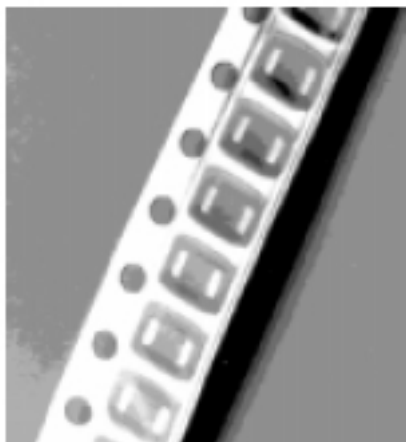


# Type C Multilayer Ceramic Chip Capacitors

## Surface Mount Chip Capacitors



Type C surface mount multilayer chip capacitors are available on tape and reel in COG (NPO), X7R, Z5U and Y5V temperature coefficients. Five standard sizes (0402, 0603, 0805, 1206, and 1210) are available in most of the temperature coefficients - 0603 is not available in Z5U.

### Highlights

- Nickel barrier/solder terminations
- 50 Vdc units can be used in 63 Vdc applications
- Tape and reel standard
- Surface Mount

## Specifications

RoHS Compliant

### Capacitance Range:

|            |                              |
|------------|------------------------------|
| <b>COG</b> | 0.5 pF to 0.012 $\mu$ F      |
| <b>X7R</b> | 150 pF to 0.33 $\mu$ F       |
| <b>Z5U</b> | 6800 pF to 4.7 $\mu$ F       |
| <b>Y5V</b> | 0.022 $\mu$ F to 2.2 $\mu$ F |

### Voltage Range:

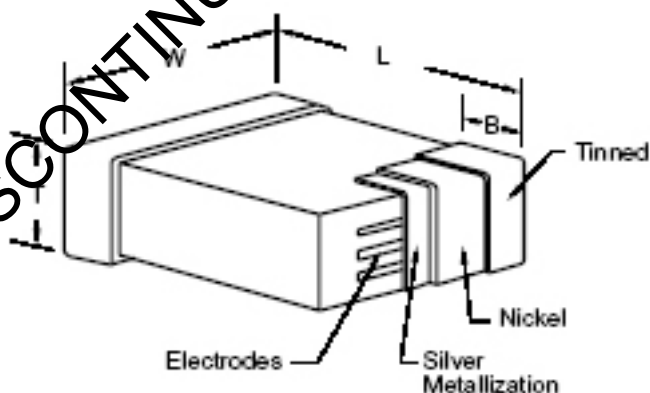
|            |                              |
|------------|------------------------------|
| <b>COG</b> | 10, 16, 25, 50, 100, 200 Vdc |
| <b>X7R</b> | 10, 16, 25, 50, 100, 200 Vdc |
| <b>Z5U</b> | 50, 100 Vdc                  |
| <b>Y5V</b> | 10, 16, 25, 50 Vdc           |

**Standard Sizes:** 0402, 0603, 0805, 1206, 1210  
(0603 not available in Z5U)

### Tape & Reel:

7" reel per EIA RS 481-1  
Parts with ^ (caret) following the part number are 2,500 pieces per reel. Parts with # following the part number are 10,000 pieces per reel.  
13" reels are available by special request

## Outline Drawing



Dimensions - Millimeters (Inches)

| Size Code | L Length                   | W Width                     | T Max. Thickness | B Bandwidth                 |
|-----------|----------------------------|-----------------------------|------------------|-----------------------------|
| 0402      | 1.0(.040) $\pm$ 0.05(.002) | 0.50(.020) $\pm$ 0.05(.002) | 0.55(.022)       | 0.20(.008) Minimum          |
| 0603      | 1.6(.063) $\pm$ 0.15(.006) | 0.80(.032) $\pm$ 0.15(.006) | 0.90(.035)       | 0.35(.014) $\pm$ 0.15(.006) |
| 0805      | 2.0(.079) $\pm$ 0.20(.008) | 1.25(.049) $\pm$ 0.20(.008) | 1.30(.051)       | 0.50(.020) $\pm$ 0.25(.010) |
| 1206      | 3.2(.126) $\pm$ 0.20(.008) | 1.60(.063) $\pm$ 0.20(.008) | 1.50(.059)       | 0.50(.020) $\pm$ 0.25(.010) |
| 1210      | 3.2(.126) $\pm$ 0.20(.008) | 2.50(.098) $\pm$ 0.20(.008) | 1.70(.067)       | 0.50(.020) $\pm$ 0.25(.010) |

**Z5U meets all Y5V requirements and can be used in its place**

Y5V -  $\Delta C \leq +22/-82\%$  over  $-30^\circ\text{C}$  to  $+85^\circ\text{C}$   
Z5U -  $\Delta C \leq +22/-56\%$  over  $+10^\circ\text{C}$  to  $+85^\circ\text{C}$

# Type C Multilayer Ceramic Chip Capacitors

## Performance Characteristics

RoHS Compliant

| Parameter                                                                                                                         | COG (NPO)                                                  | X7R                                  | Z5U                                 | Y5V                                   |
|-----------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|--------------------------------------|-------------------------------------|---------------------------------------|
| <b>Temperature Characteristics:</b>                                                                                               |                                                            |                                      |                                     |                                       |
| Range °C                                                                                                                          | -55 °C to +125 °C                                          | -55 °C to +125 °C                    | +10 °C to +85 °C                    | -30 °C to +85 °C                      |
| Cap change without DC voltage                                                                                                     | 0±30 PPM/°C*                                               | ±15%                                 | +22%, -56%                          | +22%, -82%                            |
| <b>Aging Rate:</b> % C / Decade Hour, Max.                                                                                        | 0%                                                         | 2.5%                                 | 5.0%                                | 3.5% 0603; 7.0% 0805                  |
| <b>Dissipation Factor:</b>                                                                                                        |                                                            |                                      |                                     |                                       |
| Test conditions @ 25 °C                                                                                                           | >100 pF w/ 1.0 vrms @ 1 kHz<br>≤100 pF w/ 1.0 vrms @ 1 MHz | w/ 1.0 vrms @ 1 kHz                  | w/ 0.5 vrms @ 1 kHz                 | w/ 1.0 vrms @ 1 kHz                   |
| Limits:                                                                                                                           | 0.10% Max.                                                 | 2.5% Max.                            | 4.0% Max.                           | 7.0% Max.                             |
| <b>Insulation Resistance (IR):</b>                                                                                                |                                                            |                                      |                                     |                                       |
| After 2 min. electrification @ 25 °C with rated voltage applied:                                                                  | 1000 megohms x µF<br>or 100 gigaohms                       | 1000 megohms x µF<br>or 100 gigaohms | 1000 megohms x µF<br>or 10 gigaohms | 500 megohms x µF<br>or 10,000 megohms |
| <b>Moisture Resistance:</b> MIL-STD-202                                                                                           |                                                            |                                      |                                     |                                       |
| Method 106 (20 cycles w / 50 V applied)                                                                                           |                                                            |                                      |                                     |                                       |
| Post test limits @ 25 °C, whichever is smaller                                                                                    | 100 megohms x µF<br>or 10 gigaohms                         | 100 megohms x µF<br>or 10 gigaohms   | 1000 megohms x µF<br>or 1 gigaohm   | 10 megohms x µF<br>or 1,000 megohms   |
| <b>Immersion Cycling:</b> MIL-STD-202, Method 104, Condition B                                                                    |                                                            |                                      |                                     |                                       |
| (2 cycles @ 15 minutes each. Each cycle consists of immersion in hot bath @ 65 °C followed by immersion in cold salt water bath.) |                                                            |                                      |                                     |                                       |
| Post test limits @ 25 °C                                                                                                          | 100 megohms x µF<br>or 10 gigaohms                         | 100 megohms x µF<br>or 10 gigaohms   | 1000 megohms x µF<br>or 1 gigaohm   | 10 megohms x µF<br>or 1,000 megohms   |
| <b>Life Test:</b> 1000 Hrs                                                                                                        |                                                            |                                      |                                     |                                       |
| Test Potential and Temperature                                                                                                    | 200% V @ 125 °C                                            | 200% V @ 125 °C                      | 150% V @ 85 °C                      | 200% V @ 85 °C                        |
| Post test limits @ 25 °C                                                                                                          |                                                            |                                      |                                     |                                       |
| Capacitance Change, whichever is greater                                                                                          | ±2% or 0.5 pF                                              | ±15% of initial value**              | ±30% of initial value**             | ±30% of initial value**               |
| Dissipation Factor                                                                                                                | 0.25% Max.                                                 | 0.25% Max.                           | 5.0% Max.                           | 7.0% Max.                             |
| Insulation Resistance, whichever is smaller..                                                                                     | 100 megohms x µF<br>or 10 gigaohms                         | 100 megohms x µF<br>or 10 gigaohms   | 100 megohms x µF<br>or 1 gigaohm    | 10 megohms x µF<br>or 1,000 megohms   |
| Dielectric Strength 2.5 times rated voltage for 5 seconds with current limited to 50 mA                                           |                                                            |                                      |                                     |                                       |

\* 60 PPM/ °C below 10 pF nominal

+53 PPM -30 PPM/°C from +25 °C to -55 °C comparable to MIL-C-20

\*\*X7R and Z5U dielectrics exhibit aging characteristics; therefore, it is highly recommended that capacitors be de-aged for 2 hours at +150 °C and stabilized at room temperature for 48 hours before capacitor measurements are made.

# Type C Multilayer Ceramic Chip Capacitors

## Ratings

## RoHS Compliant

| COG (NPO) Temperature Coefficient |                                    |                 |                 |                 |
|-----------------------------------|------------------------------------|-----------------|-----------------|-----------------|
| Cap                               | Catalog Part Number 0402 Size Code |                 |                 |                 |
|                                   | 10 Vdc                             | 16 Vdc          | 25 Vdc          | 50 Vdc          |
| .50 pF                            | C0402C508*8GAC#                    | C0402C508*4GAC# | C0402C508*3GAC# | C0402C508*5GAC# |
| .75 pF                            | C0402C758*8GAC#                    | C0402C758*4GAC# | C0402C758*3GAC# | C0402C758*5GAC# |
| 1.0 pF                            | C0402C109*8GAC#                    | C0402C109*4GAC# | C0402C109*3GAC# | C0402C109*5GAC# |
| 1.2 pF                            | C0402C129*8GAC#                    | C0402C129*4GAC# | C0402C129*3GAC# | C0402C129*5GAC# |
| 1.5 pF                            | C0402C159*8GAC#                    | C0402C159*4GAC# | C0402C159*3GAC# | C0402C159*5GAC# |
| 1.8 pF                            | C0402C189*8GAC#                    | C0402C189*4GAC# | C0402C189*3GAC# | C0402C189*5GAC# |
| 2.2 pF                            | C0402C229*8GAC#                    | C0402C229*4GAC# | C0402C229*3GAC# | C0402C229*5GAC# |
| 2.7 pF                            | C0402C279*8GAC#                    | C0402C279*4GAC# | C0402C279*3GAC# | C0402C279*5GAC# |
| 3.3 pF                            | C0402C339*8GAC#                    | C0402C339*4GAC# | C0402C339*3GAC# | C0402C339*5GAC# |
| 3.9 pF                            | C0402C399*8GAC#                    | C0402C399*4GAC# | C0402C399*3GAC# | C0402C399*5GAC# |
| 4.7 pF                            | C0402C479*8GAC#                    | C0402C479*4GAC# | C0402C479*3GAC# | C0402C479*5GAC# |
| 5.6 pF                            | C0402C569*8GAC#                    | C0402C569*4GAC# | C0402C569*3GAC# | C0402C569*5GAC# |
| 6.8 pF                            | C0402C689*8GAC#                    | C0402C689*4GAC# | C0402C689*3GAC# | C0402C689*5GAC# |
| 8.2 pF                            | C0402C829*8GAC#                    | C0402C829*4GAC# | C0402C829*3GAC# | C0402C829*5GAC# |
| 10 pF                             | C0402C100*8GAC#                    | C0402C100*4GAC# | C0402C100*3GAC# | C0402C100*5GAC# |
| 12 pF                             | C0402C120*8GAC#                    | C0402C120*4GAC# | C0402C120*3GAC# | C0402C120*5GAC# |
| 15 pF                             | C0402C150*8GAC#                    | C0402C150*4GAC# | C0402C150*3GAC# | C0402C150*5GAC# |
| 18 pF                             | C0402C180*8GAC#                    | C0402C180*4GAC# | C0402C180*3GAC# | C0402C180*5GAC# |
| 22 pF                             | C0402C220*8GAC#                    | C0402C220*4GAC# | C0402C220*3GAC# | C0402C220*5GAC# |
| 27 pF                             | C0402C270*8GAC#                    | C0402C270*4GAC# | C0402C270*3GAC# | C0402C270*5GAC# |
| 33 pF                             | C0402C330*8GAC#                    | C0402C330*4GAC# | C0402C330*3GAC# | C0402C330*5GAC# |
| 39 pF                             | C0402C390*8GAC#                    | C0402C390*4GAC# | C0402C390*3GAC# | C0402C390*5GAC# |
| 47 pF                             | C0402C470*8GAC#                    | C0402C470*4GAC# | C0402C470*3GAC# | C0402C470*5GAC# |
| 56 pF                             | C0402C560*8GAC#                    | C0402C560*4GAC# | C0402C560*3GAC# | C0402C560*5GAC# |
| 68 pF                             | C0402C680*8GAC#                    | C0402C680*4GAC# | C0402C680*3GAC# | C0402C680*5GAC# |
| 82 pF                             | C0402C820*8GAC#                    | C0402C820*4GAC# | C0402C820*3GAC# | C0402C820*5GAC# |
| 100 pF                            | C0402C101*8GAC#                    | C0402C101*4GAC# | C0402C101*3GAC# | C0402C101*5GAC# |

\* Insert proper letter code for desired tolerance:  
 $\pm 0.25$  pF (C) is standard on values less than 10 pF  
 $\pm 5\%$  (J) is standard on values  $\geq 10$  pF

Other Available tolerances:  
 Values less than 27 pF:  
 C =  $\pm 0.25$  pF, D =  $\pm 0.5$  pF  
 Values greater than 10 pF:  
 F =  $\pm 1\%$ ; G =  $\pm 2\%$ ; H =  $\pm 3\%$   
 J =  $\pm 5\%$ ; K =  $\pm 10\%$ ; M =  $\pm 20\%$

^ Parts with caret (^) following catalog number are 2,500 pcs per reel.  
 # Parts with (#) following catalog number are 10,000 pieces per reel.  
 All others are 1,000 pcs per reel

| Cap    | Catalog Part Number 0603 Size Code COG (NPO) |                |                |
|--------|----------------------------------------------|----------------|----------------|
|        | 50 Vdc                                       | 100 Vdc        | 200 Vdc        |
| .50 pF | C0603C508*5GAC                               |                |                |
| .75 pF | C0603C758*5GAC                               |                |                |
| 1.0 pF | C0603C109*5GAC                               | C0603C109*1GAC | C0603C109*2GAC |
| 1.2 pF | C0603C129*5GAC                               | C0603C129*1GAC | C0603C129*2GAC |
| 1.5 pF | C0603C159*5GAC                               | C0603C159*1GAC | C0603C159*2GAC |
| 1.8 pF | C0603C189*5GAC                               | C0603C189*1GAC | C0603C189*2GAC |
| 2.2 pF | C0603C229*5GAC                               | C0603C229*1GAC | C0603C229*2GAC |
| 2.7 pF | C0603C279*5GAC                               | C0603C279*1GAC | C0603C279*2GAC |
| 3.3 pF | C0603C339*5GAC                               | C0603C339*1GAC | C0603C339*2GAC |
| 3.9 pF | C0603C399*5GAC                               | C0603C399*1GAC | C0603C399*2GAC |
| 4.7 pF | C0603C479*5GAC                               | C0603C479*1GAC | C0603C479*2GAC |
| 5.6 pF | C0603C569*5GAC                               | C0603C569*1GAC | C0603C569*2GAC |
| 6.8 pF | C0603C689*5GAC                               | C0603C689*1GAC | C0603C689*2GAC |
| 8.2 pF | C0603C829*5GAC                               | C0603C829*1GAC | C0603C829*2GAC |
| 10 pF  | C0603C100*5GAC                               | C0603C100*1GAC | C0603C100*2GAC |

| Cap    | Catalog Part Number 0603 Size Code COG (NPO) |                |                |
|--------|----------------------------------------------|----------------|----------------|
|        | 50 Vdc                                       | 100 Vdc        | 200 Vdc        |
| 12 pF  | C0603C120*5GAC                               | C0603C120*1GAC | C0603C120*2GAC |
| 15 pF  | C0603C150*5GAC                               | C0603C150*1GAC | C0603C150*2GAC |
| 18 pF  | C0603C180*5GAC                               | C0603C180*1GAC | C0603C180*2GAC |
| 22 pF  | C0603C220*5GAC                               | C0603C220*1GAC | C0603C220*2GAC |
| 27 pF  | C0603C270*5GAC                               | C0603C270*1GAC | C0603C270*2GAC |
| 33 pF  | C0603C330*5GAC                               | C0603C330*1GAC | C0603C330*2GAC |
| 39 pF  | C0603C390*5GAC                               | C0603C390*1GAC | C0603C390*2GAC |
| 47 pF  | C0603C470*5GAC                               | C0603C470*1GAC | C0603C470*2GAC |
| 56 pF  | C0603C560*5GAC                               | C0603C560*1GAC | C0603C560*2GAC |
| 68 pF  | C0603C680*5GAC                               | C0603C680*1GAC | C0603C680*2GAC |
| 82 pF  | C0603C820*5GAC                               | C0603C820*1GAC | C0603C820*2GAC |
| 100 pF | C0603C101*5GAC                               | C0603C101*1GAC |                |
| 120 pF | C0603C121*5GAC                               | C0603C121*1GAC |                |
| 150 pF | C0603C151*5GAC                               | C0603C151*1GAC |                |
| 180 pF | C0603C181*5GAC                               | C0603C181*1GAC |                |
| 220 pF | C0603C221*5GAC                               |                |                |

50 volt units can be used for 63 volt applications

# Type C Multilayer Ceramic Chip Capacitors

## Ratings

## RoHS Compliant

| COG (NPO) Temperature Coefficient |                                    |                |                |         |                                    |                |                |
|-----------------------------------|------------------------------------|----------------|----------------|---------|------------------------------------|----------------|----------------|
| Cap                               | Catalog Part Number 0805 Size Code |                |                | Cap     | Catalog Part Number 1206 Size Code |                |                |
|                                   | 50 Vdc                             | 100 Vdc        | 200 Vdc        |         | 50 Vdc                             | 100 Vdc        | 200 Vdc        |
| 1.0 pF                            | C0805C109*5GAC                     | C0805C109*1GAC | C0805C109*2GAC | 1.0 pF  | C1206C109*5GAC                     | C1206C109*1GAC | C1206C109*2GAC |
| 1.2 pF                            | C0805C129*5GAC                     | C0805C129*1GAC | C0805C129*2GAC | 1.2 pF  | C1206C129*5GAC                     | C1206C129*1GAC | C1206C129*2GAC |
| 1.5 pF                            | C0805C159*5GAC                     | C0805C159*1GAC | C0805C159*2GAC | 1.5 pF  | C1206C159*5GAC                     | C1206C159*1GAC | C1206C159*2GAC |
| 1.8 pF                            | C0805C189*5GAC                     | C0805C189*1GAC | C0805C189*2GAC | 1.8 pF  | C1206C189*5GAC                     | C1206C189*1GAC | C1206C189*2GAC |
| 2.2 pF                            | C0805C229*5GAC                     | C0805C229*1GAC | C0805C229*2GAC | 2.2 pF  | C1206C229*5GAC                     | C1206C229*1GAC | C1206C229*2GAC |
| 2.7 pF                            | C0805C279*5GAC                     | C0805C279*1GAC | C0805C279*2GAC | 2.7 pF  | C1206C279*5GAC                     | C1206C279*1GAC | C1206C279*2GAC |
| 3.3 pF                            | C0805C339*5GAC                     | C0805C339*1GAC | C0805C339*2GAC | 3.3 pF  | C1206C339*5GAC                     | C1206C339*1GAC | C1206C339*2GAC |
| 3.9 pF                            | C0805C399*5GAC                     | C0805C399*1GAC | C0805C399*2GAC | 3.9 pF  | C1206C399*5GAC                     | C1206C399*1GAC | C1206C399*2GAC |
| 4.7 pF                            | C0805C479*5GAC                     | C0805C479*1GAC | C0805C479*2GAC | 4.7 pF  | C1206C479*5GAC                     | C1206C479*1GAC | C1206C479*2GAC |
| 5.6 pF                            | C0805C569*5GAC                     | C0805C569*1GAC | C0805C569*2GAC | 5.6 pF  | C1206C569*5GAC                     | C1206C569*1GAC | C1206C569*2GAC |
| 6.8 pF                            | C0805C689*5GAC                     | C0805C689*1GAC | C0805C689*2GAC | 6.8 pF  | C1206C689*5GAC                     | C1206C689*1GAC | C1206C689*2GAC |
| 8.2 pF                            | C0805C829*5GAC                     | C0805C829*1GAC | C0805C829*2GAC | 8.2 pF  | C1206C829*5GAC                     | C1206C829*1GAC | C1206C829*2GAC |
| 10 pF                             | C0805C100*5GAC                     | C0805C100*1GAC | C0805C100*2GAC | 10 pF   | C1206C100*5GAC                     | C1206C100*1GAC | C1206C100*2GAC |
| 12 pF                             | C0805C120*5GAC                     | C0805C120*1GAC | C0805C120*2GAC | 12 pF   | C1206C120*5GAC                     | C1206C120*1GAC | C1206C120*2GAC |
| 15 pF                             | C0805C150*5GAC                     | C0805C150*1GAC | C0805C150*2GAC | 15 pF   | C1206C150*5GAC                     | C1206C150*1GAC | C1206C150*2GAC |
| 18 pF                             | C0805C180*5GAC                     | C0805C180*1GAC | C0805C180*2GAC | 18 pF   | C1206C180*5GAC                     | C1206C180*1GAC | C1206C180*2GAC |
| 22 pF                             | C0805C220*5GAC                     | C0805C220*1GAC | C0805C220*2GAC | 22 pF   | C1206C220*5GAC                     | C1206C220*1GAC | C1206C220*2GAC |
| 27 pF                             | C0805C270*5GAC                     | C0805C270*1GAC | C0805C270*2GAC | 27 pF   | C1206C270*5GAC                     | C1206C270*1GAC | C1206C270*2GAC |
| 33 pF                             | C0805C330*5GAC                     | C0805C330*1GAC | C0805C330*2GAC | 33 pF   | C1206C330*5GAC                     | C1206C330*1GAC | C1206C330*2GAC |
| 39 pF                             | C0805C390*5GAC                     | C0805C390*1GAC | C0805C390*2GAC | 39 pF   | C1206C390*5GAC                     | C1206C390*1GAC | C1206C390*2GAC |
| 47 pF                             | C0805C470*5GAC                     | C0805C470*1GAC | C0805C470*2GAC | 47 pF   | C1206C470*5GAC                     | C1206C470*1GAC | C1206C470*2GAC |
| 56 pF                             | C0805C560*5GAC                     | C0805C560*1GAC | C0805C560*2GAC | 56 pF   | C1206C560*5GAC                     | C1206C560*1GAC | C1206C560*2GAC |
| 68 pF                             | C0805C680*5GAC                     | C0805C680*1GAC | C0805C680*2GAC | 68 pF   | C1206C680*5GAC                     | C1206C680*1GAC | C1206C680*2GAC |
| 82 pF                             | C0805C820*5GAC                     | C0805C820*1GAC | C0805C820*2GAC | 82 pF   | C1206C820*5GAC                     | C1206C820*1GAC | C1206C820*2GAC |
| 100 pF                            | C0805C101*5GAC                     | C0805C101*1GAC | C0805C101*2GAC | 100 pF  | C1206C101*5GAC                     | C1206C101*1GAC | C1206C101*2GAC |
| 120 pF                            | C0805C121*5GAC                     | C0805C121*1GAC | C0805C121*2GAC | 120 pF  | C1206C121*5GAC                     | C1206C121*1GAC | C1206C121*2GAC |
| 150 pF                            | C0805C151*5GAC                     | C0805C151*1GAC | C0805C151*2GAC | 150 pF  | C1206C151*5GAC                     | C1206C151*1GAC | C1206C151*2GAC |
| 180 pF                            | C0805C181*5GAC                     | C0805C181*1GAC | C0805C181*2GAC | 180 pF  | C1206C181*5GAC                     | C1206C181*1GAC | C1206C181*2GAC |
| 220 pF                            | C0805C221*5GAC                     | C0805C221*1GAC | C0805C221*2GAC | 220 pF  | C1206C221*5GAC                     | C1206C221*1GAC | C1206C221*2GAC |
| 270 pF                            | C0805C271*5GAC                     | C0805C271*1GAC | C0805C271*2GAC | 270 pF  | C1206C271*5GAC                     | C1206C271*1GAC | C1206C271*2GAC |
| 330 pF                            | C0805C331*5GAC                     | C0805C331*1GAC | C0805C331*2GAC | 330 pF  | C1206C331*5GAC                     | C1206C331*1GAC | C1206C331*2GAC |
| 390 pF                            | C0805C391*5GAC                     | C0805C391*1GAC | C0805C391*2GAC | 390 pF  | C1206C391*5GAC                     | C1206C391*1GAC | C1206C391*2GAC |
| 470 pF                            | C0805C471*5GAC                     | C0805C471*1GAC | C0805C471*2GAC | 470 pF  | C1206C471*5GAC                     | C1206C471*1GAC | C1206C471*2GAC |
| 560 pF                            | C0805C561*5GAC                     | C0805C561*1GAC |                | 560 pF  | C1206C561*5GAC                     | C1206C561*1GAC | C1206C561*2GAC |
| 680 pF                            | C0805C681*5GAC                     | C0805C681*1GAC |                | 680 pF  | C1206C681*5GAC                     | C1206C681*1GAC | C1206C681*2GAC |
| 820 pF                            | C0805C821*5GAC                     | C0805C821*1GAC |                | 820 pF  | C1206C821*5GAC                     | C1206C821*1GAC | C1206C821*2GAC |
| 1000 pF                           | C0805C102*5GAC                     | C0805C102*1GAC |                | 1000 pF | C1206C102*5GAC                     | C1206C102*1GAC | C1206C102*2GAC |
| 1200 pF                           | C0805C122*5GAC                     |                |                | 1200 pF | C1206C122*5GAC                     | C1206C122*1GAC | C1206C122*2GAC |
| 1500 pF                           | C0805C152*5GAC                     |                |                | 1500 pF | C1206C152*5GAC                     | C1206C152*1GAC | C1206C152*2GAC |
| 1800 pF                           | C0805C182*5GAC                     |                |                | 1800 pF | C1206C182*5GAC                     | C1206C182*1GAC | C1206C182*2GAC |
|                                   |                                    |                |                | 2200 pF | C1206C222*5GAC                     | C1206C222*1GAC |                |
|                                   |                                    |                |                | 2700 pF | C1206C272*5GAC                     | C1206C272*1GAC |                |
|                                   |                                    |                |                | 3300 pF | C1206C332*5GAC                     | C1206C332*1GAC |                |
|                                   |                                    |                |                | 3900 pF | C1206C392*5GAC                     | C1206C392*1GAC |                |
|                                   |                                    |                |                | 4700 pF | C1206C472*5GAC                     |                |                |
|                                   |                                    |                |                | 5600 pF | C1206C562*5GAC                     |                |                |

\* Insert proper letter code for desired tolerance:  
±0.25 pF (C) is standard on values less than 10 pF  
±5% (J) is standard on values ≥ 10 pF

Other Available tolerances:  
Values less than 27 pF:  
C0805C102\*5GAC  
C0805C122\*5GAC  
C0805C152\*5GAC  
C0805C182\*5GAC

\* Insert proper letter code for desired tolerance:  
 ±0.25 pF (C) is standard on values less than 10 pF  
 ±5% (J) is standard on values ≥ 10 pF

Other Available tolerances:

Values less than 27 pF:

C = ±0.25 pF, D = ±0.5 pF

Values greater than 10 pF:

F = ±1%; G = ±2%; H = ±2.5%

J = ±5%; K = ±10%; M = ±20%

^ Parts with caret (^) following catalog number are

2,500 pcs per reel

All others are 4,000 pcs per reel

# Type C Multilayer Ceramic Chip Capacitors

## Ratings

## RoHS Compliant

| COG (NPO) Temperature Coefficient |                                    |                |                |          |                                    |                  |                  |
|-----------------------------------|------------------------------------|----------------|----------------|----------|------------------------------------|------------------|------------------|
| Cap                               | Catalog Part Number 1210 Size Code |                |                | Cap      | Catalog Part Number 1210 Size Code |                  |                  |
|                                   | 50 Vdc                             | 100 Vdc        | 200 Vdc        |          | 50 Vdc                             | 100 Vdc          | 200 Vdc          |
| 10 pF                             | C1210C100*5GAC                     | C1210C100*1GAC | C1210C100*2GAC | 390 pF   | C1210C391*5GAC                     | C1210C391*1GAC   | C1210C391*2GAC   |
| 12 pF                             | C1210C120*5GAC                     | C1210C120*1GAC | C1210C120*2GAC | 470 pF   | C1210C471*5GAC                     | C1210C471*1GAC   | C1210C471*2GAC   |
| 15 pF                             | C1210C150*5GAC                     | C1210C150*1GAC | C1210C150*2GAC | 560 pF   | C1210C561*5GAC                     | C1210C561*1GAC   | C1210C561*2GAC   |
| 18 pF                             | C1210C180*5GAC                     | C1210C180*1GAC | C1210C180*2GAC | 680 pF   | C1210C681*5GAC                     | C1210C681*1GAC   | C1210C681*2GAC   |
| 22 pF                             | C1210C220*5GAC                     | C1210C220*1GAC | C1210C220*2GAC | 820 pF   | C1210C821*5GAC                     | C1210C821*1GAC   | C1210C821*2GAC   |
| 27 pF                             | C1210C270*5GAC                     | C1210C270*1GAC | C1210C270*2GAC | 1000 pF  | C1210C102*5GAC                     | C1210C102*1GAC   | C1210C102*2GAC   |
| 33 pF                             | C1210C330*5GAC                     | C1210C330*1GAC | C1210C330*2GAC | 1200 pF  | C1210C122*5GAC                     | C1210C122*1GAC   | C1210C122*2GAC   |
| 39 pF                             | C1210C390*5GAC                     | C1210C390*1GAC | C1210C390*2GAC | 1500 pF  | C1210C152*5GAC                     | C1210C152*1GAC   | C1210C152*2GAC   |
| 47 pF                             | C1210C470*5GAC                     | C1210C470*1GAC | C1210C470*2GAC | 1800 pF  | C1210C182*5GAC                     | C1210C182*1GAC   | C1210C182*2GAC   |
| 56 pF                             | C1210C560*5GAC                     | C1210C560*1GAC | C1210C560*2GAC | 2200 pF  | C1210C222*5GAC                     | C1210C222*1GAC   | C1210C222*2GAC ^ |
| 68 pF                             | C1210C680*5GAC                     | C1210C680*1GAC | C1210C680*2GAC | 2700 pF  | C1210C272*5GAC                     | C1210C272*1GAC   | C1210C272*2GAC ^ |
| 82 pF                             | C1210C820*5GAC                     | C1210C820*1GAC | C1210C820*2GAC | 3300 pF  | C1210C332*5GAC                     | C1210C332*1GAC   | C1210C332*2GAC ^ |
| 100 pF                            | C1210C101*5GAC                     | C1210C101*1GAC | C1210C101*2GAC | 3900 pF  | C1210C392*5GAC                     | C1210C392*1GAC ^ |                  |
| 120 pF                            | C1210C121*5GAC                     | C1210C121*1GAC | C1210C121*2GAC | 4700 pF  | C1210C472*5GAC ^                   | C1210C472*1GAC ^ |                  |
| 150 pF                            | C1210C151*5GAC                     | C1210C151*1GAC | C1210C151*2GAC | 5600 pF  | C1210C562*5GAC ^                   | C1210C562*1GAC ^ |                  |
| 180 pF                            | C1210C181*5GAC                     | C1210C181*1GAC | C1210C181*2GAC | 6800 pF  | C1210C682*5GAC ^                   | C1210C682*1GAC ^ |                  |
| 220 pF                            | C1210C221*5GAC                     | C1210C221*1GAC | C1210C221*2GAC | 8200 pF  | C1210C822*5GAC ^                   |                  |                  |
| 270 pF                            | C1210C271*5GAC                     | C1210C271*1GAC | C1210C271*2GAC | 10000 pF | C1210C103*5GAC ^                   |                  |                  |
| 330 pF                            | C1210C331*5GAC                     | C1210C331*1GAC | C1210C331*2GAC | 12000 pF | C1210C123*5GAC ^                   |                  |                  |

\* Insert proper letter code for desired tolerance:  
 ±0.25 pF (C) is standard on values less than 10 pF  
 ±5% (J) is standard on values ≥ 10 pF

Other Available Tolerances:  
 Values less than 27 pF:  
 C = ±0.25 pF, D = ±0.5 pF  
 Values greater than 10 pF:  
 F = ±1%; G = ±2%; H = ±2.5%  
 J = ±5%; K = ±10%; M = ±20%

^ Parts with caret (^) following catalog number are 2,500 pcs per reel  
 All others are 4,000 pcs per reel

| X7R Temperature Coefficient |                                    |                 |                 |                 |
|-----------------------------|------------------------------------|-----------------|-----------------|-----------------|
| Cap                         | Catalog Part Number 0402 Size Code |                 |                 |                 |
|                             | 10 Vdc                             | 16 Vdc          | 25 Vdc          | 50 Vdc          |
| 150 pF                      | C0402C151*8RAC#                    | C0402C151*4RAC# | C0402C151*3RAC# | C0402C151*5RAC# |
| 180 pF                      | C0402C181*8RAC#                    | C0402C181*4RAC# | C0402C181*3RAC# | C0402C181*5RAC# |
| 220 pF                      | C0402C221*8RAC#                    | C0402C221*4RAC# | C0402C221*3RAC# | C0402C221*5RAC# |
| 270 pF                      | C0402C271*8RAC#                    | C0402C271*4RAC# | C0402C271*3RAC# | C0402C271*5RAC# |
| 330 pF                      | C0402C331*8RAC#                    | C0402C331*4RAC# | C0402C331*3RAC# | C0402C331*5RAC# |
| 390 pF                      | C0402C391*8RAC#                    | C0402C391*4RAC# | C0402C391*3RAC# | C0402C391*5RAC# |
| 470 pF                      | C0402C471*8RAC#                    | C0402C471*4RAC# | C0402C471*3RAC# | C0402C471*5RAC# |
| 560 pF                      | C0402C561*8RAC#                    | C0402C561*4RAC# | C0402C561*3RAC# | C0402C561*5RAC# |
| 680 pF                      | C0402C681*8RAC#                    | C0402C681*4RAC# | C0402C681*3RAC# | C0402C681*5RAC# |
| 820 pF                      | C0402C821*8RAC#                    | C0402C821*4RAC# | C0402C821*3RAC# | C0402C821*5RAC# |
| 1000 pF                     | C0402C102*8RAC#                    | C0402C102*4RAC# | C0402C102*3RAC# | C0402C102*5RAC# |
| 1200 pF                     | C0402C122*8RAC#                    | C0402C122*4RAC# | C0402C122*3RAC# | C0402C122*5RAC# |
| 1500 pF                     | C0402C152*8RAC#                    | C0402C152*4RAC# | C0402C152*3RAC# | C0402C152*5RAC# |
| 1800 pF                     | C0402C182*8RAC#                    | C0402C182*4RAC# | C0402C182*3RAC# |                 |
| 2200 pF                     | C0402C222*8RAC#                    | C0402C222*4RAC# | C0402C222*3RAC# |                 |
| 2700 pF                     | C0402C272*8RAC#                    | C0402C272*4RAC# | C0402C272*3RAC# |                 |
| 3300 pF                     | C0402C332*8RAC#                    | C0402C332*4RAC# | C0402C332*3RAC# |                 |
| 3900 pF                     | C0402C392*8RAC#                    | C0402C392*4RAC# | C0402C392*3RAC# |                 |
| 4700 pF                     | C0402C472*8RAC#                    | C0402C472*4RAC# | C0402C472*3RAC# |                 |

# Parts with (#) following catalog number are 10,000 pieces per reel.

\* Insert proper letter code for desired tolerance:  
 ±10% (K) is standard  
 ±5% (J); ±20% (M)

# Type C Multilayer Ceramic Chip Capacitors

## Ratings

## RoHS Compliant

| X7R Temperature Coefficient |                                    |                |                |          |                                    |                |                |
|-----------------------------|------------------------------------|----------------|----------------|----------|------------------------------------|----------------|----------------|
| Cap                         | Catalog Part Number 0603 Size Code |                |                | Cap      | Catalog Part Number 0805 Size Code |                |                |
|                             | 50 Vdc                             | 100 Vdc        | 200 Vdc        |          | 50 Vdc                             | 100 Vdc        | 200 Vdc        |
| 180 pF                      | C0603C181*5RAC                     | C0603C181*1RAC | C0603C181*2RAC | 220 pF   | C0805C221*5RAC                     | C0805C221*1RAC | C0805C221*2RAC |
| 220 pF                      | C0603C221*5RAC                     | C0603C221*1RAC | C0603C221*2RAC | 270 pF   | C0805C271*5RAC                     | C0805C271*1RAC | C0805C271*2RAC |
| 270 pF                      | C0603C271*5RAC                     | C0603C271*1RAC | C0603C271*2RAC | 330 pF   | C0805C331*5RAC                     | C0805C331*1RAC | C0805C331*2RAC |
| 330 pF                      | C0603C331*5RAC                     | C0603C331*1RAC | C0603C331*2RAC | 390 pF   | C0805C391*5RAC                     | C0805C391*1RAC | C0805C391*2RAC |
| 390 pF                      | C0603C391*5RAC                     | C0603C391*1RAC | C0603C391*2RAC | 470 pF   | C0805C471*5RAC                     | C0805C471*1RAC | C0805C471*2RAC |
| 470 pF                      | C0603C471*5RAC                     | C0603C471*1RAC | C0603C471*2RAC | 560 pF   | C0805C561*5RAC                     | C0805C561*1RAC | C0805C561*2RAC |
| 560 pF                      | C0603C561*5RAC                     | C0603C561*1RAC | C0603C561*2RAC | 680 pF   | C0805C681*5RAC                     | C0805C681*1RAC | C0805C681*2RAC |
| 680 pF                      | C0603C681*5RAC                     | C0603C681*1RAC | C0603C681*2RAC | 820 pF   | C0805C821*5RAC                     | C0805C821*1RAC | C0805C821*2RAC |
| 820 pF                      | C0603C821*5RAC                     | C0603C821*1RAC | C0603C821*2RAC | 1000 pF  | C0805C102*5RAC                     | C0805C102*1RAC | C0805C102*2RAC |
| 1000 pF                     | C0603C102*5RAC                     | C0603C102*1RAC | C0603C102*2RAC | 1200 pF  | C0805C122*5RAC                     | C0805C122*1RAC | C0805C122*2RAC |
| 1200 pF                     | C0603C122*5RAC                     | C0603C122*1RAC |                | 1500 pF  | C0805C152*5RAC                     | C0805C152*1RAC | C0805C152*2RAC |
| 1500 pF                     | C0603C152*5RAC                     | C0603C152*1RAC |                | 1800 pF  | C0805C182*5RAC                     | C0805C182*1RAC | C0805C182*2RAC |
| 1800 pF                     | C0603C182*5RAC                     | C0603C182*1RAC |                | 2200 pF  | C0805C222*5RAC                     | C0805C222*1RAC | C0805C222*2RAC |
| 2200 pF                     | C0603C222*5RAC                     | C0603C222*1RAC |                | 2700 pF  | C0805C272*5RAC                     | C0805C272*1RAC | C0805C272*2RAC |
| 2700 pF                     | C0603C272*5RAC                     | C0603C272*1RAC |                | 3300 pF  | C0805C332*5RAC                     | C0805C332*1RAC | C0805C332*2RAC |
| 3300 pF                     | C0603C332*5RAC                     | C0603C332*1RAC |                | 3900 pF  | C0805C392*5RAC                     | C0805C392*1RAC | C0805C392*2RAC |
| 3900 pF                     | C0603C392*5RAC                     | C0603C392*1RAC |                | 4700 pF  | C0805C472*5RAC                     | C0805C472*1RAC | C0805C472*2RAC |
| 4700 pF                     | C0603C472*5RAC                     | C0603C472*1RAC |                | 5600 pF  | C0805C562*5RAC                     | C0805C562*1RAC | C0805C562*2RAC |
| 5600 pF                     | C0603C562*5RAC                     |                |                | 6800 pF  | C0805C682*5RAC                     | C0805C682*1RAC | C0805C682*2RAC |
| 6800 pF                     | C0603C682*5RAC                     |                |                | 8200 pF  | C0805C822*5RAC                     | C0805C822*1RAC |                |
| 8200 pF                     | C0603C822*5RAC                     |                |                | 10000 pF | C0805C103*5RAC                     | C0805C103*1RAC |                |
| 10000 pF                    | C0603C103*5RAC                     |                |                | 12000 pF | C0805C123*5RAC                     |                |                |
| 12000 pF                    | C0603C123*5RAC                     |                |                | 15000 pF | C0805C153*5RAC                     |                |                |
| 15000 pF                    | C0603C153*5RAC                     |                |                | 18000 pF | C0805C183*5RAC                     |                |                |
| 18000 pF                    | C0603C183*5RAC                     |                |                | 22000 pF | C0805C223*5RAC                     |                |                |
|                             |                                    |                |                | 27000 pF | C0805C273*5RAC                     |                |                |
|                             |                                    |                |                | 33000 pF | C0805C333*5RAC                     |                |                |
|                             |                                    |                |                | 39000 pF | C0805C393*5RAC                     |                |                |
|                             |                                    |                |                | 47000 pF | C0805C473*5RAC                     |                |                |
|                             |                                    |                |                | 56000 pF | C0805C563*5RAC                     |                |                |
|                             |                                    |                |                | 68000 pF | C0805C683*5RAC                     |                |                |
|                             |                                    |                |                | 82000 pF | C0805C823*5RAC                     |                |                |
|                             |                                    |                |                | .1 uF    | C0805C104*5RAC                     |                |                |

\* Insert proper letter code for desired tolerance:

±10% (K) is standard

±5% (J) ; ±20% (M)

^ Parts with caret (^) following catalog number are 2,500 pcs per reel

# Parts with (#) following catalog number are 10,000 pieces per reel

All other parts are 1,000 pcs per reel

# Type C Multilayer Ceramic Chip Capacitors

## Ratings

## RoHS Compliant

| X7R Temperature Coefficient |                                    |                |                |          |                                    |                 |                |
|-----------------------------|------------------------------------|----------------|----------------|----------|------------------------------------|-----------------|----------------|
| Cap                         | Catalog Part Number 1206 Size Code |                |                | Cap      | Catalog Part Number 1210 Size Code |                 |                |
|                             | 50 Vdc                             | 100 Vdc        | 200 Vdc        |          | 50 Vdc                             | 100 Vdc         | 200 Vdc        |
| 1000 pF                     | C1206C102*5RAC                     | C1206C102*1RAC | C1206C102*2RAC | 2200 pF  | C1210C222*5RAC                     | C1210C222*1RAC  | C1210C222*2RAC |
| 1200 pF                     | C1206C122*5RAC                     | C1206C122*1RAC | C1206C122*2RAC | 2700 pF  | C1210C272*5RAC                     | C1210C272*1RAC  | C1210C272*2RAC |
| 1500 pF                     | C1206C152*5RAC                     | C1206C152*1RAC | C1206C152*2RAC | 3300 pF  | C1210C332*5RAC                     | C1210C332*1RAC  | C1210C332*2RAC |
| 1800 pF                     | C1206C182*5RAC                     | C1206C182*1RAC | C1206C182*2RAC | 3900 pF  | C1210C392*5RAC                     | C1210C392*1RAC  | C1210C392*2RAC |
| 2200 pF                     | C1206C222*5RAC                     | C1206C222*1RAC | C1206C222*2RAC | 4700 pF  | C1210C472*5RAC                     | C1210C472*1RAC  | C1210C472*2RAC |
| 2700 pF                     | C1206C272*5RAC                     | C1206C272*1RAC | C1206C272*2RAC | 5600 pF  | C1210C562*5RAC                     | C1210C562*1RAC  | C1210C562*2RAC |
| 3300 pF                     | C1206C332*5RAC                     | C1206C332*1RAC | C1206C332*2RAC | 6800 pF  | C1210C682*5RAC                     | C1210C682*1RAC  | C1210C682*2RAC |
| 3900 pF                     | C1206C392*5RAC                     | C1206C392*1RAC | C1206C392*2RAC | 8200 pF  | C1210C822*5RAC                     | C1210C822*1RAC  | C1210C822*2RAC |
| 4700 pF                     | C1206C472*5RAC                     | C1206C472*1RAC | C1206C472*2RAC | 10000 pF | C1210C103*5RAC                     | C1210C103*1RAC  | C1210C103*2RAC |
| 5600 pF                     | C1206C562*5RAC                     | C1206C562*1RAC | C1206C562*2RAC | 12000 pF | C1210C123*5RAC                     | C1210C123*1RAC  | C1210C123*2RAC |
| 6800 pF                     | C1206C682*5RAC                     | C1206C682*1RAC | C1206C682*2RAC | 15000 pF | C1210C153*5RAC                     | C1210C153*1RAC  | C1210C153*2RAC |
| 8200 pF                     | C1206C822*5RAC                     | C1206C822*1RAC | C1206C822*2RAC | 18000 pF | C1210C183*5RAC                     | C1210C183*1RAC  | C1210C183*2RAC |
| 10000 pF                    | C1206C103*5RAC                     | C1206C103*1RAC | C1206C103*2RAC | 22000 pF | C1210C223*5RAC                     | C1210C223*1RAC  | C1210C223*2RAC |
| 12000 pF                    | C1206C123*5RAC                     | C1206C123*1RAC | C1206C123*2RAC | 27000 pF | C1210C273*5RAC                     | C1210C273*1RAC  | C1210C273*2RAC |
| 15000 pF                    | C1206C153*5RAC                     | C1206C153*1RAC | C1206C153*2RAC | 33000 pF | C1210C333*5RAC                     | C1210C333*1RAC  | C1210C333*2RAC |
| 18000 pF                    | C1206C183*5RAC                     | C1206C183*1RAC | C1206C183*2RAC | 39000 pF | C1210C393*5RAC                     | C1210C393*1RAC  | C1210C393*2RAC |
| 22000 pF                    | C1206C223*5RAC                     | C1206C223*1RAC | C1206C223*2RAC | 47000 pF | C1210C473*5RAC                     | C1210C473*1RAC  | C1210C473*2RAC |
| 27000 pF                    | C1206C273*5RAC                     | C1206C273*1RAC |                | 56000 pF | C1210C563*5RAC                     | C1210C563*1RAC  |                |
| 33000 pF                    | C1206C333*5RAC                     | C1206C333*1RAC |                | 68000 pF | C1210C683*5RAC                     | C1210C683*1RAC  |                |
| 39000 pF                    | C1206C393*5RAC                     | C1206C393*1RAC |                | 82000 pF | C1210C823*5RAC                     | C1210C823*1RAC  |                |
| 47000 pF                    | C1206C473*5RAC                     | C1206C473*1RAC |                | .1 uF    | C1210C104*5RAC                     | C1210C104*1RAC^ |                |
| 56000 pF                    | C1206C563*5RAC                     |                |                | .12 uF   | C1210C124*5RAC                     |                 |                |
| 68000 pF                    | C1206C683*5RAC                     |                |                | .15 uF   | C1210C154*5RAC                     |                 |                |
| 82000 pF                    | C1206C823*5RAC                     |                |                | .18 uF   | C1210C184*5RAC                     |                 |                |
| .1 uF                       | C1206C104*5RAC                     |                |                | .22 uF   | C1210C224*5RAC^                    |                 |                |
| .12 uF                      | C1206C124*5RAC ^                   |                |                | .27 uF   | C1210C274*5RAC^                    |                 |                |
| .15 uF                      | C1206C154*5RAC^                    |                |                | .33 uF   | C1210C334*5RAC^                    |                 |                |
| .18 uF                      | C1206C184*5RAC^                    |                |                |          |                                    |                 |                |
| .22 uF                      | C1206C224*5RAC ^                   |                |                |          |                                    |                 |                |

\* Insert proper letter code for desired tolerance:

±10% (K) is standard  
±5% (J); ±20% (M)

^ Parts are 4,000 pieces per reel

50 volt units can be used for 63 volt applications

# Type C Multilayer Ceramic Chip Capacitors

## Ratings

RoHS Compliant

| Z5U Temperature Coefficient |                                    |                |         |          |                                    |                |         |
|-----------------------------|------------------------------------|----------------|---------|----------|------------------------------------|----------------|---------|
| Cap                         | Catalog Part Number 0805 Size Code |                |         | Cap      | Catalog Part Number 1210 Size Code |                |         |
|                             | 50 Vdc                             | 100 Vdc        | 200 Vdc |          | 50 Vdc                             | 100 Vdc        | 200 Vdc |
| 6800 pF                     | C0805C682*5UAC                     | C0805C682*1UAC |         | 47000 pF | C1210C473*5UAC                     | C1210C473*1UAC |         |
| 8200 pF                     | C0805C822*5UAC                     | C0805C822*1UAC |         | 56000 pF | C1210C563*5UAC                     | C1210C563*1UAC |         |
| 10000 pF                    | C0805C103*5UAC                     | C0805C103*1UAC |         | 68000 pF | C1210C683*5UAC                     | C1210C683*1UAC |         |
| 12000 pF                    | C0805C123*5UAC                     |                |         | 82000 pF | C1210C823*5UAC                     | C1210C823*1UAC |         |
| 15000 pF                    | C0805C153*5UAC                     |                |         | .1 uF    | C1210C104*5UAC                     |                |         |
| 18000 pF                    | C0805C183*5UAC                     |                |         | .15 uF   | C1210C154*5UAC                     |                |         |
| 22000 pF                    | C0805C223*5UAC                     |                |         | .18 uF   | C1210C184*5UAC                     |                |         |
| 27000 pF                    | C0805C273*5UAC                     |                |         | .22 uF   | C1210C224*5UAC                     |                |         |
| 33000 pF                    | C0805C333*5UAC                     |                |         | .27 uF   | C1210C274*5UAC                     |                |         |
| 39000 pF                    | C0805C393*5UAC                     |                |         | .33 uF   | C1210C334*5UAC                     |                |         |
| 47000 pF                    | C0805C473*5UAC                     |                |         | .39 uF   | C1210C394*5UAC                     |                |         |
| 56000 pF                    | C0805C563*5UAC                     |                |         | .47 uF   | C1210C474*5UAC                     |                |         |
| 68000 pF                    | C0805C683*5UAC                     |                |         |          |                                    |                |         |
| 82000 pF                    | C0805C823*5UAC                     |                |         |          |                                    |                |         |
| .1 uF                       | C0805C104*5UAC                     |                |         |          |                                    |                |         |

| Cap      | Catalog Part Number 1206 Size Code |                |               |
|----------|------------------------------------|----------------|---------------|
|          | 50 Vdc                             | 100 Vdc        | 200 Vdc       |
| 10000 pF | C1206C103*5UAC                     | C1206C103*1UAC | CONTACT KEMET |
| 12000 pF | C1206C123*5UAC                     | C1206C123*1UAC |               |
| 15000 pF | C1206C153*5UAC                     | C1206C153*1UAC |               |
| 18000 pF | C1206C183*5UAC                     | C1206C183*1UAC |               |
| 22000 pF | C1206C223*5UAC                     | C1206C223*1UAC |               |
| 27000 pF | C1206C273*5UAC                     | C1206C273*1UAC |               |
| 33000 pF | C1206C333*5UAC                     | C1206C333*1UAC |               |
| 39000 pF | C1206C393*5UAC                     | C1206C393*1UAC |               |
| 47000 pF | C1206C473*5UAC                     |                |               |
| 56000 pF | C1206C563*5UAC                     |                |               |
| 68000 pF | C1206C683*5UAC                     |                |               |
| 82000 pF | C1206C823*5UAC                     |                |               |
| .1 uF    | C1206C104*5UAC                     |                |               |
| .12 uF   | C1206C124*5UAC                     |                |               |
| .15 uF   | C1206C154*5UAC                     |                |               |
| .18 uF   | C1206C184*5UAC                     |                |               |
| .22 uF   | C1206C224*5UAC                     |                |               |

\* Insert proper letter code for desired tolerance:  
 $\pm 20\%$  (M) is standard  
 Z = +80% -0%

50 volt units can be used for 63 volt applications

Z5U meets all Y5V requirements and can be used in its place

Y5V -  $\Delta C \leq +22/-82\%$  over  $-30^\circ\text{C}$  to  $+85^\circ\text{C}$

Z5U -  $\Delta C \leq +22/-56\%$  over  $+10^\circ\text{C}$  to  $+85^\circ\text{C}$

# Type C Multilayer Ceramic Chip Capacitors

## Ratings

## RoHS Compliant

| Y5V Temperature Coefficient |                                    |                |                |        |                                    |                |                |
|-----------------------------|------------------------------------|----------------|----------------|--------|------------------------------------|----------------|----------------|
| Cap                         | Catalog Part Number 0603 Size Code |                |                | Cap    | Catalog Part Number 1206 Size Code |                |                |
|                             | 10 Vdc                             | 16 Vdc         | 25 Vdc         |        | 10 Vdc                             | 16 Vdc         | 25 Vdc         |
| 22000 pF                    | C0603C223*8VAC                     | C0603C223*4VAC | C0603C223*3VAC | .22 uF | C1206C224*8VAC                     | C1206C224*4VAC | C1206C224*3VAC |
| 27000 pF                    | C0603C273*8VAC                     | C0603C273*4VAC | C0603C273*3VAC | .33 uF | C1206C334*8VAC                     | C1206C334*4VAC | C1206C334*3VAC |
| 33000 pF                    | C0603C333*8VAC                     | C0603C333*4VAC | C0603C333*3VAC | .47 uF | C1206C474*8VAC                     | C1206C474*4VAC | C1206C474*3VAC |
| 39000 pF                    | C0603C393*8VAC                     | C0603C393*4VAC | C0603C393*3VAC | .68 uF | C1206C684*8VAC                     | C1206C684*4VAC | C1206C684*3VAC |
| 47000 pF                    | C0603C473*8VAC                     | C0603C473*4VAC | C0603C473*3VAC | 1.0 uF | C1206C105*8VAC                     | C1206C105*4VAC | C1206C105*3VAC |
| 56000 pF                    | C0603C563*8VAC                     | C0603C563*4VAC | C0603C563*3VAC | 2.2 uF | C1206C225*8VAC                     | C1206C225*4VAC |                |
| 68000 pF                    | C0603C683*8VAC                     | C0603C683*4VAC | C0603C683*3VAC |        |                                    |                |                |
| 82000 pF                    | C0603C823*8VAC                     | C0603C823*4VAC | C0603C823*3VAC |        |                                    |                |                |
| .1 uF                       | C0603C104*8VAC                     | C0603C104*4VAC | C0603C104*3VAC |        |                                    |                |                |
| .15 uF                      | C0603C154*8VAC                     | C0603C154*4VAC | C0603C154*3VAC |        |                                    |                |                |
| .22 uF                      | C0603C224*8VAC                     | C0603C224*4VAC | C0603C224*3VAC |        |                                    |                |                |

50 volt units can be used for 63 volt applications

ENT REPLACEMENT

50 volt units can be used for 63 volt applications

| Y5V Temperature Coefficient |                                    |                |                |                |        |                            |                |
|-----------------------------|------------------------------------|----------------|----------------|----------------|--------|----------------------------|----------------|
| Cap                         | Catalog Part Number 0805 Size Code |                |                |                | Cap    | Part Number 1210 Size Code |                |
|                             | 10 Vdc                             | 16 Vdc         | 25 Vdc         | 50 Vdc         |        | 10 Vdc                     | 16 Vdc         |
| 22000 pF                    | C0805C223*8VAC                     | C0805C223*4VAC | C0805C223*3VAC | C0805C223*5VAC | .22 uF | C1210C224*8VAC             | C1210C224*4VAC |
| 27000 pF                    | C0805C273*8VAC                     | C0805C273*4VAC | C0805C273*3VAC | C0805C273*5VAC | .33 uF | C1210C334*8VAC             | C1210C334*4VAC |
| 33000 pF                    | C0805C333*8VAC                     | C0805C333*4VAC | C0805C333*3VAC | C0805C333*5VAC | .47 uF | C1210C474*8VAC             | C1210C474*4VAC |
| 39000 pF                    | C0805C393*8VAC                     | C0805C393*4VAC | C0805C393*3VAC | C0805C393*5VAC | .68 uF | C1210C684*8VAC             | C1210C684*4VAC |
| 47000 pF                    | C0805C473*8VAC                     | C0805C473*4VAC | C0805C473*3VAC | C0805C473*5VAC | 1.0 uF | C1210C105*8VAC             | C1210C105*4VAC |
| 56000 pF                    | C0805C563*8VAC                     | C0805C563*4VAC | C0805C563*3VAC | C0805C563*5VAC | 2.2 uF | C1210C225*8VAC             | C1210C225*4VAC |
| 68000 pF                    | C0805C683*8VAC                     | C0805C683*4VAC | C0805C683*3VAC | C0805C683*5VAC | 3.7 uF | C1210C375*8VAC             | C1210C375*4VAC |
| 82000 pF                    | C0805C823*8VAC                     | C0805C823*4VAC | C0805C823*3VAC | C0805C823*5VAC | 4.7 uF | C1210C475*8VAC             | C1210C475*4VAC |
| .1 uF                       | C0805C104*8VAC                     | C0805C104*4VAC | C0805C104*3VAC | C0805C104*5VAC |        |                            |                |
| .15 uF                      | C0805C154*8VAC                     | C0805C154*4VAC | C0805C154*3VAC |                |        |                            |                |
| .22 uF                      | C0805C224*8VAC                     | C0805C224*4VAC | C0805C224*3VAC |                |        |                            |                |
| .33 uF                      | C0805C334*8VAC                     | C0805C334*4VAC | C0805C334*3VAC |                |        |                            |                |
| .47 uF                      | C0805C474*8VAC                     | C0805C474*4VAC | C0805C474*3VAC |                |        |                            |                |
| .68 uF                      | C0805C684*8VAC                     | C0805C684*4VAC | C0805C684*3VAC |                |        |                            |                |
| 1.0 uF                      | C0805C105*8VAC                     | C0805C105*4VAC | C0805C105*3VAC |                |        |                            |                |

\* Insert proper letter code for desired tolerance:  
 ±20% (M) is standard  
 Z = +80% -0%

All Y5V units are supplied 4,000 pcs per reel