|----------------------|
| J    | MEGACAP (Automotive) |

# MULTILAYER CERAMIC CHIP CAPACITORS



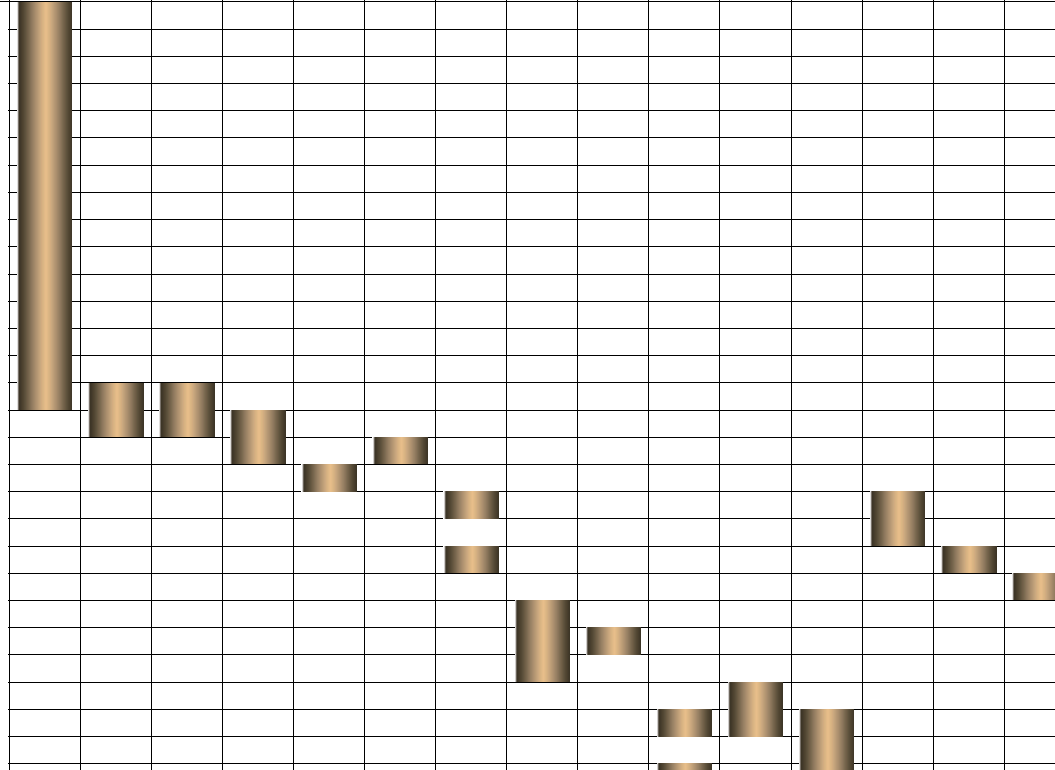
## Capacitance Range Chart

## CKG32K [EIA CC1210]

### Capacitance Range Chart

Temperature Characteristics: C0G(0±30ppm/°C), X7R (±15%), X7S (±22%), X7T (+22,-33%)

Rated voltage: 1KV (3A), 630V (2J), 450V (2W), 250V (2E), 100V (2A), 50V (1H), 25V (1E)

| Capacitance |      | Tolerance                               | C0G                                                                                 |              |              |              |              | X7R          |              |              |             |             | X7S          |             | X7T          |              |              |  |
|-------------|------|-----------------------------------------|-------------------------------------------------------------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|-------------|-------------|--------------|-------------|--------------|--------------|--------------|--|
| (pF)        | Code |                                         | 3A<br>(1KV)                                                                         | 2J<br>(630V) | 2W<br>(450V) | 2E<br>(250V) | 2A<br>(100V) | 2J<br>(630V) | 2E<br>(250V) | 2A<br>(100V) | 1H<br>(50V) | 1E<br>(25V) | 2A<br>(100V) | 1H<br>(50V) | 2J<br>(630V) | 2W<br>(450V) | 2E<br>(250V) |  |
| 1,000       | 102  | C0G ;<br>J:±5%                          |  |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 1,200       | 122  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 1,500       | 152  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 1,800       | 182  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 2,200       | 222  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 2,700       | 272  | X7R, X7S<br>X7T ;<br>K:± 10%<br>M:± 20% |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 3,300       | 332  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 3,900       | 392  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 4,700       | 472  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 5,600       | 562  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 6,800       | 682  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 8,200       | 822  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 10,000      | 103  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 15,000      | 153  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 22,000      | 223  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 33,000      | 333  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 47,000      | 473  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 68,000      | 683  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 100,000     | 104  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 150,000     | 154  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 220,000     | 224  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 330,000     | 334  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 470,000     | 474  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 1,000,000   | 105  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 2,200,000   | 225  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 3,300,000   | 335  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 4,700,000   | 475  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 6,800,000   | 685  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |
| 10,000,000  | 106  |                                         |                                                                                     |              |              |              |              |              |              |              |             |             |              |             |              |              |              |  |

Standard thickness  3.35 mm

## Capacitance Range Chart

## CKG45K [EIA CC1812]

### Capacitance Range Chart

Temperature Characteristics: X7R (±15%), X7S (±22%), X7T (+22,-33%)

Rated voltage: 630V (2J), 450V (2W), 250V (2E), 100V (2A), 50V (1H), 25V (1E), 16V (1C)

| Capacitance |      | Tolerance        | X7R          |              |              |             |             |             | X7S          |             |             | X7T          |              |              |
|-------------|------|------------------|--------------|--------------|--------------|-------------|-------------|-------------|--------------|-------------|-------------|--------------|--------------|--------------|
| (pF)        | Code |                  | 2J<br>(630V) | 2E<br>(250V) | 2A<br>(100V) | 1H<br>(50V) | 1E<br>(25V) | 1C<br>(16V) | 2A<br>(100V) | 1H<br>(50V) | 1C<br>(16V) | 2J<br>(630V) | 2W<br>(450V) | 2E<br>(250V) |
| 100,000     | 104  | K:±10%<br>M:±20% |              |              |              |             |             |             |              |             |             |              |              |              |
| 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  |                  |              |              |              |             |             |             |              |             |             |              |              |              |
| 10,000,000  | 106  | M:±20%           |              |              |              |             |             |             |              |             |             |              |              |              |
| 22,000,000  | 226  |                  |              |              |              |             |             |             |              |             |             |              |              |              |

Standard thickness  2.90 mm

# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Chart

## CKG57K [EIA CC2220]

### Capacitance Range Chart

Temperature Characteristics: X7R ( $\pm 15\%$ ), X7S ( $\pm 22\%$ ), X7T ( $+22, -33\%$ )

Rated voltage: 630V (2J), 450V (2W), 250V (2E), 100V (2A), 50V (1H), 25V (1E), 16V (1C)

| Capacitance |      | Tolerance                      | X7R          |              |              |             |             |             | X7S          |             |             | X7T          |              |              |
|-------------|------|--------------------------------|--------------|--------------|--------------|-------------|-------------|-------------|--------------|-------------|-------------|--------------|--------------|--------------|
| (pF)        | Code |                                | 2J<br>(630V) | 2E<br>(250V) | 2A<br>(100V) | 1H<br>(50V) | 1E<br>(25V) | 1C<br>(16V) | 2A<br>(100V) | 1H<br>(50V) | 1C<br>(16V) | 2J<br>(630V) | 2W<br>(450V) | 2E<br>(250V) |
| 220,000     | 224  | K: $\pm 10\%$<br>M: $\pm 20\%$ |              |              |              |             |             |             |              |             |             |              |              |              |
| 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  |                                |              |              |              |             |             |             |              |             |             |              |              |              |
| 6,800,000   | 685  |                                |              |              |              |             |             |             |              |             |             |              |              |              |
| 10,000,000  | 106  | M: $\pm 20\%$                  |              |              |              |             |             |             |              |             |             |              |              |              |
| 15,000,000  | 156  |                                |              |              |              |             |             |             |              |             |             |              |              |              |
| 22,000,000  | 226  |                                |              |              |              |             |             |             |              |             |             |              |              |              |
| 47,000,000  | 476  |                                |              |              |              |             |             |             |              |             |             |              |              |              |

Standard thickness 3.35 mm

# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Chart

# CKG45N [EIA CC1812]

### Capacitance Range Chart

Temperature Characteristics: X7R ( $\pm 15\%$ ), X7S ( $\pm 22\%$ ), X7T ( $+22, -33\%$ )

Rated voltage: 630V (2J), 450V (2W), 250V (2E), 100V (2A), 50V (1H), 25V (1E), 16V (1C)

| Capacitance |      | Tolerance     | X7R                                                                               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
|-------------|------|---------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| (pF)        | Code |               | 2J<br>(630V)                                                                      | 2E<br>(250V)                                                                      | 2A<br>(100V)                                                                      | 1H<br>(50V)                                                                       | 1E<br>(25V)                                                                       | 1C<br>(16V)                                                                       |
| 220,000     | 224  | M: $\pm 20\%$ |  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| 470,000     | 474  |               |                                                                                   |  |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| 1,000,000   | 105  |               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |
| 2,200,000   | 225  |               |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |                                                                                   |
| 3,300,000   | 335  |               |                                                                                   |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |
| 4,700,000   | 475  |               |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |                                                                                   |
| 6,800,000   | 685  |               |                                                                                   |                                                                                   |                                                                                   |  |                                                                                   |                                                                                   |
| 10,000,000  | 106  |               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |  |                                                                                   |
| 22,000,000  | 226  |               |                                                                                   |                                                                                   |                                                                                   |                                                                                   |                                                                                   |  |

| Capacitance |      | Tolerance     | X7S                                                                                 |                                                                                     |                                                                                     | X7T                                                                               |                                                                                   |                                                                                   |
|-------------|------|---------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|
| (pF)        | Code |               | 2A<br>(100V)                                                                        | 1H<br>(50V)                                                                         | 1C<br>(16V)                                                                         | 2J<br>(630V)                                                                      | 2W<br>(450V)                                                                      | 2E<br>(250V)                                                                      |
| 330,000     | 334  | M: $\pm 20\%$ |                                                                                     |                                                                                     |                                                                                     |  |                                                                                   |                                                                                   |
| 470,000     | 474  |               |                                                                                     |                                                                                     |                                                                                     |                                                                                   |                                                                                   |                                                                                   |
| 680,000     | 684  |               |                                                                                     |                                                                                     |                                                                                     |                                                                                   |  |                                                                                   |
| 1,000,000   | 105  |               |                                                                                     |                                                                                     |                                                                                     |                                                                                   |  |                                                                                   |
| 1,500,000   | 155  |               |                                                                                     |                                                                                     |                                                                                     |                                                                                   |                                                                                   |  |
| 2,200,000   | 225  |               |                                                                                     |                                                                                     |                                                                                     |                                                                                   |                                                                                   |  |
| 6,800,000   | 685  |               |  |                                                                                     |                                                                                     |                                                                                   |                                                                                   |                                                                                   |
| 10,000,000  | 106  |               |                                                                                     |  |                                                                                     |                                                                                   |                                                                                   |                                                                                   |
| 47,000,000  | 476  |               |                                                                                     |                                                                                     |  |                                                                                   |                                                                                   |                                                                                   |

Standard  
thickness  
 5.00 mm

# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Chart

## CKG57N [EIA CC2220]

### Capacitance Range Chart

Temperature Characteristics: X5R ( $\pm 15\%$ ), X7R ( $\pm 15\%$ ), X7S ( $\pm 22\%$ ), X7T ( $+22, -33\%$ )

Rated voltage: 630V (2J), 450V (2W), 250V (2E), 100V (2A), 50V (1H), 25V (1E), 16V (1C)

| Capacitance |      | Tolerance | X5R          |             |             |             | X7R          |              |              |             |             |             |
|-------------|------|-----------|--------------|-------------|-------------|-------------|--------------|--------------|--------------|-------------|-------------|-------------|
| (pF)        | Code |           | 2A<br>(100V) | 1H<br>(50V) | 1E<br>(25V) | 1C<br>(16V) | 2J<br>(630V) | 2E<br>(250V) | 2A<br>(100V) | 1H<br>(50V) | 1E<br>(25V) | 1C<br>(16V) |
| 470,000     | 474  | M:±20%    |              |             |             |             |              |              |              |             |             |             |
| 1,000,000   | 105  |           |              |             |             |             |              |              |              |             |             |             |
| 2,200,000   | 225  |           |              |             |             |             |              |              |              |             |             |             |
| 4,700,000   | 475  |           |              |             |             |             |              |              |              |             |             |             |
| 10,000,000  | 106  |           |              |             |             |             |              |              |              |             |             |             |
| 22,000,000  | 226  |           |              |             |             |             |              |              |              |             |             |             |
| 33,000,000  | 336  |           |              |             |             |             |              |              |              |             |             |             |
| 47,000,000  | 476  |           |              |             |             |             |              |              |              |             |             |             |
| 100,000,000 | 107  |           |              |             |             |             |              |              |              |             |             |             |

| Capacitance |      | Tolerance     | X7S          |             |             |             | X7T          |              |              |
|-------------|------|---------------|--------------|-------------|-------------|-------------|--------------|--------------|--------------|
| (pF)        | Code |               | 2A<br>(100V) | 1H<br>(50V) | 1E<br>(25V) | 1C<br>(16V) | 2J<br>(630V) | 2W<br>(450V) | 2E<br>(250V) |
| 680,000     | 684  | M: $\pm 20\%$ |              |             |             |             |              |              |              |
| 1,000,000   | 105  |               |              |             |             |             |              |              |              |
| 1,500,000   | 155  |               |              |             |             |             |              |              |              |
| 2,200,000   | 225  |               |              |             |             |             |              |              |              |
| 3,300,000   | 335  |               |              |             |             |             |              |              |              |
| 22,000,000  | 226  |               |              |             |             |             |              |              |              |
| 47,000,000  | 476  |               |              |             |             |             |              |              |              |
| 100,000,000 | 107  |               |              |             |             |             |              |              |              |

Standard

thickness

5.00 mm

# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Table

### Class 1 (Temperature Compensating)

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

| Capacitance | Dimensions | Thickness (mm) | Capacitance Tolerance | Catalog number         |                         |                         |                         |                         |
|-------------|------------|----------------|-----------------------|------------------------|-------------------------|-------------------------|-------------------------|-------------------------|
|             |            |                |                       | Rated voltage Edc: 1KV | Rated voltage Edc: 630V | Rated voltage Edc: 450V | Rated voltage Edc: 250V | Rated voltage Edc: 100V |
| 1 nF        | 3225       | 3.35±0.10      | ±5%                   | CKG32KC0G3A102J335AJ   |                         |                         |                         |                         |
| 1.2 nF      | 3225       | 3.35±0.10      | ±5%                   | CKG32KC0G3A122J335AJ   |                         |                         |                         |                         |
| 1.5 nF      | 3225       | 3.35±0.10      | ±5%                   | CKG32KC0G3A152J335AJ   |                         |                         |                         |                         |
| 1.8 nF      | 3225       | 3.35±0.10      | ±5%                   | CKG32KC0G3A182J335AJ   |                         |                         |                         |                         |
| 2.2 nF      | 3225       | 3.35±0.10      | ±5%                   | CKG32KC0G3A222J335AJ   |                         |                         |                         |                         |
| 2.7 nF      | 3225       | 3.35±0.10      | ±5%                   | CKG32KC0G3A272J335AJ   |                         |                         |                         |                         |
| 3.3 nF      | 3225       | 3.35±0.10      | ±5%                   | CKG32KC0G3A332J335AJ   |                         |                         |                         |                         |
| 3.9 nF      | 3225       | 3.35±0.10      | ±5%                   | CKG32KC0G3A392J335AJ   |                         |                         |                         |                         |
| 4.7 nF      | 3225       | 3.35±0.10      | ±5%                   | CKG32KC0G3A472J335AJ   |                         |                         |                         |                         |
| 5.6 nF      | 3225       | 3.35±0.10      | ±5%                   | CKG32KC0G3A562J335AJ   |                         |                         |                         |                         |
| 6.8 nF      | 3225       | 3.35±0.10      | ±5%                   | CKG32KC0G3A682J335AJ   |                         |                         |                         |                         |
| 8.2 nF      | 3225       | 3.35±0.10      | ±5%                   | CKG32KC0G3A822J335AJ   |                         |                         |                         |                         |
| 10 nF       | 3225       | 3.35±0.10      | ±5%                   | CKG32KC0G3A103J335AJ   |                         |                         |                         |                         |
| 15 nF       | 3225       | 3.35±0.10      | ±5%                   | CKG32KC0G3A153J335AJ   |                         |                         |                         |                         |
| 22 nF       | 3225       | 3.35±0.10      | ±5%                   | CKG32KC0G3A223J335AJ   | CKG32KC0G2J223J335AJ    | CKG32KC0G2W223J335AJ    |                         |                         |
| 33 nF       | 3225       | 3.35±0.10      | ±5%                   |                        | CKG32KC0G2J333J335AJ    | CKG32KC0G2W333J335AJ    | CKG32KC0G2E333J335AJ    |                         |
| 47 nF       | 3225       | 3.35±0.10      | ±5%                   |                        |                         |                         | CKG32KC0G2E473J335AJ    |                         |
| 68 nF       | 3225       | 3.35±0.10      | ±5%                   |                        |                         |                         |                         | CKG32KC0G2A683J335AJ    |

### Class 2 (Temperature Stable)

Temperature Characteristics: X5R (-55 to +85°C, ±15%)

| Capacitance | Dimensions | Thickness (mm) | Capacitance Tolerance | Catalog number          |                        |                        |                        |
|-------------|------------|----------------|-----------------------|-------------------------|------------------------|------------------------|------------------------|
|             |            |                |                       | Rated voltage Edc: 100V | Rated voltage Edc: 50V | Rated voltage Edc: 25V | Rated voltage Edc: 16V |
| 10 µF       | 5750       | 5.00±0.50      | ±20%                  | CKG57NX5R2A106M500JJ    |                        |                        |                        |
| 22 µF       | 5750       | 5.00±0.50      | ±20%                  |                         | CKG57NX5R1H226M500JJ   |                        |                        |
| 47 µF       | 5750       | 5.00±0.50      | ±20%                  |                         |                        | CKG57NX5R1E476M500JJ   |                        |
| 100 µF      | 5750       | 5.00±0.50      | ±20%                  |                         |                        |                        | CKG57NX5R1C107M500JJ   |



# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Table

### Class 2 (Temperature Stable)

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

| Capacitance | Dimensions | Thickness (mm) | Capacitance Tolerance | Catalog number          |                         |                         |                        |
|-------------|------------|----------------|-----------------------|-------------------------|-------------------------|-------------------------|------------------------|
|             |            |                |                       | Rated voltage Edc: 630V | Rated voltage Edc: 250V | Rated voltage Edc: 100V | Rated voltage Edc: 50V |
| 47 nF       | 3225       | 3.35±0.10      | ±10%                  | CKG32KX7R2J473K335AJ    |                         |                         |                        |
|             |            |                | ±20%                  | CKG32KX7R2J473M335AJ    |                         |                         |                        |
| 100 nF      | 3225       | 3.35±0.10      | ±10%                  |                         | CKG32KX7R2E104K335AJ    |                         |                        |
|             |            |                | ±20%                  |                         | CKG32KX7R2E104M335AJ    |                         |                        |
|             | 4532       | 2.90±0.10      | ±10%                  | CKG45KX7R2J104K290JJ    |                         |                         |                        |
|             |            |                | ±20%                  | CKG45KX7R2J104M290JJ    |                         |                         |                        |
| 220 nF      | 3225       | 3.35±0.10      | ±10%                  |                         | CKG32KX7R2E224K335AJ    |                         |                        |
|             |            |                | ±20%                  |                         | CKG32KX7R2E224M335AJ    |                         |                        |
|             | 4532       | 2.90±0.10      | ±10%                  |                         | CKG45KX7R2E224K290JJ    |                         |                        |
|             |            |                | ±20%                  |                         | CKG45KX7R2E224M290JJ    |                         |                        |
|             | 5750       | 3.35±0.15      | ±10%                  | CKG45NX7R2J224M500JJ    |                         |                         |                        |
|             |            |                | ±20%                  | CKG57KX7R2J224K335JJ    |                         |                         |                        |
| 470 nF      | 3225       | 3.35±0.10      | ±10%                  |                         |                         | CKG32KX7R2A474K335AJ    |                        |
|             |            |                | ±20%                  |                         |                         | CKG32KX7R2A474M335AJ    |                        |
|             | 4532       | 2.90±0.10      | ±10%                  |                         | CKG45KX7R2E474K290JJ    |                         |                        |
|             |            |                | ±20%                  |                         | CKG45KX7R2E474M290JJ    |                         |                        |
|             | 5750       | 3.35±0.15      | ±10%                  |                         | CKG57KX7R2E474K335JJ    |                         |                        |
|             |            |                | ±20%                  |                         | CKG57KX7R2E474M335JJ    |                         |                        |
|             | 5750       | 5.00±0.50      | ±10%                  | CKG57NX7R2J474M500JJ    |                         |                         |                        |
|             |            |                | ±20%                  |                         |                         |                         |                        |
| 1 µF        | 3225       | 3.35±0.10      | ±10%                  |                         |                         | CKG32KX7R2A105K335AJ    | CKG32KX7R1H105K335AJ   |
|             |            |                | ±20%                  |                         |                         | CKG32KX7R2A105M335AJ    | CKG32KX7R1H105M335AJ   |
|             | 4532       | 2.90±0.10      | ±10%                  |                         |                         | CKG45KX7R2A105K290JJ    |                        |
|             |            |                | ±20%                  |                         |                         | CKG45KX7R2A105M290JJ    |                        |
|             | 5750       | 3.35±0.15      | ±10%                  |                         | CKG45NX7R2E105M500JJ    |                         |                        |
|             |            |                | ±20%                  |                         | CKG57KX7R2E105K335JJ    | CKG57KX7R2A105K335JJ    |                        |
| 1.5 µF      | 4532       | 2.90±0.10      | ±10%                  |                         |                         |                         | CKG45KX7R1H155K290JJ   |
|             |            |                | ±20%                  |                         |                         |                         | CKG45KX7R1H155M290JJ   |
| 2.2 µF      | 3225       | 3.35±0.10      | ±10%                  |                         |                         | CKG32KX7R2A225K335AJ    |                        |
|             |            |                | ±20%                  |                         |                         | CKG32KX7R2A225M335AJ    |                        |
|             | 4532       | 2.90±0.10      | ±10%                  |                         |                         | CKG45KX7R2A225K290JJ    |                        |
|             |            |                | ±20%                  |                         |                         | CKG45KX7R2A225M290JJ    |                        |
|             | 5750       | 3.35±0.15      | ±10%                  |                         |                         | CKG45NX7R2A225M500JJ    |                        |
|             |            |                | ±20%                  |                         |                         | CKG57KX7R2A225K335JJ    |                        |
|             | 5750       | 5.00±0.50      | ±10%                  |                         |                         | CKG57KX7R2A225M335JJ    |                        |
|             |            |                | ±20%                  |                         | CKG57NX7R2E225M500JJ    | CKG57NX7R2A225M500JJ    |                        |

# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Table

### Class 2 (Temperature Stable)

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

| Capacitance | Dimensions | Thickness (mm) | Capacitance Tolerance | Catalog number          |                        |                        |                        |
|-------------|------------|----------------|-----------------------|-------------------------|------------------------|------------------------|------------------------|
|             |            |                |                       | Rated voltage Edc: 100V | Rated voltage Edc: 50V | Rated voltage Edc: 25V | Rated voltage Edc: 16V |
| 3.3 µF      | 4532       | 2.90±0.10      | ±10%                  |                         | CKG45KX7R1H335K290JJ   |                        |                        |
|             |            |                | ±20%                  |                         | CKG45KX7R1H335M290JJ   |                        |                        |
|             | 5750       | 5.00±0.50      | ±20%                  |                         | CKG45NX7R1H335M500JJ   |                        |                        |
|             |            | 3.35±0.15      | ±10%                  | CKG57KX7R2A335K335JJ    |                        |                        |                        |
| 4.7 µF      | 3225       | 3.35±0.10      | ±10%                  |                         |                        | CKG32KX7R1E475K335AJ   |                        |
|             |            |                | ±20%                  |                         |                        | CKG32KX7R1E475M335AJ   |                        |
|             | 4532       | 2.90±0.10      | ±10%                  |                         |                        | CKG45KX7R1E475K290JJ   |                        |
|             |            |                | ±20%                  |                         |                        | CKG45KX7R1E475M290JJ   |                        |
|             | 5750       | 5.00±0.50      | ±20%                  | CKG45NX7R2A475M500JJ    |                        |                        |                        |
|             |            | 3.35±0.15      | ±10%                  | CKG57KX7R2A475K335JJ    | CKG57KX7R1H475K335JJ   |                        |                        |
|             | 5750       | 5.00±0.50      | ±20%                  | CKG57KX7R2A475M335JJ    | CKG57KX7R1H475M335JJ   |                        |                        |
|             |            |                | ±20%                  | CKG57NX7R2A475M500JJ    |                        |                        |                        |
| 6.8 µF      | 4532       | 5.00±0.50      | ±20%                  |                         | CKG45NX7R1H685M500JJ   |                        |                        |
|             | 3225       | 3.35±0.10      | ±10%                  |                         |                        | CKG32KX7R1E106K335AJ   |                        |
| 10 µF       | 4532       | 2.90±0.10      | ±10%                  |                         |                        |                        | CKG45KX7R1C106K290JJ   |
|             |            |                | ±20%                  |                         |                        |                        | CKG45KX7R1C106M290JJ   |
|             | 5750       | 5.00±0.50      | ±20%                  |                         |                        | CKG45NX7R1E106M500JJ   |                        |
|             |            | 3.35±0.15      | ±10%                  |                         |                        | CKG57KX7R1E106K335JJ   |                        |
|             | 5750       | 5.00±0.50      | ±20%                  |                         |                        | CKG57KX7R1E106M335JJ   |                        |
|             |            |                | ±20%                  | CKG57NX7R2A106M500JJ    | CKG57NX7R1H106M500JJ   |                        |                        |
| 15 µF       | 5750       | 3.35±0.15      | ±20%                  |                         |                        |                        | CKG57KX7R1C156M335JJ   |
| 22 µF       | 4532       | 2.90±0.10      | ±20%                  |                         |                        |                        | CKG45KX7R1C226M290JJ   |
|             |            | 5.00±0.50      | ±20%                  |                         |                        |                        | CKG45NX7R1C226M500JJ   |
|             | 5750       | 3.35±0.15      | ±20%                  |                         |                        | CKG57KX7R1E226M335JJ   |                        |
| 33 µF       | 5750       | 5.00±0.50      | ±20%                  |                         |                        | CKG57NX7R1E226M500JJ   |                        |
| 47 µF       | 5750       | 5.00±0.50      | ±20%                  |                         |                        |                        | CKG57KX7R1E476M335JJ   |
| 100 µF      | 5750       | 5.00±0.50      | ±20%                  |                         |                        |                        | CKG57NX7R1E107M500JJ   |

### Class 2 (Temperature Stable)

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

| Capacitance | Dimensions | Thickness (mm) | Capacitance Tolerance | Catalog number          |                        |                        |                        |
|-------------|------------|----------------|-----------------------|-------------------------|------------------------|------------------------|------------------------|
|             |            |                |                       | Rated voltage Edc: 100V | Rated voltage Edc: 50V | Rated voltage Edc: 25V | Rated voltage Edc: 16V |
| 3.3 µF      | 3225       | 3.35±0.10      | ±10%                  | CKG32KX7S2A335K335AJ    |                        |                        |                        |
|             |            |                | ±20%                  | CKG32KX7S2A335M335AJ    |                        |                        |                        |
|             | 4532       | 2.90±0.10      | ±10%                  | CKG45KX7S2A335K290JJ    |                        |                        |                        |
|             |            |                | ±20%                  | CKG45KX7S2A335M290JJ    |                        |                        |                        |
| 4.7 µF      | 3225       | 3.35±0.10      | ±10%                  | CKG32KX7S2A475K335AJ    | CKG32KX7S1H475K335AJ   |                        |                        |
|             |            |                | ±20%                  | CKG32KX7S2A475M335AJ    | CKG32KX7S1H475M335AJ   |                        |                        |
|             | 4532       | 2.90±0.10      | ±10%                  | CKG45KX7S2A475K290JJ    | CKG45KX7S1H475K290JJ   |                        |                        |
|             |            |                | ±20%                  | CKG45KX7S2A475M290JJ    | CKG45KX7S1H475M290JJ   |                        |                        |
| 6.8 µF      | 3225       | 3.35±0.10      | ±10%                  |                         | CKG32KX7S1H685K335AJ   |                        |                        |
|             |            |                | ±20%                  |                         | CKG32KX7S1H685M335AJ   |                        |                        |
|             | 4532       | 5.00±0.50      | ±20%                  | CKG45NX7S2A685M500JJ    |                        |                        |                        |
|             |            |                | ±10%                  | CKG57KX7S2A685K335JJ    |                        |                        |                        |
| 10 µF       | 5750       | 3.35±0.15      | ±20%                  | CKG57KX7S2A685M335JJ    |                        |                        |                        |
|             |            |                | ±20%                  | CKG57KX7S2A685M500JJ    |                        |                        |                        |
|             | 3225       | 3.35±0.10      | ±10%                  |                         | CKG32KX7S1H106K335AJ   |                        |                        |
|             |            |                | ±20%                  |                         | CKG32KX7S1H106M335AJ   |                        |                        |
| 15 µF       | 4532       | 5.00±0.50      | ±20%                  | CKG45NX7S2A106M500JJ    | CKG45NX7S1H106M500JJ   |                        |                        |
|             |            |                | ±10%                  | CKG57KX7S2A106K335JJ    | CKG57KX7S1H106K335JJ   |                        |                        |
|             | 5750       | 3.35±0.15      | ±20%                  | CKG57KX7S2A106M335JJ    | CKG57KX7S1H106M335JJ   |                        |                        |
|             |            |                | ±20%                  | CKG57KX7S2A156M335JJ    |                        |                        |                        |
| 22 µF       | 4532       | 2.90±0.10      | ±20%                  |                         |                        |                        | CKG45KX7S1C226M290JJ   |
|             | 5750       | 5.00±0.50      | ±20%                  | CKG57NX7S2A226M500JJ    | CKG57NX7S1H226M500JJ   |                        |                        |
|             |            | 5.00±0.50      | ±20%                  |                         |                        |                        | CKG45NX7S1C476M500JJ   |
| 47 µF       | 5750       | 3.35±0.15      | ±20%                  |                         |                        |                        | CKG57KX7S1C476M335JJ   |
|             |            | 5.00±0.50      | ±20%                  |                         |                        | CKG57NX7S1E476M500JJ   |                        |
|             | 5750       | 5.00±0.50      | ±20%                  |                         |                        |                        | CKG57NX7S1C107M500JJ   |

# MULTILAYER CERAMIC CHIP CAPACITORS



## Capacitance Range Table

### Class 2 (Temperature Stable)

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

| Capacitance | Dimensions | Thickness (mm) | Capacitance Tolerance | Catalog number          |                         |                         |
|-------------|------------|----------------|-----------------------|-------------------------|-------------------------|-------------------------|
|             |            |                |                       | Rated voltage Edc: 630V | Rated voltage Edc: 450V | Rated voltage Edc: 250V |
| 100 nF      | 3225       | 3.35±0.10      | ±10%                  | CKG32KX7T2J104K335AJ    |                         |                         |
|             |            |                | ±20%                  | CKG32KX7T2J104M335AJ    |                         |                         |
| 150 nF      | 3225       | 3.35±0.10      | ±10%                  | CKG32KX7T2J154K335AJ    |                         |                         |
|             |            |                | ±20%                  | CKG32KX7T2J154M335AJ    |                         |                         |
|             | 4532       | 2.90±0.10      | ±10%                  | CKG45KX7T2J154K290JJ    |                         |                         |
|             |            |                | ±20%                  | CKG45KX7T2J154M290JJ    |                         |                         |
| 220 nF      | 3225       | 3.35±0.10      | ±10%                  |                         | CKG32KX7T2W224K335AJ    |                         |
|             |            |                | ±20%                  |                         | CKG32KX7T2W224M335AJ    |                         |
|             | 4532       | 2.90±0.10      | ±10%                  | CKG45KX7T2J224K290JJ    |                         |                         |
|             |            |                | ±20%                  | CKG45KX7T2J224M290JJ    |                         |                         |
| 330 nF      | 3225       | 3.35±0.10      | ±10%                  |                         |                         | CKG32KX7T2E334K335AJ    |
|             |            |                | ±20%                  |                         |                         | CKG32KX7T2E334M335AJ    |
|             | 4532       | 2.90±0.10      | ±10%                  |                         | CKG45KX7T2W334K290JJ    |                         |
|             |            |                | ±20%                  |                         | CKG45KX7T2W334M290JJ    |                         |
|             | 5750       | 3.35±0.15      | ±10%                  | CKG45NX7T2J334M500JJ    |                         |                         |
|             |            |                | ±20%                  | CKG57KX7T2J334K335JJ    |                         |                         |
| 470 nF      | 4532       | 2.90±0.10      | ±10%                  |                         | CKG45KX7T2W474K290JJ    |                         |
|             |            |                | ±20%                  |                         | CKG45KX7T2W474M290JJ    |                         |
|             | 5750       | 3.35±0.15      | ±10%                  | CKG45NX7T2J474M500JJ    |                         |                         |
|             |            |                | ±20%                  | CKG57KX7T2J474K335JJ    |                         |                         |
|             | 5750       | 3.35±0.15      | ±10%                  | CKG57KX7T2J474M335JJ    |                         |                         |
|             |            |                | ±20%                  |                         |                         |                         |
| 680 nF      | 4532       | 2.90±0.10      | ±10%                  |                         |                         | CKG45KX7T2E684K290JJ    |
|             |            |                | ±20%                  |                         |                         | CKG45KX7T2E684M290JJ    |
|             | 5750       | 3.35±0.15      | ±10%                  |                         | CKG45NX7T2W684M500JJ    |                         |
|             |            |                | ±20%                  |                         | CKG57KX7T2W684K335JJ    |                         |
|             | 5750       | 3.35±0.15      | ±10%                  |                         | CKG57KX7T2W684M335JJ    |                         |
|             |            |                | ±20%                  | CKG57NX7T2J684M500JJ    |                         |                         |
| 1 µF        | 4532       | 2.90±0.10      | ±10%                  |                         |                         | CKG45KX7T2E105K290JJ    |
|             |            |                | ±20%                  |                         |                         | CKG45KX7T2E105M290JJ    |
|             | 5750       | 3.35±0.15      | ±10%                  |                         | CKG45NX7T2W105M500JJ    |                         |
|             |            |                | ±20%                  |                         | CKG57KX7T2W105K335JJ    |                         |
|             | 5750       | 3.35±0.15      | ±10%                  |                         | CKG57KX7T2W105M335JJ    |                         |
|             |            |                | ±20%                  | CKG57NX7T2J105M500JJ    |                         |                         |
| 1.5 µF      | 4532       | 5.00±0.50      | ±20%                  |                         |                         | CKG45NX7T2E155M500JJ    |
|             |            |                | ±20%                  |                         |                         | CKG57KX7T2E155K335JJ    |
|             | 5750       | 3.35±0.15      | ±10%                  |                         |                         | CKG57KX7T2E155M335JJ    |
|             |            |                | ±20%                  | CKG57NX7T2W155M500JJ    |                         |                         |
| 2.2 µF      | 4532       | 5.00±0.50      | ±20%                  |                         |                         | CKG45NX7T2E225M500JJ    |
|             |            |                | ±20%                  |                         |                         | CKG57KX7T2E225K335JJ    |
|             | 5750       | 3.35±0.15      | ±10%                  |                         |                         | CKG57KX7T2E225M335JJ    |
|             |            |                | ±20%                  | CKG57NX7T2W225M500JJ    |                         |                         |
| 3.3 µF      | 5750       | 5.00±0.50      | ±20%                  |                         |                         | CKG57NX7T2E335M500JJ    |

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|--------------------------------------|--------------------------------------|--------------------------------------|--------------------------------------|
| <a href="#">CKG45KX7T2J154K290JJ</a> | <a href="#">CKG45KX7T2W334K290JJ</a> | <a href="#">CKG45KX7T2W474M290JJ</a> | <a href="#">CKG57KX7R2J224K335JJ</a> |
| <a href="#">CKG32KX7S2A335K335AJ</a> | <a href="#">CKG32KX7S2A475K335AJ</a> | <a href="#">CKG45KX7R1E475M290JJ</a> | <a href="#">CKG45NX7S2A685M500JH</a> |
| <a href="#">CKG57KX7R2A335K335JH</a> | <a href="#">CKG57KX7R2A475K335JJ</a> | <a href="#">CKG57KX7S2A156M335JJ</a> | <a href="#">CKG32KX7R2J473M335AJ</a> |
| <a href="#">CKG45KX7R1C106M290JJ</a> | <a href="#">CKG45KX7S1H475K290JJ</a> | <a href="#">CKG57NX7R2A225M500JJ</a> | <a href="#">CKG57NX7T2J105M500JJ</a> |
| <a href="#">CKG57KX7R2A105M335JJ</a> | <a href="#">CKG57KX7S2A106K335JJ</a> | <a href="#">CKG32KX7R2A474M335AJ</a> | <a href="#">CKG32KX7R2J473K335AJ</a> |
| <a href="#">CKG45KX7T2W334M290JJ</a> | <a href="#">CKG45NX7S1H106M500JJ</a> | <a href="#">CKG45NX7T2E155M500JJ</a> | <a href="#">CKG57KX7S2A106K335JH</a> |
| <a href="#">CKG57KX7T2J334M335JJ</a> | <a href="#">CKG57NX7R2A106M500JJ</a> | <a href="#">CKG57NX7S1C107M500JJ</a> | <a href="#">CKG45KX7R2E474K290JJ</a> |
| <a href="#">CKG45NX7R1E106M500JJ</a> | <a href="#">CKG45NX7R2A225M500JJ</a> | <a href="#">CKG45NX7S2A106M500JJ</a> | <a href="#">CKG57KX7T2E155K335JJ</a> |
| <a href="#">CKG45KX7R2A105K290JJ</a> | <a href="#">CKG45KX7S2A335K290JJ</a> | <a href="#">CKG45NX7T2E225M500JJ</a> | <a href="#">CKG57KX7R1E106M335JJ</a> |
| <a href="#">CKG57KX7R1H475K335JJ</a> | <a href="#">CKG57KX7R2E105M335JJ</a> | <a href="#">CKG57KX7S2A685K335JJ</a> | <a href="#">CKG45KX7S2A335M290JJ</a> |
| <a href="#">CKG45NX7R2E105M500JJ</a> | <a href="#">CKG57KX7R2A225K335JJ</a> | <a href="#">CKG57KX7R2A475K335JH</a> | <a href="#">CKG57NX5R1C107M500JJ</a> |
| <a href="#">CKG45KX7T2J224K290JJ</a> | <a href="#">CKG45KX7T2J224M290JJ</a> | <a href="#">CKG45NX7R1H685M500JJ</a> | <a href="#">CKG45NX7T2J334M500JJ</a> |
| <a href="#">CKG57KX7R1E106K335JJ</a> | <a href="#">CKG57NX7S1H226M500JJ</a> | <a href="#">CKG45KX7S2A475K290JJ</a> | <a href="#">CKG45KX7R2A225K290JJ</a> |
| <a href="#">CKG45KX7S2A335M290JH</a> | <a href="#">CKG45KX7T2E105K290JJ</a> | <a href="#">CKG45NX7R2E474M500JJ</a> | <a href="#">CKG57KX7R2A225M335JJ</a> |
| <a href="#">CKG57KX7R2E474M335JJ</a> | <a href="#">CKG57KX7T2W105K335JJ</a> | <a href="#">CKG57KX7T2W105M335JJ</a> | <a href="#">CKG57NX7T2E335M500JJ</a> |
| <a href="#">CKG45KX7R2A105M290JJ</a> | <a href="#">CKG45KX7R2E474M290JJ</a> | <a href="#">CKG45KX7S1C226M290JJ</a> | <a href="#">CKG57KX7R1H475M335JJ</a> |
| <a href="#">CKG57NX7R1E226M500JJ</a> | <a href="#">CKG32KX7R2A225K335AH</a> | <a href="#">CKG32KX7R2A225M335AJ</a> | <a href="#">CKG45KX7R1H155K290JJ</a> |
| <a href="#">CKG45KX7R1H335M290JJ</a> | <a href="#">CKG45KX7R2J104M290JJ</a> | <a href="#">CKG57KX7R2E474K335JJ</a> | <a href="#">CKG57NX7T2W155M500JJ</a> |
| <a href="#">CKG45KX7R1C106K290JJ</a> | <a href="#">CKG45KX7R1H155M290JJ</a> | <a href="#">CKG57KX7T2E155M335JJ</a> | <a href="#">CKG57KX7T2J474M335JJ</a> |
| <a href="#">CKG32KX7S2A475K335AH</a> | <a href="#">CKG32KX7S2A475M335AJ</a> | <a href="#">CKG45KX7R2E224K290JJ</a> | <a href="#">CKG45KX7R2J104K290JJ</a> |
| <a href="#">CKG57KX7R2A105K335JH</a> | <a href="#">CKG57NX5R1E476M500JJ</a> | <a href="#">CKG57NX7R2E225M500JJ</a> | <a href="#">CKG57NX7T2J684M500JJ</a> |
| <a href="#">CKG32KX7R2A105K335AH</a> | <a href="#">CKG45KX7R1C226M290JJ</a> | <a href="#">CKG45KX7R2E224M290JJ</a> | <a href="#">CKG45KX7T2W474K290JJ</a> |
| <a href="#">CKG57KX7T2E225M335JJ</a> | <a href="#">CKG57NX5R2A106M500JJ</a> | <a href="#">CKG32KX7S2A335M335AH</a> | <a href="#">CKG45KX7R2A105K290JH</a> |
| <a href="#">CKG45KX7S2A475K290JH</a> | <a href="#">CKG57KX7R1C156M335JJ</a> | <a href="#">CKG57KX7R2A105K335JJ</a> | <a href="#">CKG57KX7R2A335M335JJ</a> |
| <a href="#">CKG57KX7S2A106M335JJ</a> | <a href="#">CKG57KX7S2A156M335JH</a> | <a href="#">CKG57KX7T2J334K335JJ</a> | <a href="#">CKG45NX7R2A475M500JJ</a> |