



# MULTILAYER CERAMIC CHIP CAPACITORS



## **C Series Mid Voltage (100 to 630V) Capacitors**

Type:

C1005 [EIA CC0402]

C1608 [EIA CC0603]

C2012 [EIA CC0805]

C3216 [EIA CC1206]

C3225 [EIA CC1210]

C4532 [EIA CC1812]

C5750 [EIA CC2220]

Issue date:

January 2013



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Please read before using this product

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(Example)

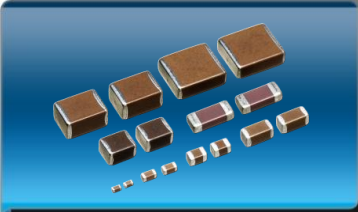
| Catalog Issued date    | TDK Part Number (In Catalog) | TDK Item Description (On Delivery Label) |
|------------------------|------------------------------|--|
| Prior to January 2013  | C1608C0G1E103J               | C1608C0G1E103JT000N                      |
| January 2013 and Later | C1608C0G1E103J080AA          | C1608C0G1E103JT000N                      |



## C Series

### Mid Voltage (100 to 630V) Capacitors

Type: C1005 [EIA CC0402], C1608 [EIA CC0603], C2012 [EIA CC0805], C3216 [EIA CC1206], C3225 [EIA CC1210], C4532 [EIA CC1812], C5750 [EIA CC2220]



#### Features



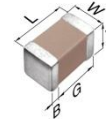
- Voltage rating of 100V to 630V with capacitance range up to 15 $\mu$ F.
- High capacitance has been achieved through precision technologies that enable the use of multiple thinner ceramic dielectric layers.
- A monolithic structure ensures superior mechanical strength and reliability.
- High-accuracy automatic mounting is facilitated through the maintenance of very precise dimensional tolerances.
- Composed of only ceramics and metals, these capacitors provide extremely dependable performance, exhibiting virtually no degradation even when subjected to temperature extremes.
- Low residual inductance assures superior frequency characteristics.
- Excellent DC Bias property.

#### Applications



- Snubber in power supply
- Electric flash circuits in digital still camera
- Power factor correction
- Input/output filter in power supply
- Driver circuit in plasma display
- Noise bypass

#### Shape & Dimensions



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



#### Part Number Construction

**C** • **3225** • **X7R** • **2A** • **105** • **K** • **200** • **A** • **A**

#### Series Name

#### Dimensions L x W (mm)

| Case Code | Length      | Width       | Terminal  |
|-----------|-------------|-------------|-----------|
| C1005     | 1.00 ± 0.05 | 0.50 ± 0.05 | 0.10 min. |
| C1608     | 1.60 ± 0.10 | 0.80 ± 0.10 | 0.20 min. |
| C2012     | 2.00 ± 0.20 | 1.25 ± 0.20 | 0.20 min. |
| C3216     | 3.20 ± 0.20 | 1.60 ± 0.20 | 0.20 min. |
| C3225     | 3.20 ± 0.40 | 2.50 ± 0.30 | 0.20 min. |
| C4532     | 4.50 ± 0.40 | 3.20 ± 0.40 | 0.20 min. |
| C5750     | 5.70 ± 0.40 | 5.00 ± 0.40 | 0.20 min. |

\*Dimension tolerance are typical values

#### Temperature Characteristics

| Temperature Characteristics | Capacitance Change | Temperature Range |
|-----------------------------|--------------------|-------------------|
| CH                          | 0±60 ppm/°C        | -25 to +85°C      |
| C0G                         | 0±30 ppm/°C        | -55 to +125°C     |
| JB                          | ±10%               | -25 to +85°C      |
| X5R                         | ±15%               | -55 to +85°C      |
| X6S                         | ±22%               | -55 to +105°C     |
| X7R                         | ±15%               | -55 to +125°C     |
| X7S                         | ±22%               | -55 to +125°C     |
| X7T                         | +22/-33%           | -55 to +125°C     |

#### Rated Voltage (DC)

| Voltage Code | Voltage (DC) |
|--------------|--------------|
| 2A           | 100V         |
| 2E           | 250V         |
| 2V           | 350V         |
| 2W           | 450V         |
| 2J           | 630V         |

#### Nominal Capacitance (pF)

The capacitance is expressed in three digit codes and in units of pico Farads (pF). The first and second digits identify the first and second significant figures of the capacitance. The third digit identifies the multiplier. R designates a decimal point. Ex. 0R2 = 0.2pF; 103 = 10,000pF; 105 = 1,000,000pF = 1,000nF = 1 $\mu$ F

#### Capacitance Tolerance

| Tolerance Code | Tolerance |
|----------------|-----------|
| C              | ± 0.25pF  |
| D              | ± 0.50pF  |
| F              | ± 1%      |
| G              | ± 2%      |
| J              | ± 5%      |
| K              | ± 10%     |
| M              | ± 20%     |

#### Nominal Thickness

| Thickness Code | Thickness | Thickness Code | Thickness |
|----------------|-----------|----------------|-----------|
| 050            | 0.50 mm   | 130            | 1.30 mm   |
| 060            | 0.60 mm   | 160            | 1.60 mm   |
| 080            | 0.80 mm   | 200            | 2.00 mm   |
| 085            | 0.85 mm   | 230            | 2.30 mm   |
| 115            | 1.15 mm   | 250            | 2.50 mm   |
| 125            | 1.25 mm   | 320            | 3.20 mm   |

#### Packaging Style

| Packaging Code | Style                  |
|----------------|------------------------|
| A              | 178mm Reel / 4mm Pitch |
| B              | 178mm Reel / 2mm Pitch |
| K              | 178mm Reel / 8mm Pitch |

#### Special Reserved Code

| Code  | Description       |
|-------|-------------------|
| A/B/C | TDK Internal Code |



## Capacitance Range Chart

## EIA CC0402 [C1005]

### Capacitance Range Chart

Temperature Characteristics: X7S ( $\pm 22\%$ )  
 Rated Voltage: 100V (2A)

| Capacitance (pF) | Cap Code | Tolerance                      | X7S       |
|------------------|----------|--------------------------------|-----------|
|                  |          |                                | 2A (100V) |
| 1,000            | 102      | K: $\pm 10\%$<br>M: $\pm 20\%$ | █         |
| 1,500            | 152      |                                | █         |
| 2,200            | 222      |                                | █         |
| 3,300            | 332      |                                | █         |
| 4,700            | 472      |                                | █         |
| 6,800            | 682      |                                | █         |
| 10,000           | 103      |                                | █         |

Standard Thickness  
 0.50 mm



## Capacitance Range Chart

## EIA CC0603 [C1608]

### Capacitance Range Chart

Temperature Characteristics: C0G ( $0 \pm 30\text{ppm}/^\circ\text{C}$ ), CH ( $0 \pm 60\text{ppm}/^\circ\text{C}$ ), JB ( $\pm 10\%$ ), X5R ( $\pm 15\%$ ), X7R ( $\pm 15\%$ ), X7S ( $\pm 22\%$ )  
 Rated Voltage: 250V (2E), 100V (2A)

| Capacitance (pF) | Cap Code | Tolerance              | C0G                |           | CH                 |                    | JB                 | X5R                | X7R       | X7S                |
|------------------|----------|------------------------|--------------------|-----------|--------------------|--------------------|--------------------|--------------------|-----------|--------------------|
|                  |          |                        | 2E (250V)          | 2A (100V) | 2E (250V)          | 2A (100V)          | 2A (100V)          | 2A (100V)          | 2A (100V) | 2A (100V)          |
| 1                | 010      | C: $\pm 0.25\text{pF}$ |                    |           |                    |                    |                    |                    |           |                    |
| 1.5              | 1R5      | D: $\pm 0.50\text{pF}$ |                    |           |                    |                    |                    |                    |           |                    |
| 2                | 020      | F: $\pm 1\%$           |                    |           |                    |                    |                    |                    |           |                    |
| 2.2              | 2R2      | G: $\pm 2\%$           |                    |           |                    |                    |                    |                    |           |                    |
| 3                | 030      | J: $\pm 5\%$           |                    |           |                    |                    |                    |                    |           |                    |
| 3.3              | 3R3      | K: $\pm 10\%$          |                    |           |                    |                    |                    |                    |           |                    |
| 4                | 040      | M: $\pm 20\%$          |                    |           |                    |                    |                    |                    |           |                    |
| 4.7              | 4R7      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 5                | 050      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 6                | 060      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 6.8              | 6R8      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 7                | 070      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 8                | 080      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 9                | 090      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 10               | 100      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 12               | 120      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 15               | 150      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 18               | 180      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 22               | 220      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 27               | 270      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 33               | 330      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 39               | 390      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 47               | 470      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 56               | 560      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 68               | 680      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 82               | 820      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 100              | 101      |                        | Standard Thickness |           | Standard Thickness |                    |                    |                    |           |                    |
| 120              | 121      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 150              | 151      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 180              | 181      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 220              | 221      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 270              | 271      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 330              | 331      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 390              | 391      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 470              | 471      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 560              | 561      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 680              | 681      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 820              | 821      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 1,000            | 102      |                        |                    |           |                    | Standard Thickness | Standard Thickness | Standard Thickness |           |                    |
| 1,200            | 122      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 1,500            | 152      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 2,200            | 222      |                        |                    |           |                    | Standard Thickness | Standard Thickness | Standard Thickness |           |                    |
| 3,300            | 332      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 4,700            | 472      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 6,800            | 682      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 10,000           | 103      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 15,000           | 153      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 22,000           | 223      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 33,000           | 333      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 47,000           | 473      |                        |                    |           |                    |                    |                    |                    |           | Standard Thickness |
| 68,000           | 683      |                        |                    |           |                    |                    |                    |                    |           |                    |
| 100,000          | 104      |                        |                    |           |                    |                    |                    |                    |           | Standard Thickness |

Standard Thickness  
 0.8 mm

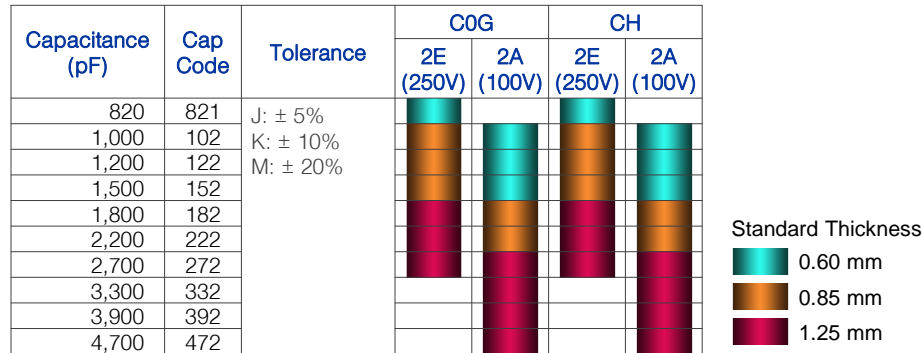


## Capacitance Range Chart

## EIA CC0805 [C2012]

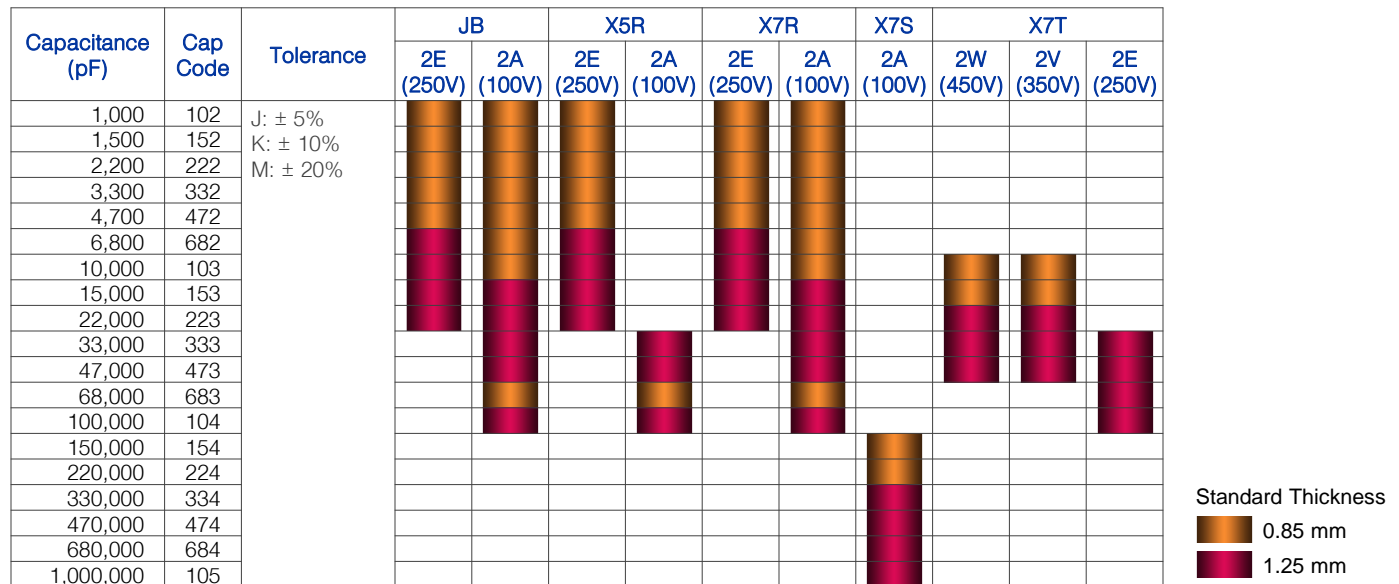
### Capacitance Range Chart

Temperature Characteristics: C0G (0 ± 30ppm/°C), CH (0 ± 60ppm/°C)  
 Rated Voltage: 250V (2E), 100V (2A)



### Capacitance Range Chart

Temperature Characteristics: JB (±10%), X5R (±15%), X7R (±15%), X7S (±22%), X7T (+22/-33%)  
 Rated Voltage: 450V (2W), 350V (2V), 250V (2E), 100V (2A)





## Capacitance Range Chart

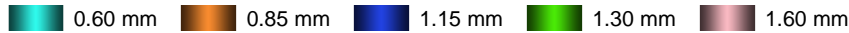
## EIA CC1206 [C3216]

### Capacitance Range Chart

Temperature Characteristics: C0G ( $0 \pm 30\text{ppm}/^\circ\text{C}$ ), CH ( $0 \pm 60\text{ppm}/^\circ\text{C}$ ), JB ( $\pm 10\%$ ), X5R ( $\pm 15\%$ ), X7S ( $\pm 22\%$ )  
 Rated Voltage: 630V (2J), 250V (2E), 100V (2A)

| Capacitance (pF) | Cap Code | Tolerance                                      | C0G       |           |           | CH        |           |           | JB        |           |           | X5R       |           |           | X7S       |  |
|------------------|----------|--|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|--|
|                  |          |  | 2J (630V) | 2E (250V) | 2A (100V) | 2J (630V) | 2E (250V) | 2A (100V) | 2J (630V) | 2E (250V) | 2A (100V) | 2J (630V) | 2E (250V) | 2A (100V) | 2A (100V) |  |
| 100              | 101      | J: $\pm 5\%$<br>K: $\pm 10\%$<br>M: $\pm 20\%$ | █         |           |           | █         |           |           |           |           |           |           |           |           |           |  |
| 120              | 121      |  | █         |           |           | █         |           |           |           |           |           |           |           |           |           |  |
| 150              | 151      |  | █         |           |           | █         |           |           |           |           |           |           |           |           |           |  |
| 180              | 181      |  | █         |           |           | █         |           |           |           |           |           |           |           |           |           |  |
| 220              | 221      |  | █         |           |           | █         |           |           |           |           |           |           |           |           |           |  |
| 270              | 271      |  | █         |           |           | █         |           |           |           |           |           |           |           |           |           |  |
| 330              | 331      |  | █         |           |           | █         |           |           |           |           |           |           |           |           |           |  |
| 390              | 391      |  | █         |           |           | █         |           |           |           |           |           |           |           |           |           |  |
| 470              | 471      |  | █         |           |           | █         |           |           |           |           |           |           |           |           |           |  |
| 560              | 561      |  | █         |           |           | █         |           |           |           |           |           |           |           |           |           |  |
| 680              | 681      |  |           |           |           |           |           |           |           |           |           |           |           |           |           |  |
| 820              | 821      |  |           |           |           |           |           |           |           |           |           |           |           |           |           |  |
| 1,000            | 102      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 1,200            | 122      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 1,500            | 152      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 1,800            | 182      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 2,200            | 222      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 2,700            | 272      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 3,300            | 332      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 3,900            | 392      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 4,700            | 472      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 5,600            | 562      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 6,800            | 682      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 8,200            | 822      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 10,000           | 103      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 15,000           | 153      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 22,000           | 223      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 33,000           | 333      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 47,000           | 473      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 68,000           | 683      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 100,000          | 104      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 150,000          | 154      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 220,000          | 224      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 330,000          | 334      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 470,000          | 474      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 680,000          | 684      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 1,000,000        | 105      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 1,500,000        | 155      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 2,200,000        | 225      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |
| 3,300,000        | 335      |  |           |           |           |           |           |           | █         |           |           |           |           |           |           |  |

#### Standard Thickness



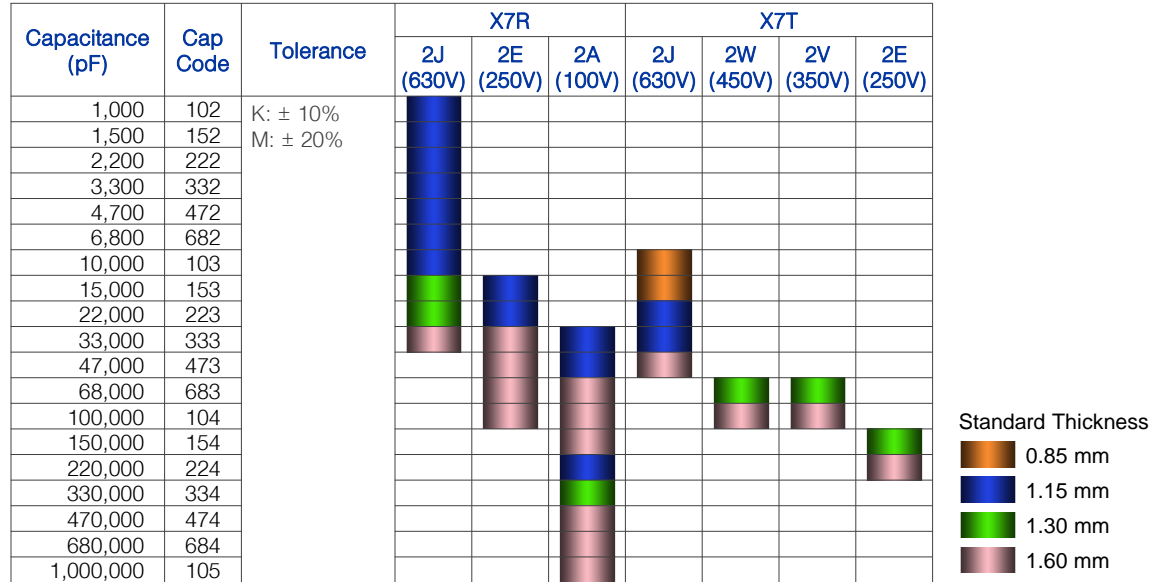


## Capacitance Range Chart

## EIA CC1206 [C3216]

### Capacitance Range Chart

Temperature Characteristics: X7R ( $\pm 15\%$ ), X7T ( $+22/-33\%$ )  
 Rated Voltage: 630V (2J), 450V (2W), 350V (2V), 250V (2E), 100V (2A)







## Capacitance Range Chart

## EIA CC1210 [C3225]

### Capacitance Range Chart

Temperature Characteristics: C0G ( $0 \pm 30\text{ppm}/^\circ\text{C}$ ), CH ( $0 \pm 60\text{ppm}/^\circ\text{C}$ ), JB ( $\pm 10\%$ )  
 Rated Voltage: 630V (2J), 250V (2E), 100V (2A)

| Capacitance (pF) | Cap Code | Tolerance     | C0G       |           |           | CH        |           |           | JB        |           |           |
|------------------|----------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                  |          |               | 2J (630V) | 2E (250V) | 2A (100V) | 2J (630V) | 2E (250V) | 2A (100V) | 2J (630V) | 2E (250V) | 2A (100V) |
| 3,900            | 392      | J: $\pm 5\%$  | █         |           |           | █         |           |           |           |           |           |
| 4,700            | 472      | K: $\pm 10\%$ | █         |           |           | █         |           |           |           |           |           |
| 5,600            | 562      | M: $\pm 20\%$ | █         |           |           | █         |           |           |           |           |           |
| 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      |               |           |           |           |           |           | █         |           |           |           |
| 680,000          | 684      |               |           |           |           |           |           | █         |           |           |           |
| 1,000,000        | 105      |               |           |           |           |           |           | █         |           |           |           |
| 1,500,000        | 155      |               |           |           |           |           |           | █         |           |           |           |
| 2,200,000        | 225      |               |           |           |           |           |           | █         |           |           |           |

#### Standard Thickness

- 1.25 mm
- 1.60 mm
- 2.00 mm
- 2.30 mm
- 2.50 mm

### 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)

| Capacitance (pF) | Cap Code | Tolerance     | X5R       |           |           | X7R       |           |           | X7S       | X7T       |           |
|------------------|----------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                  |          |               | 2J (630V) | 2E (250V) | 2A (100V) | 2J (630V) | 2E (250V) | 2A (100V) | 2A (100V) | 2J (630V) | 2W (450V) |
| 47,000           | 473      | K: $\pm 10\%$ | █         |           |           | █         |           |           |           |           |           |
| 68,000           | 683      | M: $\pm 20\%$ | █         |           |           | █         |           |           | █         |           |           |
| 100,000          | 104      |               |           | █         |           |           | █         |           | █         |           |           |
| 150,000          | 154      |               |           | █         |           |           | █         |           | █         |           |           |
| 220,000          | 224      |               |           | █         |           |           | █         |           | █         |           |           |
| 330,000          | 334      |               |           |           |           |           |           |           | █         |           | █         |
| 470,000          | 474      |               |           |           |           |           |           |           | █         |           |           |
| 680,000          | 684      |               |           |           |           |           |           |           | █         |           |           |
| 1,000,000        | 105      |               |           |           |           |           |           |           | █         |           |           |
| 1,500,000        | 155      |               |           |           |           |           |           |           | █         |           |           |
| 2,200,000        | 225      |               |           |           |           |           |           |           | █         |           |           |
| 3,300,000        | 335      |               |           |           |           |           |           |           | █         |           |           |
| 4,700,000        | 475      |               |           |           |           |           |           |           | █         |           |           |

#### Standard Thickness

- 1.60 mm
- 2.00 mm
- 2.30 mm



## Capacitance Range Chart

## EIA CC1812 [C4532]

### Capacitance Range Chart

Temperature Characteristics: C0G (0 ± 30ppm/°C), CH (0 ± 60ppm/°C), JB (±10%)  
 Rated Voltage: 630V (2J), 250V (2E), 100V (2A)

| Capacitance (pF) | Cap Code | Tolerance | C0G       |           |           | CH        |           |           | JB        |           |           |
|------------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                  |          |           | 2J (630V) | 2E (250V) | 2A (100V) | 2J (630V) | 2E (250V) | 2A (100V) | 2J (630V) | 2E (250V) | 2A (100V) |
| 8,200            | 822      | J: ± 5%   | ■         |           |           | ■         |           |           |           |           |           |
| 10,000           | 103      | K: ± 10%  | ■         |           |           | ■         |           |           |           |           |           |
| 15,000           | 153      | M: ± 20%  | ■         |           |           | ■         |           |           |           |           |           |
| 22,000           | 223      |           | ■         |           |           | ■         |           |           |           |           |           |
| 33,000           | 333      |           |           | ■         |           | ■         |           |           |           |           |           |
| 47,000           | 473      |           |           | ■         |           | ■         |           |           |           |           |           |
| 68,000           | 683      |           |           |           | ■         | ■         |           |           |           |           |           |
| 100,000          | 104      |           |           |           | ■         | ■         |           | ■         |           |           |           |
| 150,000          | 154      |           |           |           |           |           |           | ■         |           |           |           |
| 220,000          | 224      |           |           |           |           |           |           | ■         |           |           |           |
| 330,000          | 334      |           |           |           |           |           |           | ■         |           |           |           |
| 680,000          | 684      |           |           |           |           |           |           |           | ■         |           |           |
| 1,000,000        | 105      |           |           |           |           |           |           |           | ■         |           |           |
| 1,500,000        | 155      |           |           |           |           |           |           |           | ■         |           |           |
| 2,200,000        | 225      |           |           |           |           |           |           |           | ■         |           |           |

#### Standard Thickness

- 1.60 mm
- 2.00 mm
- 2.30 mm
- 2.50 mm
- 3.20 mm

### Capacitance Range Chart

Temperature Characteristics: X5R (±15%), X7R (±15%), X7S (±22%), X7T (+22%/-33%)  
 Rated Voltage: 630V (2J), 450V (2W), 250V (2E), 100V (2A)

| Capacitance (pF) | Cap Code | Tolerance | X5R       |           | X7R       |           |           | X7S       | X7T       |           |
|------------------|----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                  |          |           | 2J (630V) | 2E (250V) | 2J (630V) | 2E (250V) | 2A (100V) | 2A (100V) | 2J (630V) | 2W (450V) |
| 68,000           | 683      | K: ± 10%  |           |           | ■         |           |           |           |           |           |
| 100,000          | 104      | M: ± 20%  | ■         |           | ■         |           |           |           |           |           |
| 150,000          | 154      |           |           |           |           | ■         |           |           | ■         |           |
| 220,000          | 224      |           |           |           |           | ■         |           |           | ■         |           |
| 300,000          | 304      |           |           |           |           |           |           |           | ■         |           |
| 330,000          | 334      |           |           | ■         |           | ■         |           |           | ■         |           |
| 470,000          | 474      |           |           | ■         |           | ■         |           |           | ■         |           |
| 680,000          | 684      |           |           |           |           |           |           |           |           | ■         |
| 1,000,000        | 105      |           |           |           |           |           |           |           |           | ■         |
| 1,500,000        | 155      |           |           |           |           |           |           |           |           | ■         |
| 2,200,000        | 225      |           |           |           |           |           |           |           |           | ■         |
| 3,300,000        | 335      |           |           |           |           |           |           | ■         |           |           |
| 4,700,000        | 475      |           |           |           |           |           |           | ■         |           |           |

#### Standard Thickness

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



## Capacitance Range Chart

## EIA CC2220 [C5750]

### Capacitance Range Chart

Temperature Characteristics: JB ( $\pm 10\%$ ), X5R ( $\pm 15\%$ ), X6S ( $\pm 22\%$ )  
 Rated Voltage: 630V (2J), 250V (2E), 100V (2A)

| Capacitance (pF) | Cap Code | Tolerance                      | JB        |           |           | X5R       |           |           | X6S       |
|------------------|----------|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                  |          |                                | 2J (630V) | 2E (250V) | 2A (100V) | 2J (630V) | 2E (250V) | 2A (100V) | 2W (450V) |
| 150,000          | 154      | K: $\pm 10\%$<br>M: $\pm 20\%$ | █         |           |           | █         |           |           |           |
| 220,000          | 224      |                                |           |           |           |           |           |           |           |
| 330,000          | 334      |                                |           | █         |           |           |           |           |           |
| 470,000          | 474      |                                |           |           |           |           |           |           |           |
| 680,000          | 684      |                                |           | █         | █         |           |           |           |           |
| 1,000,000        | 105      |                                |           |           |           |           |           | █         |           |
| 1,500,000        | 155      |                                |           |           |           |           |           |           |           |
| 2,200,000        | 225      |                                |           |           |           |           |           | █         |           |
| 3,300,000        | 335      |                                |           |           |           |           |           |           |           |
| 4,700,000        | 475      |                                |           |           |           |           | █         |           |           |

Standard Thickness

- █ 1.60 mm
- █ 2.30 mm
- █ 2.50 mm

### Capacitance Range Chart

Temperature Characteristics: X7R ( $\pm 15\%$ ), X7S ( $\pm 22\%$ ), X7T ( $+22/-33\%$ )  
 Rated Voltage: 630V (2J), 450V (2W), 250V (2E), 100V (2A)

| Capacitance (pF) | Cap Code | Tolerance                      | X7R       |           |           | X7S       | X7T       |           |           |
|------------------|----------|--------------------------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
|                  |          |                                | 2J (630V) | 2E (250V) | 2A (100V) | 2A (100V) | 2J (630V) | 2W (450V) | 2E (250V) |
| 150,000          | 154      | K: $\pm 10\%$<br>M: $\pm 20\%$ | █         |           |           |           |           |           |           |
| 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      |                                |           |           |           |           |           |           |           |
| 6,800,000        | 685      |                                |           |           |           |           |           |           |           |
| 10,000,000       | 106      |                                |           |           |           |           |           |           |           |
| 15,000,000       | 156      |                                |           |           |           |           |           |           |           |

Standard Thickness

- █ 1.60 mm
- █ 2.00 mm
- █ 2.30 mm
- █ 2.50 mm



## Capacitance Range Table

### Class 1 (Temperature Compensating)

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

| Capacitance | Case Size   | Thickness (mm) | Capacitance Tolerance | TDK Part Number<br>Rated Voltage Edc: 630V | Rated Voltage Edc: 250V | Rated Voltage Edc: 100V |
|-------------|-------------|----------------|-----------------------|--|-------------------------|-------------------------|
| 1 pF        | 1608        | 0.80 ± 0.10    | ± 0.25pF              |  |                         | C1608C0G2A010C080AA     |
| 1.5 pF      | 1608        | 0.80 ± 0.10    | ± 0.25pF              |  |                         | C1608C0G2A1R5C080AA     |
| 2 pF        | 1608        | 0.80 ± 0.10    | ± 0.25pF              |  |                         | C1608C0G2A020C080AA     |
| 2.2 pF      | 1608        | 0.80 ± 0.10    | ± 0.25pF              |  |                         | C1608C0G2A2R2C080AA     |
| 3 pF        | 1608        | 0.80 ± 0.10    | ± 0.25pF              |  |                         | C1608C0G2A030C080AA     |
| 3.3 pF      | 1608        | 0.80 ± 0.10    | ± 0.25pF              |  |                         | C1608C0G2A3R3C080AA     |
| 4 pF        | 1608        | 0.80 ± 0.10    | ± 0.25pF              |  |                         | C1608C0G2A040C080AA     |
| 4.7 pF      | 1608        | 0.80 ± 0.10    | ± 0.25pF              |  |                         | C1608C0G2A4R7C080AA     |
| 5 pF        | 1608        | 0.80 ± 0.10    | ± 0.25pF              |  |                         | C1608C0G2A050C080AA     |
| 6 pF        | 1608        | 0.80 ± 0.10    | ± 0.50pF              |  |                         | C1608C0G2A060D080AA     |
| 6.8 pF      | 1608        | 0.80 ± 0.10    | ± 0.50pF              |  |                         | C1608C0G2A6R8D080AA     |
| 7 pF        | 1608        | 0.80 ± 0.10    | ± 0.50pF              |  |                         | C1608C0G2A070D080AA     |
| 8 pF        | 1608        | 0.80 ± 0.10    | ± 0.50pF              |  |                         | C1608C0G2A080D080AA     |
| 9 pF        | 1608        | 0.80 ± 0.10    | ± 0.50pF              |  |                         | C1608C0G2A090D080AA     |
| 10 pF       | 1608        | 0.80 ± 0.10    | ± 0.50pF              |  |                         | C1608C0G2A100D080AA     |
| 12 pF       | 1608        | 0.80 ± 0.10    | ± 5%                  |  |                         | C1608C0G2A120J080AA     |
| 15 pF       | 1608        | 0.80 ± 0.10    | ± 5%                  |  |                         | C1608C0G2A150J080AA     |
| 18 pF       | 1608        | 0.80 ± 0.10    | ± 5%                  |  |                         | C1608C0G2A180J080AA     |
| 22 pF       | 1608        | 0.80 ± 0.10    | ± 5%                  |  |                         | C1608C0G2A220J080AA     |
| 27 pF       | 1608        | 0.80 ± 0.10    | ± 5%                  |  |                         | C1608C0G2A270J080AA     |
| 33 pF       | 1608        | 0.80 ± 0.10    | ± 5%                  |  |                         | C1608C0G2A330J080AA     |
| 39 pF       | 1608        | 0.80 ± 0.10    | ± 5%                  |  |                         | C1608C0G2A390J080AA     |
| 47 pF       | 1608        | 0.80 ± 0.10    | ± 5%                  |  |                         | C1608C0G2A470J080AA     |
| 56 pF       | 1608        | 0.80 ± 0.10    | ± 5%                  |  |                         | C1608C0G2A560J080AA     |
| 68 pF       | 1608        | 0.80 ± 0.10    | ± 5%                  |  |                         | C1608C0G2A680J080AA     |
| 82 pF       | 1608        | 0.80 ± 0.10    | ± 5%                  |  |                         | C1608C0G2A820J080AA     |
| 100 pF      | 1608        | 0.80 ± 0.10    | ± 10%                 |  | C1608C0G2E101K080AA     | C1608C0G2A101K080AA     |
|             |             |                | ± 5%                  |  | C1608C0G2E101J080AA     | C1608C0G2A101J080AA     |
|             |             |                | ± 2%                  |  |                         | C1608C0G2A101G080AA     |
|             |             |                | ± 1%                  |  |                         | C1608C0G2A101F080AA     |
|             |             |                | ± 10%                 | C3216C0G2J101K060AA                        |                         |                         |
| 3216        | 0.60 ± 0.15 | ± 5%           | C3216C0G2J101J060AA   |  |                         |                         |
|             |             | ± 10%          |                       |  |                         |                         |
| 120 pF      | 1608        | 0.80 ± 0.10    | ± 10%                 |  | C1608C0G2E121K080AA     | C1608C0G2A121K080AA     |
|             |             |                | ± 5%                  |  | C1608C0G2E121J080AA     | C1608C0G2A121J080AA     |
|             |             |                | ± 10%                 | C3216C0G2J121K060AA                        |                         |                         |
| 3216        | 0.60 ± 0.15 | ± 5%           | C3216C0G2J121J060AA   |  |                         |                         |
|             |             | ± 10%          |                       |  |                         |                         |
| 150 pF      | 1608        | 0.80 ± 0.10    | ± 10%                 |  | C1608C0G2E151K080AA     | C1608C0G2A151K080AA     |
|             |             |                | ± 5%                  |  | C1608C0G2E151J080AA     | C1608C0G2A151J080AA     |
|             |             |                | ± 10%                 | C3216C0G2J151K060AA                        |                         |                         |
| 3216        | 0.60 ± 0.15 | ± 5%           | C3216C0G2J151J060AA   |  |                         |                         |
|             |             | ± 10%          |                       |  |                         |                         |
| 180 pF      | 1608        | 0.80 ± 0.10    | ± 10%                 |  | C1608C0G2E181K080AA     | C1608C0G2A181K080AA     |
|             |             |                | ± 5%                  |  | C1608C0G2E181J080AA     | C1608C0G2A181J080AA     |
|             |             |                | ± 10%                 | C3216C0G2J181K060AA                        |                         |                         |
| 3216        | 0.60 ± 0.15 | ± 5%           | C3216C0G2J181J060AA   |  |                         |                         |
|             |             | ± 10%          |                       |  |                         |                         |
| 220 pF      | 1608        | 0.80 ± 0.10    | ± 10%                 |  | C1608C0G2E221K080AA     | C1608C0G2A221K080AA     |
|             |             |                | ± 5%                  |  | C1608C0G2E221J080AA     | C1608C0G2A221J080AA     |
|             |             |                | ± 10%                 | C3216C0G2J221K060AA                        |                         |                         |
| 3216        | 0.60 ± 0.15 | ± 5%           | C3216C0G2J221J060AA   |  |                         |                         |
|             |             | ± 10%          |                       |  |                         |                         |
| 270 pF      | 1608        | 0.80 ± 0.10    | ± 10%                 |  | C1608C0G2E271K080AA     | C1608C0G2A271K080AA     |
|             |             |                | ± 5%                  |  | C1608C0G2E271J080AA     | C1608C0G2A271J080AA     |
|             |             |                | ± 10%                 | C3216C0G2J271K060AA                        |                         |                         |
| 3216        | 0.60 ± 0.15 | ± 5%           | C3216C0G2J271J060AA   |  |                         |                         |
|             |             | ± 10%          |                       |  |                         |                         |
| 330 pF      | 1608        | 0.80 ± 0.10    | ± 10%                 |  | C1608C0G2E331K080AA     | C1608C0G2A331K080AA     |
|             |             |                | ± 5%                  |  | C1608C0G2E331J080AA     | C1608C0G2A331J080AA     |
|             |             |                | ± 10%                 | C3216C0G2J331K060AA                        |                         |                         |
| 3216        | 0.60 ± 0.15 | ± 5%           | C3216C0G2J331J060AA   |  |                         |                         |
|             |             | ± 10%          |                       |  |                         |                         |
| 390 pF      | 1608        | 0.80 ± 0.10    | ± 10%                 |  | C1608C0G2E391K080AA     | C1608C0G2A391K080AA     |
|             |             |                | ± 5%                  |  | C1608C0G2E391J080AA     | C1608C0G2A391J080AA     |
|             |             |                | ± 10%                 | C3216C0G2J391K060AA                        |                         |                         |
| 3216        | 0.60 ± 0.15 | ± 5%           | C3216C0G2J391J060AA   |  |                         |                         |
|             |             | ± 10%          |                       |  |                         |                         |



## Capacitance Range Table

### Class 1 (Temperature Compensating)

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

| Capacitance | Case Size | Thickness (mm) | Capacitance Tolerance | TDK Part Number<br>Rated Voltage Edc: 630V | Rated Voltage Edc: 250V | Rated Voltage Edc: 100V |
|-------------|-----------|----------------|-----------------------|--|-------------------------|-------------------------|
| 470 pF      | 1608      | 0.80 ± 0.10    | ± 10%                 |  | C1608C0G2E471K080AA     | C1608C0G2A471K080AA     |
|             |           |                | ± 5%                  |  | C1608C0G2E471J080AA     | C1608C0G2A471J080AA     |
|             | 3216      | 0.85 ± 0.15    | ± 10%                 | C3216C0G2J471K085AA                        |                         |                         |
|             |           |                | ± 5%                  | C3216C0G2J471J085AA                        |                         |                         |
| 560 pF      | 1608      | 0.80 ± 0.10    | ± 10%                 |  | C1608C0G2E561K080AA     | C1608C0G2A561K080AA     |
|             |           |                | ± 5%                  |  | C1608C0G2E561J080AA     | C1608C0G2A561J080AA     |
|             | 3216      | 0.85 ± 0.15    | ± 10%                 | C3216C0G2J561K085AA                        |                         |                         |
|             |           |                | ± 5%                  | C3216C0G2J561J085AA                        |                         |                         |
| 680 pF      | 1608      | 0.80 ± 0.10    | ± 10%                 |  | C1608C0G2E681K080AA     | C1608C0G2A681K080AA     |
|             |           |                | ± 5%                  |  | C1608C0G2E681J080AA     | C1608C0G2A681J080AA     |
|             | 3216      | 0.85 ± 0.15    | ± 10%                 | C3216C0G2J681K085AA                        |                         |                         |
|             |           |                | ± 5%                  | C3216C0G2J681J085AA                        |                         |                         |
| 820 pF      | 1608      | 0.80 ± 0.10    | ± 10%                 |  |                         | C1608C0G2A821K080AA     |
|             |           |                | ± 5%                  |  |                         | C1608C0G2A821J080AA     |
|             | 2012      | 0.60 ± 0.15    | ± 10%                 |  | C2012C0G2E821K060AA     |                         |
|             |           |                | ± 5%                  |  | C2012C0G2E821J060AA     |                         |
|             | 3216      | 0.85 ± 0.15    | ± 10%                 | C3216C0G2J821K085AA                        |                         |                         |
|             |           |                | ± 5%                  | C3216C0G2J821J085AA                        |                         |                         |
| 1 nF        | 1608      | 0.80 ± 0.10    | ± 10%                 |  |                         | C1608C0G2A102K080AA     |
|             |           |                | ± 5%                  |  |                         | C1608C0G2A102J080AA     |
|             |           | 0.60 ± 0.15    | ± 2%                  |  |                         | C1608C0G2A102G080AA     |
|             |           |                | ± 1%                  |  |                         | C1608C0G2A102F080AA     |
|             | 2012      | 0.85 ± 0.15    | ± 5%                  |  | C2012C0G2A102J060AA     |                         |
|             |           |                | ± 10%                 |  | C2012C0G2E102K085AA     |                         |
|             |           |                | ± 5%                  |  | C2012C0G2E102J085AA     |                         |
|             |           |                | ± 10%                 | C3216C0G2J102K085AA                        |                         |                         |
|             | 3216      | 0.85 ± 0.15    | ± 5%                  | C3216C0G2J102J085AA                        |                         |                         |
|             |           |                | ± 10%                 |  |                         | C1608C0G2A122K080AA     |
| 1.2 nF      | 1608      | 0.80 ± 0.10    | ± 5%                  |  |                         | C1608C0G2A122J080AA     |
|             |           |                | ± 10%                 |  |                         | C2012C0G2A122J060AA     |
|             | 2012      | 0.60 ± 0.15    | ± 5%                  |  | C2012C0G2E122K085AA     |                         |
|             |           |                | ± 10%                 |  | C2012C0G2E122J085AA     |                         |
|             | 3216      | 0.85 ± 0.15    | ± 5%                  | C3216C0G2J122K085AA                        |                         |                         |
|             |           |                | ± 10%                 | C3216C0G2J122J085AA                        |                         |                         |
| 1.5 nF      | 2012      | 0.60 ± 0.15    | ± 10%                 |  |                         | C2012C0G2A152K060AA     |
|             |           |                | ± 5%                  |  |                         | C2012C0G2A152J060AA     |
|             |           | 0.85 ± 0.15    | ± 10%                 |  | C2012C0G2E152K085AA     |                         |
|             |           |                | ± 5%                  |  | C2012C0G2E152J085AA     |                         |
|             | 3216      | 1.15 ± 0.15    | ± 10%                 | C3216C0G2J152K115AA                        |                         |                         |
|             |           |                | ± 5%                  | C3216C0G2J152J115AA                        |                         |                         |
| 1.8 nF      | 2012      | 0.85 ± 0.15    | ± 10%                 |  |                         | C2012C0G2A182K085AA     |
|             |           |                | ± 5%                  |  |                         | C2012C0G2A182J085AA     |
|             |           | 1.25 ± 0.20    | ± 10%                 |  | C2012C0G2E182K125AA     |                         |
|             |           |                | ± 5%                  |  | C2012C0G2E182J125AA     |                         |
|             | 3216      | 1.15 ± 0.15    | ± 10%                 | C3216C0G2J182K115AA                        |                         |                         |
|             |           |                | ± 5%                  | C3216C0G2J182J115AA                        |                         |                         |
| 2.2 nF      | 2012      | 0.85 ± 0.15    | ± 10%                 |  |                         | C2012C0G2A222K085AA     |
|             |           |                | ± 5%                  |  |                         | C2012C0G2A222J085AA     |
|             |           | 1.25 ± 0.20    | ± 10%                 |  | C2012C0G2E222K125AA     |                         |
|             |           |                | ± 5%                  |  | C2012C0G2E222J125AA     |                         |
|             | 3216      | 1.15 ± 0.15    | ± 10%                 | C3216C0G2J222K115AA                        |                         |                         |
|             |           |                | ± 5%                  | C3216C0G2J222J115AA                        |                         |                         |
| 2.7 nF      | 2012      | 1.25 ± 0.20    | ± 10%                 |  | C2012C0G2E272K125AA     | C2012C0G2A272K125AA     |
|             |           |                | ± 5%                  |  | C2012C0G2E272J125AA     | C2012C0G2A272J125AA     |
|             | 3216      | 1.60 ± 0.20    | ± 10%                 | C3216C0G2J272K160AA                        |                         |                         |
|             |           |                | ± 5%                  | C3216C0G2J272J160AA                        |                         |                         |
| 3.3 nF      | 2012      | 1.25 ± 0.20    | ± 10%                 |  |                         | C2012C0G2A332K125AA     |
|             |           |                | ± 5%                  |  |                         | C2012C0G2A332J125AA     |
|             | 3216      | 0.85 ± 0.15    | ± 10%                 |  | C3216C0G2E332K085AA     |                         |
|             |           |                | ± 5%                  |  | C3216C0G2E332J085AA     |                         |



## Capacitance Range Table

### Class 1 (Temperature Compensating)

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

| Capacitance | Case Size | Thickness (mm) | Capacitance Tolerance | TDK Part Number<br>Rated Voltage Edc: 630V | Rated Voltage Edc: 250V | Rated Voltage Edc: 100V |
|-------------|-----------|----------------|-----------------------|--|-------------------------|-------------------------|
| 3.3 nF      | 3216      | 1.60 ± 0.20    | ± 10%                 | C3216C0G2J332K160AA                        |                         |                         |
|             |           |                | ± 5%                  | C3216C0G2J332J160AA                        |                         |                         |
|             | 2012      | 1.25 ± 0.20    | ± 10%                 |  |                         | C2012C0G2A392K125AA     |
|             |           |                | ± 5%                  |  |                         | C2012C0G2A392J125AA     |
| 3.9 nF      | 3216      | 0.85 ± 0.15    | ± 10%                 | C3216C0G2J392K085AA                        |                         | C3216C0G2A392K060AA     |
|             |           |                | ± 5%                  | C3216C0G2J392J085AA                        |                         | C3216C0G2A392J060AA     |
|             | 3225      | 1.25 ± 0.20    | ± 10%                 | C3225C0G2J392K125AA                        |                         |                         |
|             |           |                | ± 5%                  | C3225C0G2J392J125AA                        |                         |                         |
| 4.7 nF      | 3216      | 0.85 ± 0.15    | ± 10%                 | C3216C0G2J472K085AA                        | C3216C0G2E392K115AA     |                         |
|             |           |                | ± 5%                  | C3216C0G2J472J085AA                        | C3216C0G2E392J115AA     |                         |
|             | 3225      | 1.60 ± 0.20    | ± 10%                 | C3225C0G2J472K160AA                        |                         | C2012C0G2A472K125AA     |
|             |           |                | ± 5%                  | C3225C0G2J472J160AA                        |                         | C2012C0G2A472J125AA     |
| 5.6 nF      | 3216      | 0.85 ± 0.15    | ± 10%                 | C3216C0G2J562K115AA                        | C3216C0G2E472K115AA     | C3216C0G2A472K085AA     |
|             |           |                | ± 5%                  | C3216C0G2J562J115AA                        | C3216C0G2E472J115AA     | C3216C0G2A472J085AA     |
|             | 3225      | 1.60 ± 0.20    | ± 10%                 | C3225C0G2J562K160AA                        |                         |                         |
|             |           |                | ± 5%                  | C3225C0G2J562J160AA                        |                         |                         |
| 6.8 nF      | 3216      | 1.15 ± 0.15    | ± 10%                 | C3216C0G2J682K115AA                        |                         | C3216C0G2A682K115AA     |
|             |           |                | ± 5%                  | C3216C0G2J682J115AA                        |                         | C3216C0G2A682J115AA     |
|             | 3225      | 2.00 ± 0.20    | ± 10%                 | C3225C0G2J682K200AA                        | C3216C0G2E682K160AA     |                         |
|             |           |                | ± 5%                  | C3225C0G2J682J200AA                        | C3216C0G2E682J160AA     |                         |
| 8.2 nF      | 3216      | 1.15 ± 0.15    | ± 10%                 | C3216C0G2J822K160AA                        | C3216C0G2E822K160AA     | C3216C0G2A822K115AA     |
|             |           |                | ± 5%                  | C3216C0G2J822J160AA                        | C3216C0G2E822J160AA     | C3216C0G2A822J115AA     |
|             | 3225      | 1.25 ± 0.20    | ± 10%                 | C3225C0G2J822K125AA                        |                         |                         |
|             |           |                | ± 5%                  | C3225C0G2J822J125AA                        |                         |                         |
| 10 nF       | 3216      | 1.60 ± 0.20    | ± 10%                 | C4532C0G2J822K160KA                        |                         | C3216C0G2A103K115AA     |
|             |           |                | ± 5%                  | C4532C0G2J822J160KA                        |                         | C3216C0G2A103J115AA     |
|             | 3225      | 1.25 ± 0.20    | ± 10%                 | C3225C0G2J103K125AA                        |                         |                         |
|             |           |                | ± 5%                  | C3225C0G2J103J125AA                        |                         |                         |
| 15 nF       | 3225      | 1.60 ± 0.20    | ± 10%                 | C4532C0G2J103K160KA                        | C3225C0G2E103K160AA     | C3225C0G2A153K125AA     |
|             |           |                | ± 5%                  | C4532C0G2J103J160KA                        | C3225C0G2E103J160AA     | C3225C0G2A153J125AA     |
|             | 4532      | 2.50 ± 0.30    | ± 10%                 | C4532C0G2J153K250KA                        | C3225C0G2E153K200AA     |                         |
|             |           |                | ± 5%                  | C4532C0G2J153J250KA                        | C3225C0G2E153J200AA     |                         |
| 22 nF       | 3225      | 1.60 ± 0.20    | ± 10%                 |  |                         | C3225C0G2A223K160AA     |
|             |           |                | ± 5%                  |  |                         | C3225C0G2A223J160AA     |



## Capacitance Range Table

### Class 1 (Temperature Compensating)

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

| Capacitance | Case Size | Thickness (mm) | Capacitance Tolerance | TDK Part Number         |                         |                         |
|-------------|-----------|----------------|-----------------------|-------------------------|-------------------------|-------------------------|
|             |           |                |                       | Rated Voltage Edc: 630V | Rated Voltage Edc: 250V | Rated Voltage Edc: 100V |
| 22 nF       | 3225      | 2.30 ± 0.20    | ± 10%                 | C3225C0G2J223K230AA     |                         |                         |
|             |           |                | ± 5%                  | C3225C0G2J223J230AA     |                         |                         |
|             |           |                | ± 10%                 |                         | C4532C0G2E223K160KA     |                         |
|             | 4532      | 1.60 ± 0.20    | ± 5%                  |                         | C4532C0G2E223J160KA     |                         |
|             |           |                | ± 10%                 | C4532C0G2J223K320KA     |                         |                         |
|             |           |                | ± 5%                  | C4532C0G2J223J320KA     |                         |                         |
| 33 nF       | 3225      | 2.00 ± 0.20    | ± 10%                 |                         |                         | C3225C0G2A333K200AA     |
|             |           |                | ± 5%                  |                         |                         | C3225C0G2A333J200AA     |
|             |           |                | ± 10%                 | C3225C0G2J333K250AA     |                         |                         |
|             | 4532      | 2.50 ± 0.30    | ± 5%                  | C3225C0G2J333J250AA     |                         |                         |
|             |           |                | ± 10%                 |                         | C4532C0G2E333K200KA     |                         |
|             |           |                | ± 5%                  |                         | C4532C0G2E333J200KA     |                         |
| 47 nF       | 3225      | 2.30 ± 0.20    | ± 10%                 |                         |                         | C3225C0G2A473K230AA     |
|             |           |                | ± 5%                  |                         |                         | C3225C0G2A473J230AA     |
|             |           |                | ± 10%                 |                         |                         | C4532C0G2A473K200KA     |
|             | 4532      | 2.00 ± 0.20    | ± 5%                  |                         |                         | C4532C0G2A473J200KA     |
|             |           |                | ± 10%                 |                         | C4532C0G2E473K320KA     |                         |
|             |           |                | ± 5%                  |                         | C4532C0G2E473J320KA     |                         |
| 68 nF       | 4532      | 2.50 ± 0.30    | ± 10%                 |                         |                         | C4532C0G2A683K250KA     |
|             |           |                | ± 5%                  |                         |                         | C4532C0G2A683J250KA     |
| 100 nF      | 4532      | 3.20 ± 0.30    | ± 10%                 |                         |                         | C4532C0G2A104K320KA     |
|             |           |                | ± 5%                  |                         |                         | C4532C0G2A104J320KA     |

### Class 1 (Temperature Compensating)

Temperature Characteristics: CH (-25 to 85°C, 0±60 ppm/°C)

| Capacitance | Case Size | Thickness (mm) | Capacitance Tolerance | TDK Part Number         |                         |                         |
|-------------|-----------|----------------|-----------------------|-------------------------|-------------------------|-------------------------|
|             |           |                |                       | Rated Voltage Edc: 630V | Rated Voltage Edc: 250V | Rated Voltage Edc: 100V |
| 1 pF        | 1608      | 0.80 ± 0.10    | ± 0.25pF              |                         |                         | C1608CH2A010C080AA      |
| 1.5 pF      | 1608      | 0.80 ± 0.10    | ± 0.25pF              |                         |                         | C1608CH2A1R5C080AA      |
| 2 pF        | 1608      | 0.80 ± 0.10    | ± 0.25pF              |                         |                         | C1608CH2A020C080AA      |
| 2.2 pF      | 1608      | 0.80 ± 0.10    | ± 0.25pF              |                         |                         | C1608CH2A2R2C080AA      |
| 3 pF        | 1608      | 0.80 ± 0.10    | ± 0.25pF              |                         |                         | C1608CH2A030C080AA      |
| 3.3 pF      | 1608      | 0.80 ± 0.10    | ± 0.25pF              |                         |                         | C1608CH2A3R3C080AA      |
| 4 pF        | 1608      | 0.80 ± 0.10    | ± 0.25pF              |                         |                         | C1608CH2A040C080AA      |
| 4.7 pF      | 1608      | 0.80 ± 0.10    | ± 0.25pF              |                         |                         | C1608CH2A4R7C080AA      |
| 5 pF        | 1608      | 0.80 ± 0.10    | ± 0.25pF              |                         |                         | C1608CH2A050C080AA      |
| 6 pF        | 1608      | 0.80 ± 0.10    | ± 0.50pF              |                         |                         | C1608CH2A060D080AA      |
| 6.8 pF      | 1608      | 0.80 ± 0.10    | ± 0.50pF              |                         |                         | C1608CH2A6R8D080AA      |
| 7 pF        | 1608      | 0.80 ± 0.10    | ± 0.50pF              |                         |                         | C1608CH2A070D080AA      |
| 8 pF        | 1608      | 0.80 ± 0.10    | ± 0.50pF              |                         |                         | C1608CH2A080D080AA      |
| 9 pF        | 1608      | 0.80 ± 0.10    | ± 0.50pF              |                         |                         | C1608CH2A090D080AA      |
| 10 pF       | 1608      | 0.80 ± 0.10    | ± 0.50pF              |                         |                         | C1608CH2A100D080AA      |
| 12 pF       | 1608      | 0.80 ± 0.10    | ± 5%                  |                         |                         | C1608CH2A120J080AA      |
| 15 pF       | 1608      | 0.80 ± 0.10    | ± 5%                  |                         |                         | C1608CH2A150J080AA      |
| 18 pF       | 1608      | 0.80 ± 0.10    | ± 5%                  |                         |                         | C1608CH2A180J080AA      |
| 22 pF       | 1608      | 0.80 ± 0.10    | ± 5%                  |                         |                         | C1608CH2A220J080AA      |
| 27 pF       | 1608      | 0.80 ± 0.10    | ± 5%                  |                         |                         | C1608CH2A270J080AA      |
| 33 pF       | 1608      | 0.80 ± 0.10    | ± 5%                  |                         |                         | C1608CH2A330J080AA      |
| 39 pF       | 1608      | 0.80 ± 0.10    | ± 5%                  |                         |                         | C1608CH2A390J080AA      |
| 47 pF       | 1608      | 0.80 ± 0.10    | ± 5%                  |                         |                         | C1608CH2A470J080AA      |
| 56 pF       | 1608      | 0.80 ± 0.10    | ± 5%                  |                         |                         | C1608CH2A560J080AA      |
| 68 pF       | 1608      | 0.80 ± 0.10    | ± 5%                  |                         |                         | C1608CH2A680J080AA      |
| 82 pF       | 1608      | 0.80 ± 0.10    | ± 5%                  |                         |                         | C1608CH2A820J080AA      |
| 100 pF      | 1608      | 0.80 ± 0.10    | ± 10%                 |                         | C1608CH2E101K080AA      | C1608CH2A101K080AA      |
|             |           |                | ± 5%                  |                         | C1608CH2E101J080AA      | C1608CH2A101J080AA      |
|             | 3216      | 0.60 ± 0.15    | ± 10%                 | C3216CH2J101K060AA      |                         |                         |
|             |           |                | ± 5%                  | C3216CH2J101J060AA      |                         |                         |
| 120 pF      | 1608      | 0.80 ± 0.10    | ± 10%                 |                         | C1608CH2E121K080AA      | C1608CH2A121K080AA      |
|             |           |                | ± 5%                  |                         | C1608CH2E121J080AA      | C1608CH2A121J080AA      |



## Capacitance Range Table

### Class 1 (Temperature Compensating)

Temperature Characteristics: CH (-25 to 85°C, 0±60 ppm/°C)

| Capacitance | Case Size   | Thickness (mm) | Capacitance Tolerance | TDK Part Number         |                         |                         |
|-------------|-------------|----------------|-----------------------|-------------------------|-------------------------|-------------------------|
|             |             |                |                       | Rated Voltage Edc: 630V | Rated Voltage Edc: 250V | Rated Voltage Edc: 100V |
| 120 pF      | 3216        | 0.60 ± 0.15    | ± 10%                 | C3216CH2J121K060AA      |                         |                         |
|             |             |                | ± 5%                  | C3216CH2J121J060AA      |                         |                         |
| 150 pF      | 1608        | 0.80 ± 0.10    | ± 10%                 |                         | C1608CH2E151K080AA      | C1608CH2A151K080AA      |
|             |             |                | ± 5%                  |                         | C1608CH2E151J080AA      | C1608CH2A151J080AA      |
|             | 3216        | 0.60 ± 0.15    | ± 10%                 | C3216CH2J151K060AA      |                         |                         |
|             |             |                | ± 5%                  | C3216CH2J151J060AA      |                         |                         |
| 180 pF      | 1608        | 0.80 ± 0.10    | ± 10%                 |                         | C1608CH2E181K080AA      | C1608CH2A181K080AA      |
|             |             |                | ± 5%                  |                         | C1608CH2E181J080AA      | C1608CH2A181J080AA      |
|             | 3216        | 0.60 ± 0.15    | ± 10%                 | C3216CH2J181K060AA      |                         |                         |
|             |             |                | ± 5%                  | C3216CH2J181J060AA      |                         |                         |
| 220 pF      | 1608        | 0.80 ± 0.10    | ± 10%                 |                         | C1608CH2E221K080AA      | C1608CH2A221K080AA      |
|             |             |                | ± 5%                  |                         | C1608CH2E221J080AA      | C1608CH2A221J080AA      |
|             | 3216        | 0.60 ± 0.15    | ± 10%                 | C3216CH2J221K060AA      |                         |                         |
|             |             |                | ± 5%                  | C3216CH2J221J060AA      |                         |                         |
| 270 pF      | 1608        | 0.80 ± 0.10    | ± 10%                 |                         | C1608CH2E271K080AA      | C1608CH2A271K080AA      |
|             |             |                | ± 5%                  |                         | C1608CH2E271J080AA      | C1608CH2A271J080AA      |
|             | 3216        | 0.60 ± 0.15    | ± 10%                 | C3216CH2J271K060AA      |                         |                         |
|             |             |                | ± 5%                  | C3216CH2J271J060AA      |                         |                         |
| 330 pF      | 1608        | 0.80 ± 0.10    | ± 10%                 |                         | C1608CH2E331K080AA      | C1608CH2A331K080AA      |
|             |             |                | ± 5%                  |                         | C1608CH2E331J080AA      | C1608CH2A331J080AA      |
|             | 3216        | 0.60 ± 0.15    | ± 10%                 | C3216CH2J331K060AA      |                         |                         |
|             |             |                | ± 5%                  | C3216CH2J331J060AA      |                         |                         |
| 390 pF      | 1608        | 0.80 ± 0.10    | ± 10%                 |                         | C1608CH2E391K080AA      | C1608CH2A391K080AA      |
|             |             |                | ± 5%                  |                         | C1608CH2E391J080AA      | C1608CH2A391J080AA      |
|             | 3216        | 0.60 ± 0.15    | ± 10%                 | C3216CH2J391K060AA      |                         |                         |
|             |             |                | ± 5%                  | C3216CH2J391J060AA      |                         |                         |
| 470 pF      | 1608        | 0.80 ± 0.10    | ± 10%                 |                         | C1608CH2E471K080AA      | C1608CH2A471K080AA      |
|             |             |                | ± 5%                  |                         | C1608CH2E471J080AA      | C1608CH2A471J080AA      |
|             | 3216        | 0.85 ± 0.15    | ± 10%                 | C3216CH2J471K085AA      |                         |                         |
|             |             |                | ± 5%                  | C3216CH2J471J085AA      |                         |                         |
| 560 pF      | 1608        | 0.80 ± 0.10    | ± 10%                 |                         | C1608CH2E561K080AA      | C1608CH2A561K080AA      |
|             |             |                | ± 5%                  |                         | C1608CH2E561J080AA      | C1608CH2A561J080AA      |
|             | 3216        | 0.85 ± 0.15    | ± 10%                 | C3216CH2J561K085AA      |                         |                         |
|             |             |                | ± 5%                  | C3216CH2J561J085AA      |                         |                         |
| 680 pF      | 1608        | 0.80 ± 0.10    | ± 10%                 |                         | C1608CH2E681K080AA      | C1608CH2A681K080AA      |
|             |             |                | ± 5%                  |                         | C1608CH2E681J080AA      | C1608CH2A681J080AA      |
|             | 3216        | 0.85 ± 0.15    | ± 10%                 | C3216CH2J681K085AA      |                         |                         |
|             |             |                | ± 5%                  | C3216CH2J681J085AA      |                         |                         |
| 820 pF      | 1608        | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608CH2A821K080AA      |
|             |             |                | ± 5%                  |                         |                         | C1608CH2A821J080AA      |
|             | 2012        | 0.60 ± 0.15    | ± 10%                 |                         | C2012CH2E821K060AA      |                         |
|             |             |                | ± 5%                  |                         | C2012CH2E821J060AA      |                         |
| 1 nF        | 3216        | 0.85 ± 0.15    | ± 10%                 | C3216CH2J821K085AA      |                         |                         |
|             |             |                | ± 5%                  | C3216CH2J821J085AA      |                         |                         |
|             | 1608        | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608CH2A102K080AA      |
|             |             |                | ± 5%                  |                         |                         | C1608CH2A102J080AA      |
| 1.2 nF      | 2012        | 0.60 ± 0.15    | ± 10%                 |                         |                         | C2012CH2A102J060AA      |
|             |             |                | ± 5%                  |                         |                         |                         |
|             | 3216        | 0.85 ± 0.15    | ± 10%                 | C3216CH2J102K085AA      |                         |                         |
|             |             |                | ± 5%                  | C3216CH2J102J085AA      |                         |                         |
| 1.5 nF      | 1608        | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608CH2A122K080AA      |
|             |             |                | ± 5%                  |                         |                         | C1608CH2A122J080AA      |
|             | 2012        | 0.60 ± 0.15    | ± 10%                 |                         | C2012CH2E122K085AA      |                         |
|             |             |                | ± 5%                  |                         | C2012CH2E122J085AA      |                         |
| 3216        | 0.85 ± 0.15 | ± 10%          | C3216CH2J122K085AA    |                         |                         |                         |
|             |             | ± 5%           | C3216CH2J122J085AA    |                         |                         |                         |





## Capacitance Range Table

### Class 1 (Temperature Compensating)

Temperature Characteristics: CH (-25 to 85°C, 0±60 ppm/°C)

| Capacitance | Case Size          | Thickness (mm) | Capacitance Tolerance | TDK Part Number<br>Rated Voltage Edc: 630V | Rated Voltage Edc: 250V | Rated Voltage Edc: 100V |
|-------------|--------------------|----------------|-----------------------|--|-------------------------|-------------------------|
| 1.5 nF      | 2012               | 0.85 ± 0.15    | ± 10%                 |  | C2012CH2E152K085AA      |                         |
|             |                    |                | ± 5%                  |  | C2012CH2E152J085AA      |                         |
| 1.5 nF      | 3216               | 1.15 ± 0.15    | ± 10%                 | C3216CH2J152K115AA                         |                         |                         |
|             |                    |                | ± 5%                  | C3216CH2J152J115AA                         |                         |                         |
| 1.8 nF      | 2012               | 0.85 ± 0.15    | ± 10%                 |  |                         | C2012CH2A182K085AA      |
|             |                    |                | ± 5%                  |  |                         | C2012CH2A182J085AA      |
|             | 1.25 ± 0.20        | ± 10%          |                       | C2012CH2E182K125AA                         |                         |                         |
|             |                    | ± 5%           |                       | C2012CH2E182J125AA                         |                         |                         |
| 3216        | 1.15 ± 0.15        | ± 10%          | C3216CH2J182K115AA    |  |                         |                         |
|             |                    | ± 5%           | C3216CH2J182J115AA    |  |                         |                         |
| 2.2 nF      | 2012               | 0.85 ± 0.15    | ± 10%                 |  |                         | C2012CH2A222K085AA      |
|             |                    |                | ± 5%                  |  |                         | C2012CH2A222J085AA      |
|             | 1.25 ± 0.20        | ± 10%          |                       | C2012CH2E222K125AA                         |                         |                         |
|             |                    | ± 5%           |                       | C2012CH2E222J125AA                         |                         |                         |
| 3216        | 1.15 ± 0.15        | ± 10%          | C3216CH2J222K115AA    |  |                         |                         |
|             |                    | ± 5%           | C3216CH2J222J115AA    |  |                         |                         |
| 2.7 nF      | 2012               | 1.25 ± 0.20    | ± 10%                 |  | C2012CH2E272K125AA      | C2012CH2A272K125AA      |
|             |                    |                | ± 5%                  |  | C2012CH2E272J125AA      | C2012CH2A272J125AA      |
|             | 3216               | 1.60 ± 0.20    | ± 10%                 | C3216CH2J272K160AA                         |                         |                         |
|             |                    |                | ± 5%                  | C3216CH2J272J160AA                         |                         |                         |
| 3.3 nF      | 2012               | 1.25 ± 0.20    | ± 10%                 |  |                         | C2012CH2A332K125AA      |
|             |                    |                | ± 5%                  |  |                         | C2012CH2A332J125AA      |
|             | 3216               | 0.85 ± 0.15    | ± 10%                 |  | C3216CH2E332K085AA      |                         |
|             |                    |                | ± 5%                  |  | C3216CH2E332J085AA      |                         |
| 3216        | 1.60 ± 0.20        | ± 10%          | C3216CH2J332K160AA    |  |                         |                         |
|             |                    | ± 5%           | C3216CH2J332J160AA    |  |                         |                         |
| 3.9 nF      | 2012               | 1.25 ± 0.20    | ± 10%                 |  |                         | C2012CH2A392K125AA      |
|             |                    |                | ± 5%                  |  |                         | C2012CH2A392J125AA      |
|             | 3216               | 0.85 ± 0.15    | ± 10%                 | C3216CH2J392K085AA                         |                         |                         |
|             |                    |                | ± 5%                  | C3216CH2J392J085AA                         |                         |                         |
|             | 3216               | 1.15 ± 0.15    | ± 10%                 |  | C3216CH2E392K115AA      |                         |
|             |                    |                | ± 5%                  |  | C3216CH2E392J115AA      |                         |
| 3225        | 1.25 ± 0.20        | ± 10%          | C3225CH2J392K125AA    |  |                         |                         |
|             |                    | ± 5%           | C3225CH2J392J125AA    |  |                         |                         |
| 4.7 nF      | 2012               | 1.25 ± 0.20    | ± 10%                 |  |                         | C2012CH2A472K125AA      |
|             |                    |                | ± 5%                  |  |                         | C2012CH2A472J125AA      |
|             | 3216               | 0.85 ± 0.15    | ± 10%                 | C3216CH2J472K085AA                         |                         | C3216CH2A472K085AA      |
|             |                    |                | ± 5%                  | C3216CH2J472J085AA                         |                         | C3216CH2A472J085AA      |
|             | 3216               | 1.15 ± 0.15    | ± 10%                 |  | C3216CH2E472K115AA      |                         |
|             |                    |                | ± 5%                  |  | C3216CH2E472J115AA      |                         |
| 3225        | 1.60 ± 0.20        | ± 10%          | C3225CH2J472K160AA    |  |                         |                         |
|             |                    | ± 5%           | C3225CH2J472J160AA    |  |                         |                         |
| 5.6 nF      | 3216               | 0.85 ± 0.15    | ± 10%                 |  |                         | C3216CH2A562K085AA      |
|             |                    |                | ± 5%                  |  |                         | C3216CH2A562J085AA      |
|             | 3216               | 1.15 ± 0.15    | ± 10%                 | C3216CH2J562K115AA                         | C3216CH2E562K115AA      |                         |
|             |                    |                | ± 5%                  | C3216CH2J562J115AA                         | C3216CH2E562J115AA      |                         |
| 3225        | 1.60 ± 0.20        | ± 10%          | C3225CH2J562K160AA    |  |                         |                         |
|             |                    | ± 5%           | C3225CH2J562J160AA    |  |                         |                         |
| 6.8 nF      | 3216               | 1.15 ± 0.15    | ± 10%                 | C3216CH2J682K115AA                         |                         | C3216CH2A682K115AA      |
|             |                    |                | ± 5%                  | C3216CH2J682J115AA                         |                         | C3216CH2A682J115AA      |
|             | 3216               | 1.60 ± 0.20    | ± 10%                 |  | C3216CH2E682K160AA      |                         |
|             |                    |                | ± 5%                  |  | C3216CH2E682J160AA      |                         |
| 3225        | 2.00 ± 0.20        | ± 10%          | C3225CH2J682K200AA    |  |                         |                         |
|             |                    | ± 5%           | C3225CH2J682J200AA    |  |                         |                         |
| 8.2 nF      | 3216               | 1.15 ± 0.15    | ± 10%                 |  |                         | C3216CH2A822K115AA      |
|             |                    |                | ± 5%                  |  |                         | C3216CH2A822J115AA      |
|             |                    | 1.60 ± 0.20    | ± 10%                 | C3216CH2J822K160AA                         | C3216CH2E822K160AA      |                         |
| ± 5%        | C3216CH2J822J160AA |                | C3216CH2E822J160AA    |  |                         |                         |



## Capacitance Range Table

### Class 1 (Temperature Compensating)

Temperature Characteristics: CH (-25 to 85°C, 0±60 ppm/°C)

| Capacitance | Case Size | Thickness (mm) | Capacitance Tolerance | TDK Part Number         |                         |                         |                    |
|-------------|-----------|----------------|-----------------------|-------------------------|-------------------------|-------------------------|--------------------|
|             |           |                |                       | Rated Voltage Edc: 630V | Rated Voltage Edc: 250V | Rated Voltage Edc: 100V |                    |
| 8.2 nF      | 3225      | 1.25 ± 0.20    | ± 10%                 | C3225CH2J822K125AA      |                         |                         |                    |
|             |           |                | ± 5%                  | C3225CH2J822J125AA      |                         |                         |                    |
|             | 4532      | 1.60 ± 0.20    | ± 10%                 | C4532CH2J822K160KA      |                         |                         |                    |
|             |           |                | ± 5%                  | C4532CH2J822J160KA      |                         |                         |                    |
| 10 nF       | 3216      | 1.15 ± 0.15    | ± 10%                 |                         |                         | C3216CH2A103K115AA      |                    |
|             |           |                | ± 5%                  |                         |                         | C3216CH2A103J115AA      |                    |
|             | 3225      | 1.25 ± 0.20    | ± 10%                 | C3225CH2J103K125AA      |                         |                         |                    |
|             |           |                | ± 5%                  | C3225CH2J103J125AA      |                         |                         |                    |
|             | 4532      | 1.60 ± 0.20    | ± 10%                 | C4532CH2J103K160KA      | C3225CH2E103K160AA      |                         |                    |
|             |           |                | ± 5%                  | C4532CH2J103J160KA      | C3225CH2E103J160AA      |                         |                    |
| 15 nF       | 3225      | 1.25 ± 0.20    | ± 10%                 | C3225CH2J153K160AA      |                         | C3225CH2A153K125AA      |                    |
|             |           |                | ± 5%                  | C3225CH2J153J160AA      |                         | C3225CH2A153J125AA      |                    |
|             | 4532      | 1.60 ± 0.20    | ± 10%                 | C4532CH2J153K200AA      | C3225CH2E153K200AA      |                         |                    |
|             |           |                | ± 5%                  | C4532CH2J153J200AA      | C3225CH2E153J200AA      |                         |                    |
|             | 3225      | 1.60 ± 0.20    | ± 10%                 | C3225CH2A223K160AA      |                         |                         |                    |
|             |           |                | ± 5%                  | C3225CH2A223J160AA      |                         |                         |                    |
| 22 nF       | 3225      | 2.30 ± 0.20    | ± 10%                 | C3225CH2J223K230AA      |                         |                         |                    |
|             |           |                | ± 5%                  | C3225CH2J223J230AA      |                         |                         |                    |
|             | 4532      | 1.60 ± 0.20    | ± 10%                 | C4532CH2E223K160KA      | C4532CH2E223K160KA      |                         |                    |
|             |           |                | ± 5%                  | C4532CH2E223J160KA      | C4532CH2E223J160KA      |                         |                    |
|             | 3225      | 2.00 ± 0.20    | ± 10%                 | C3225CH2A333K200AA      |                         | C3225CH2A333K200AA      |                    |
|             |           |                | ± 5%                  | C3225CH2A333J200AA      |                         | C3225CH2A333J200AA      |                    |
| 33 nF       | 4532      | 2.00 ± 0.20    | ± 10%                 | C4532CH2E333K200KA      | C4532CH2E333K200KA      |                         |                    |
|             |           |                | ± 5%                  | C4532CH2E333J200KA      | C4532CH2E333J200KA      |                         |                    |
|             | 3225      | 2.30 ± 0.20    | ± 10%                 | C3225CH2A473K230AA      |                         | C3225CH2A473K230AA      |                    |
|             |           |                | ± 5%                  | C3225CH2A473J230AA      |                         | C4532CH2A473J200KA      |                    |
|             | 4532      | 3.20 ± 0.30    | ± 10%                 | C4532CH2E473K320KA      | C4532CH2E473K320KA      |                         |                    |
|             |           |                | ± 5%                  | C4532CH2E473J320KA      | C4532CH2E473J320KA      |                         |                    |
| 47 nF       | 4532      | 2.50 ± 0.30    | ± 10%                 | C4532CH2A683K250KA      |                         | C4532CH2A683K250KA      |                    |
|             |           |                | ± 5%                  | C4532CH2A683J250KA      |                         | C4532CH2A104K320KA      |                    |
|             | 100 nF    | 4532           | 3.20 ± 0.30           | ± 10%                   | C4532CH2A104K320KA      |                         | C4532CH2A104K320KA |
|             |           |                |                       | ± 5%                    | C4532CH2A104J320KA      |                         | C4532CH2A104J320KA |

### Class 2 (Temperature Stable)

Temperature Characteristics: JB (-25 to +85°C, ±10%)

| Capacitance | Case Size   | Thickness (mm) | Capacitance Tolerance | TDK Part Number         |                         |                         |
|-------------|-------------|----------------|-----------------------|-------------------------|-------------------------|-------------------------|
|             |             |                |                       | Rated Voltage Edc: 630V | Rated Voltage Edc: 250V | Rated Voltage Edc: 100V |
| 1 nF        | 1608        | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608JB2A102K080AA      |
|             |             |                | ± 20%                 |                         |                         | C1608JB2A102M080AA      |
|             | 2012        | 0.85 ± 0.15    | ± 10%                 |                         | C2012JB2E102K085AA      | C2012JB2A102K085AA      |
|             |             |                | ± 20%                 |                         | C2012JB2E102M085AA      | C2012JB2A102M085AA      |
| 1.5 nF      | 3216        | 1.15 ± 0.10    | ± 10%                 | C3216JB2J102K115AA      |                         |                         |
|             |             |                | ± 20%                 | C3216JB2J102M115AA      |                         |                         |
|             | 1608        | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608JB2A152K080AA      |
|             |             |                | ± 20%                 |                         |                         | C1608JB2A152M080AA      |
| 2012        | 0.85 ± 0.15 | ± 10%          |                       | C2012JB2E152K085AA      | C2012JB2A152K085AA      |                         |
|             |             | ± 20%          |                       | C2012JB2E152M085AA      | C2012JB2A152M085AA      |                         |



## Capacitance Range Table

### Class 2 (Temperature Stable)

Temperature Characteristics: JB (-25 to +85°C, ±10%)

| Capacitance | Case Size   | Thickness (mm) | Capacitance Tolerance | TDK Part Number         |                         |                         |
|-------------|-------------|----------------|-----------------------|-------------------------|-------------------------|-------------------------|
|             |             |                |                       | Rated Voltage Edc: 630V | Rated Voltage Edc: 250V | Rated Voltage Edc: 100V |
| 1.5 nF      | 3216        | 1.15 ± 0.10    | ± 10%                 | C3216JB2J152K115AA      |                         |                         |
|             |             |                | ± 20%                 | C3216JB2J152M115AA      |                         |                         |
| 2.2 nF      | 1608        | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608JB2A222K080AA      |
|             |             |                | ± 20%                 |                         |                         | C1608JB2A222M080AA      |
|             | 2012        | 0.85 ± 0.15    | ± 10%                 |                         | C2012JB2E222K085AA      | C2012JB2A222K085AA      |
|             |             |                | ± 20%                 |                         | C2012JB2E222M085AA      | C2012JB2A222M085AA      |
| 3216        | 1.15 ± 0.10 | ± 10%          | C3216JB2J222K115AA    |                         |                         |                         |
|             |             | ± 20%          | C3216JB2J222M115AA    |                         |                         |                         |
| 3.3 nF      | 1608        | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608JB2A332K080AA      |
|             |             |                | ± 20%                 |                         |                         | C1608JB2A332M080AA      |
|             | 2012        | 0.85 ± 0.15    | ± 10%                 |                         | C2012JB2E332K085AA      | C2012JB2A332K085AA      |
|             |             |                | ± 20%                 |                         | C2012JB2E332M085AA      | C2012JB2A332M085AA      |
| 3216        | 1.15 ± 0.10 | ± 10%          | C3216JB2J332K115AA    |                         |                         |                         |
|             |             | ± 20%          | C3216JB2J332M115AA    |                         |                         |                         |
| 4.7 nF      | 1608        | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608JB2A472K080AA      |
|             |             |                | ± 20%                 |                         |                         | C1608JB2A472M080AA      |
|             | 2012        | 0.85 ± 0.15    | ± 10%                 |                         | C2012JB2E472K085AA      | C2012JB2A472K085AA      |
|             |             |                | ± 20%                 |                         | C2012JB2E472M085AA      | C2012JB2A472M085AA      |
| 3216        | 1.15 ± 0.10 | ± 10%          | C3216JB2J472K115AA    |                         |                         |                         |
|             |             | ± 20%          | C3216JB2J472M115AA    |                         |                         |                         |
| 6.8 nF      | 1608        | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608JB2A682K080AA      |
|             |             |                | ± 20%                 |                         |                         | C1608JB2A682M080AA      |
|             | 2012        | 0.85 ± 0.15    | ± 10%                 |                         |                         | C2012JB2A682K085AA      |
|             |             |                | ± 20%                 |                         |                         | C2012JB2A682M085AA      |
| 3216        | 1.15 ± 0.10 | ± 10%          | C3216JB2J682K115AA    |                         |                         |                         |
|             |             | ± 20%          | C3216JB2J682M115AA    |                         |                         |                         |
| 10 nF       | 1608        | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608JB2A103K080AA      |
|             |             |                | ± 20%                 |                         |                         | C1608JB2A103M080AA      |
|             | 2012        | 0.85 ± 0.15    | ± 10%                 |                         |                         | C2012JB2A103K085AA      |
|             |             |                | ± 20%                 |                         |                         | C2012JB2A103M085AA      |
| 3216        | 1.15 ± 0.10 | ± 10%          | C3216JB2J103K115AA    |                         |                         |                         |
|             |             | ± 20%          | C3216JB2J103M115AA    |                         |                         |                         |
| 15 nF       | 1608        | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608JB2A153K080AA      |
|             |             |                | ± 20%                 |                         |                         | C1608JB2A153M080AA      |
|             | 2012        | 1.25 ± 0.20    | ± 10%                 |                         | C2012JB2E153K125AA      | C2012JB2A153K125AA      |
|             |             |                | ± 20%                 |                         | C2012JB2E153M125AA      | C2012JB2A153M125AA      |
| 3216        | 1.15 ± 0.10 | ± 10%          |                       | C3216JB2E153K115AA      |                         |                         |
|             |             | ± 20%          |                       | C3216JB2E153M115AA      |                         |                         |
| 22 nF       | 1608        | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608JB2A223K080AA      |
|             |             |                | ± 20%                 |                         |                         | C1608JB2A223M080AA      |
|             | 2012        | 1.25 ± 0.20    | ± 10%                 |                         | C2012JB2E223K125AA      | C2012JB2A223K125AA      |
|             |             |                | ± 20%                 |                         | C2012JB2E223M125AA      | C2012JB2A223M125AA      |
| 3216        | 1.15 ± 0.10 | ± 10%          |                       | C3216JB2E223K115AA      |                         |                         |
|             |             | ± 20%          |                       | C3216JB2E223M115AA      |                         |                         |
| 33 nF       | 1608        | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608JB2A223K080AA      |
|             |             |                | ± 20%                 |                         |                         | C1608JB2A223M080AA      |
|             | 2012        | 1.25 ± 0.20    | ± 10%                 |                         | C2012JB2E223K125AA      | C2012JB2A223K125AA      |
|             |             |                | ± 20%                 |                         | C2012JB2E223M125AA      | C2012JB2A223M125AA      |
| 3216        | 1.15 ± 0.10 | ± 10%          |                       | C3216JB2E223K115AA      |                         |                         |
|             |             | ± 20%          |                       | C3216JB2E223M115AA      |                         |                         |
| 47 nF       | 1608        | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608JB2A223K080AA      |
|             |             |                | ± 20%                 |                         |                         | C1608JB2A223M080AA      |
|             | 2012        | 1.25 ± 0.20    | ± 10%                 |                         | C2012JB2E223K125AA      | C2012JB2A223K125AA      |
|             |             |                | ± 20%                 |                         | C2012JB2E223M125AA      | C2012JB2A223M125AA      |
| 3216        | 1.15 ± 0.10 | ± 10%          | C3216JB2J333K160AA    | C3216JB2E333K160AA      |                         |                         |
|             |             | ± 20%          | C3216JB2J333M160AA    | C3216JB2E333M160AA      |                         |                         |
| 3216        | 1.60 ± 0.20 | ± 10%          | C3216JB2J333K160AA    | C3216JB2E333K160AA      |                         |                         |
|             |             | ± 20%          | C3216JB2J333M160AA    | C3216JB2E333M160AA      |                         |                         |
| 2012        | 1.25 ± 0.20 | ± 10%          |                       |                         | C2012JB2A473K125AA      |                         |
|             |             | ± 20%          |                       |                         | C2012JB2A473M125AA      |                         |



## Capacitance Range Table

### Class 2 (Temperature Stable)

Temperature Characteristics: JB (-25 to +85°C, ±10%)

| Capacitance | Case Size   | Thickness (mm) | Capacitance Tolerance | TDK Part Number    | Rated Voltage Edc: 630V | Rated Voltage Edc: 250V | Rated Voltage Edc: 100V |                    |
|-------------|-------------|----------------|-----------------------|--------------------|-------------------------|-------------------------|-------------------------|--------------------|
| 47 nF       | 3216        | 1.15 ± 0.10    | ± 10%                 |                    |                         |                         | C3216JB2A473K115AA      |                    |
|             |             |                | ± 20%                 |                    |                         | C3216JB2A473M115AA      |                         |                    |
|             | 1.60 ± 0.20 | ± 10%          |                       |                    | C3216JB2E473K160AA      |                         |                         |                    |
|             |             | ± 20%          |                       |                    | C3216JB2E473M160AA      |                         |                         |                    |
| 3225        | 2.00 ± 0.20 |                | ± 10%                 | C3225JB2J473K200AA |                         |                         |                         |                    |
|             |             |                | ± 20%                 | C3225JB2J473M200AA |                         |                         |                         |                    |
| 68 nF       | 2012        | 0.85 ± 0.15    | ± 10%                 |                    |                         |                         | C2012JB2A683K085AA      |                    |
|             |             |                | ± 20%                 |                    |                         |                         | C2012JB2A683M085AA      |                    |
|             | 3216        | 1.60 ± 0.20    | ± 10%                 |                    |                         | C3216JB2E683K160AA      | C3216JB2A683K160AA      |                    |
|             |             |                | ± 20%                 |                    |                         | C3216JB2E683M160AA      | C3216JB2A683M160AA      |                    |
|             | 3225        | 2.00 ± 0.20    |                       | ± 10%              | C3225JB2J683K200AA      |                         |                         |                    |
|             |             |                |                       | ± 20%              | C3225JB2J683M200AA      |                         |                         |                    |
| 4532        | 1.60 ± 0.20 |                | ± 10%                 | C4532JB2J683K160KA |                         |                         |                         |                    |
|             |             |                | ± 20%                 | C4532JB2J683M160KA |                         |                         |                         |                    |
| 100 nF      | 2012        | 1.25 ± 0.20    | ± 10%                 |                    |                         |                         | C2012JB2A104K125AA      |                    |
|             |             |                | ± 20%                 |                    |                         |                         | C2012JB2A104M125AA      |                    |
|             | 3216        | 1.60 ± 0.20    | ± 10%                 |                    |                         | C3216JB2E104K160AA      | C3216JB2A104K160AA      |                    |
|             |             |                | ± 20%                 |                    |                         | C3216JB2E104M160AA      | C3216JB2A104M160AA      |                    |
|             | 3225        | 2.00 ± 0.20    |                       | ± 10%              |                         | C3225JB2E104K200AA      |                         |                    |
|             |             |                |                       | ± 20%              |                         | C3225JB2E104M200AA      |                         |                    |
| 4532        | 2.30 ± 0.20 |                | ± 10%                 | C4532JB2J104K230KA |                         |                         |                         |                    |
|             |             |                | ± 20%                 | C4532JB2J104M230KA |                         |                         |                         |                    |
| 150 nF      | 3216        | 1.60 ± 0.20    | ± 10%                 |                    |                         |                         | C3216JB2A154K160AA      |                    |
|             |             |                | ± 20%                 |                    |                         |                         | C3216JB2A154M160AA      |                    |
|             | 3225        | 2.00 ± 0.20    |                       | ± 10%              |                         | C3225JB2E154K200AA      |                         |                    |
|             |             |                |                       | ± 20%              |                         | C3225JB2E154M200AA      |                         |                    |
|             | 4532        | 1.60 ± 0.20    |                       | ± 10%              |                         | C4532JB2E154K160KA      |                         |                    |
|             |             |                |                       | ± 20%              |                         | C4532JB2E154M160KA      |                         |                    |
| 5750        | 1.60 ± 0.20 |                | ± 10%                 | C5750JB2J154K160KA |                         |                         |                         |                    |
|             |             |                | ± 20%                 | C5750JB2J154M160KA |                         |                         |                         |                    |
| 220 nF      | 3216        | 1.15 ± 0.10    | ± 10%                 |                    |                         |                         | C3216JB2A224K115AA      |                    |
|             |             |                | ± 20%                 |                    |                         |                         | C3216JB2A224M115AA      |                    |
|             | 3225        | 2.00 ± 0.20    |                       | ± 10%              |                         | C3225JB2E224K200AA      |                         |                    |
|             |             |                |                       | ± 20%              |                         | C3225JB2E224M200AA      |                         |                    |
|             | 4532        | 2.30 ± 0.20    |                       | ± 10%              |                         | C4532JB2E224K230KA      |                         |                    |
|             |             |                |                       | ± 20%              |                         | C4532JB2E224M230KA      |                         |                    |
| 5750        | 2.30 ± 0.20 |                | ± 10%                 | C5750JB2J224K230KA |                         |                         |                         |                    |
|             |             |                | ± 20%                 | C5750JB2J224M230KA |                         |                         |                         |                    |
| 330 nF      | 3216        | 1.30 ± 0.10    | ± 10%                 |                    |                         |                         | C3216JB2A334K130AA      |                    |
|             |             |                | ± 20%                 |                    |                         |                         | C3216JB2A334M130AA      |                    |
|             | 3225        | 2.00 ± 0.20    |                       | ± 10%              |                         |                         |                         | C3225JB2A334K200AA |
|             |             |                |                       | ± 20%              |                         |                         |                         | C3225JB2A334M200AA |
|             | 4532        | 2.30 ± 0.20    |                       | ± 10%              |                         | C4532JB2E334K230KA      |                         |                    |
|             |             |                |                       | ± 20%              |                         | C4532JB2E334M230KA      |                         |                    |
| 5750        | 1.60 ± 0.20 |                | ± 10%                 |                    | C5750JB2E334K160KA      |                         |                         |                    |
|             |             |                | ± 20%                 |                    | C5750JB2E334M160KA      |                         |                         |                    |
| 470 nF      | 3216        | 1.60 ± 0.20    | ± 10%                 |                    |                         |                         | C3216JB2A474K160AA      |                    |
|             |             |                | ± 20%                 |                    |                         |                         | C3216JB2A474M160AA      |                    |
|             | 3225        | 2.00 ± 0.20    |                       | ± 10%              |                         |                         |                         | C3225JB2A474K200AA |
|             |             |                |                       | ± 20%              |                         |                         |                         | C3225JB2A474M200AA |
|             | 4532        | 2.30 ± 0.20    |                       | ± 10%              |                         | C4532JB2E474K230KA      |                         |                    |
|             |             |                |                       | ± 20%              |                         | C4532JB2E474M230KA      |                         |                    |
| 5750        | 2.30 ± 0.20 |                | ± 10%                 |                    | C5750JB2E474K230KA      |                         |                         |                    |
|             |             |                | ± 20%                 |                    | C5750JB2E474M230KA      |                         |                         |                    |
| 680 nF      | 3216        | 1.60 ± 0.20    | ± 10%                 |                    |                         |                         | C3216JB2A684K160AA      |                    |
|             |             |                | ± 20%                 |                    |                         |                         | C3216JB2A684M160AA      |                    |
|             | 3225        | 1.60 ± 0.20    |                       | ± 10%              |                         |                         |                         | C3225JB2A684K160AA |
|             |             |                |                       | ± 20%              |                         |                         |                         | C3225JB2A684M160AA |
| 4532        | 2.30 ± 0.20 |                | ± 10%                 |                    |                         |                         | C4532JB2A684K230KA      |                    |
|             |             |                | ± 20%                 |                    |                         |                         | C4532JB2A684M230KA      |                    |



## Capacitance Range Table

### Class 2 (Temperature Stable)

Temperature Characteristics: JB (-25 to +85°C, ±10%)

| Capacitance | Case Size   | Thickness (mm) | Capacitance Tolerance | TDK Part Number         |                         |                         |
|-------------|-------------|----------------|-----------------------|-------------------------|-------------------------|-------------------------|
|             |             |                |                       | Rated Voltage Edc: 630V | Rated Voltage Edc: 250V | Rated Voltage Edc: 100V |
| 680 nF      | 5750        | 1.60 ± 0.20    | ± 10%                 |                         |                         | C5750JB2A684K160KA      |
|             |             |                | ± 20%                 |                         |                         | C5750JB2A684M160KA      |
|             |             | 2.30 ± 0.20    | ± 10%                 |                         | C5750JB2E684K230KA      |                         |
|             |             |                | ± 20%                 |                         | C5750JB2E684M230KA      |                         |
| 1 μF        | 3216        | 1.60 ± 0.20    | ± 10%                 |                         |                         | C3216JB2A105K160AA      |
|             |             |                | ± 20%                 |                         |                         | C3216JB2A105M160AA      |
|             | 3225        | 2.00 ± 0.20    | ± 10%                 |                         |                         | C3225JB2A105K200AA      |
|             |             |                | ± 20%                 |                         |                         | C3225JB2A105M200AA      |
|             | 4532        | 2.30 ± 0.20    | ± 10%                 |                         |                         | C4532JB2A105K230KA      |
|             |             |                | ± 20%                 |                         |                         | C4532JB2A105M230KA      |
| 5750        | 2.30 ± 0.20 | ± 10%          |                       | C5750JB2E105K230KA      | C5750JB2A105K230KA      |                         |
|             |             | ± 20%          |                       | C5750JB2E105M230KA      | C5750JB2A105M230KA      |                         |
| 1.5 μF      | 3225        | 2.00 ± 0.20    | ± 10%                 |                         |                         | C3225JB2A155K200AB      |
|             |             |                | ± 20%                 |                         |                         | C3225JB2A155M200AB      |
|             | 4532        | 2.30 ± 0.20    | ± 10%                 |                         |                         | C4532JB2A155K230KA      |
|             |             |                | ± 20%                 |                         |                         | C4532JB2A155M230KA      |
|             | 5750        | 2.30 ± 0.20    | ± 10%                 |                         | C5750JB2A155K230KA      | C5750JB2A155M230KA      |
|             |             |                | ± 20%                 |                         | C5750JB2A155M230KA      | C5750JB2A155M230KA      |
| 2.2 μF      | 3225        | 2.30 ± 0.20    | ± 10%                 |                         |                         | C3225JB2A225K230AB      |
|             |             |                | ± 20%                 |                         |                         | C3225JB2A225M230AB      |
|             | 4532        | 2.30 ± 0.20    | ± 10%                 |                         |                         | C4532JB2A225K230KA      |
|             |             |                | ± 20%                 |                         |                         | C4532JB2A225M230KA      |
| 5750        | 2.30 ± 0.20 | ± 10%          |                       |                         | C5750JB2A225K230KA      |                         |
|             |             | ± 20%          |                       |                         | C5750JB2A225M230KA      |                         |
| 3.3 μF      | 5750        | 2.30 ± 0.20    | ± 10%                 |                         |                         | C5750JB2A335K230KA      |
|             |             |                | ± 20%                 |                         |                         | C5750JB2A335M230KA      |
| 4.7 μF      | 5750        | 2.30 ± 0.20    | ± 10%                 |                         |                         | C5750JB2A475K230KA      |
|             |             |                | ± 20%                 |                         |                         | C5750JB2A475M230KA      |

### Class 2 (Temperature Stable)

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

| Capacitance | Case Size   | Thickness (mm) | Capacitance Tolerance | TDK Part Number         |                         |                         |
|-------------|-------------|----------------|-----------------------|-------------------------|-------------------------|-------------------------|
|             |             |                |                       | Rated Voltage Edc: 630V | Rated Voltage Edc: 250V | Rated Voltage Edc: 100V |
| 1 nF        | 1608        | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608X5R2A102K080AA     |
|             |             |                | ± 20%                 |                         |                         | C1608X5R2A102M080AA     |
|             | 2012        | 0.85 ± 0.15    | ± 10%                 |                         | C2012X5R2E102K085AA     |                         |
|             |             |                | ± 20%                 |                         | C2012X5R2E102M085AA     |                         |
| 3216        | 1.15 ± 0.10 | ± 10%          | C3216X5R2J102K115AA   |                         |                         |                         |
|             |             | ± 20%          | C3216X5R2J102M115AA   |                         |                         |                         |
| 1.5 nF      | 1608        | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608X5R2A152K080AA     |
|             |             |                | ± 20%                 |                         |                         | C1608X5R2A152M080AA     |
|             | 2012        | 0.85 ± 0.15    | ± 10%                 |                         | C2012X5R2E152K085AA     |                         |
|             |             |                | ± 20%                 |                         | C2012X5R2E152M085AA     |                         |
|             | 3216        | 1.15 ± 0.10    | ± 10%                 | C3216X5R2J152K115AA     |                         |                         |
|             |             |                | ± 20%                 | C3216X5R2J152M115AA     |                         |                         |
| 2.2 nF      | 1608        | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608X5R2A222K080AA     |
|             |             |                | ± 20%                 |                         |                         | C1608X5R2A222M080AA     |
|             | 2012        | 0.85 ± 0.15    | ± 10%                 |                         | C2012X5R2E222K085AA     |                         |
|             |             |                | ± 20%                 |                         | C2012X5R2E222M085AA     |                         |
| 3216        | 1.15 ± 0.10 | ± 10%          | C3216X5R2J222K115AA   |                         |                         |                         |
|             |             | ± 20%          | C3216X5R2J222M115AA   |                         |                         |                         |
| 3.3 nF      | 1608        | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608X5R2A332K080AA     |
|             |             |                | ± 20%                 |                         |                         | C1608X5R2A332M080AA     |
|             | 2012        | 0.85 ± 0.15    | ± 10%                 |                         | C2012X5R2E332K085AA     |                         |
|             |             |                | ± 20%                 |                         | C2012X5R2E332M085AA     |                         |
| 3216        | 1.15 ± 0.10 | ± 10%          | C3216X5R2J332K115AA   |                         |                         |                         |
|             |             | ± 20%          | C3216X5R2J332M115AA   |                         |                         |                         |
| 4.7 nF      | 1608        | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608X5R2A472K080AA     |
|             |             |                | ± 20%                 |                         |                         | C1608X5R2A472M080AA     |



## Capacitance Range Table

### Class 2 (Temperature Stable)

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

| Capacitance | Case Size | Thickness (mm) | Capacitance Tolerance | TDK Part Number                            |  |  |
|-------------|-----------|----------------|-----------------------|--|--|--|
|             |           |                |                       | Rated Voltage Edc: 630V                    | Rated Voltage Edc: 250V                    | Rated Voltage Edc: 100V                    |
| 4.7 nF      | 2012      | 0.85 ± 0.15    | ± 10%<br>± 20%        |  | C2012X5R2E472K085AA<br>C2012X5R2E472M085AA |  |
|             | 3216      | 1.15 ± 0.10    | ± 10%<br>± 20%        | C3216X5R2J472K115AA<br>C3216X5R2J472M115AA |  |  |
| 6.8 nF      | 1608      | 0.80 ± 0.10    | ± 10%<br>± 20%        |  |  | C1608X5R2A682K080AA<br>C1608X5R2A682M080AA |
|             | 2012      | 1.25 ± 0.20    | ± 10%<br>± 20%        |  | C2012X5R2E682K125AA<br>C2012X5R2E682M125AA |  |
| 10 nF       | 3216      | 1.15 ± 0.10    | ± 10%<br>± 20%        | C3216X5R2J682K115AA<br>C3216X5R2J682M115AA |  |  |
|             | 1608      | 0.80 ± 0.10    | ± 10%<br>± 20%        |  |  | C1608X5R2A103K080AA<br>C1608X5R2A103M080AA |
| 15 nF       | 2012      | 1.25 ± 0.20    | ± 10%<br>± 20%        |  | C2012X5R2E103K125AA<br>C2012X5R2E103M125AA |  |
|             | 3216      | 1.15 ± 0.10    | ± 10%<br>± 20%        | C3216X5R2J103K115AA<br>C3216X5R2J103M115AA |  |  |
| 22 nF       | 1608      | 0.80 ± 0.10    | ± 10%<br>± 20%        |  |  | C1608X5R2A153K080AA<br>C1608X5R2A153M080AA |
|             | 2012      | 1.25 ± 0.20    | ± 10%<br>± 20%        |  | C2012X5R2E153K125AA<br>C2012X5R2E153M125AA |  |
| 33 nF       | 3216      | 1.30 ± 0.10    | ± 10%<br>± 20%        | C3216X5R2J153K130AA<br>C3216X5R2J153M130AA |  |  |
|             | 1608      | 0.80 ± 0.10    | ± 10%<br>± 20%        |  |  | C1608X5R2A223K080AA<br>C1608X5R2A223M080AA |
| 47 nF       | 2012      | 1.25 ± 0.20    | ± 10%<br>± 20%        |  | C2012X5R2E223K125AA<br>C2012X5R2E223M125AA |  |
|             | 3216      | 1.30 ± 0.10    | ± 10%<br>± 20%        | C3216X5R2J223K130AA<br>C3216X5R2J223M130AA |  |  |
| 68 nF       | 2012      | 1.25 ± 0.20    | ± 10%<br>± 20%        |  |  | C2012X5R2A333K125AA<br>C2012X5R2A333M125AA |
|             | 3216      | 1.60 ± 0.20    | ± 10%<br>± 20%        | C3216X5R2J333K160AA<br>C3216X5R2J333M160AA | C3216X5R2E333K160AA<br>C3216X5R2E333M160AA |  |
| 100 nF      | 2012      | 1.25 ± 0.20    | ± 10%<br>± 20%        |  |  | C2012X5R2A473K125AA<br>C2012X5R2A473M125AA |
|             | 3216      | 1.60 ± 0.20    | ± 10%<br>± 20%        |  | C3216X5R2E473K160AA<br>C3216X5R2E473M160AA |  |
| 150 nF      | 3225      | 2.00 ± 0.20    | ± 10%<br>± 20%        | C3225X5R2J473K200AA<br>C3225X5R2J473M200AA |  |  |
|             | 2012      | 0.85 ± 0.15    | ± 10%<br>± 20%        |  |  | C2012X5R2A683K085AA<br>C2012X5R2A683M085AA |
| 220 nF      | 3216      | 1.60 ± 0.20    | ± 10%<br>± 20%        |  | C3216X5R2E683K160AA<br>C3216X5R2E683M160AA |  |
|             | 3225      | 2.00 ± 0.20    | ± 10%<br>± 20%        | C3225X5R2J683K200AA<br>C3225X5R2J683M200AA |  |  |
| 330 nF      | 2012      | 1.25 ± 0.20    | ± 10%<br>± 20%        |  |  | C2012X5R2A104K125AA<br>C2012X5R2A104M125AA |
|             | 3216      | 1.60 ± 0.20    | ± 10%<br>± 20%        |  | C3216X5R2E104K160AA<br>C3216X5R2E104M160AA |  |
| 470 nF      | 4532      | 2.30 ± 0.20    | ± 10%<br>± 20%        | C4532X5R2J104K230KA<br>C4532X5R2J104M230KA |  |  |
|             | 3216      | 1.60 ± 0.20    | ± 10%<br>± 20%        |  |  | C3216X5R2A154K160AA<br>C3216X5R2A154M160AA |
| 680 nF      | 3225      | 2.00 ± 0.20    | ± 10%<br>± 20%        |  | C3225X5R2E154K200AA<br>C3225X5R2E154M200AA |  |
|             | 5750      | 1.60 ± 0.20    | ± 10%<br>± 20%        | C5750X5R2J154K160KA<br>C5750X5R2J154M160KA |  |  |
| 1000 nF     | 3216      | 1.15 ± 0.10    | ± 10%<br>± 20%        |  |  | C3216X5R2A224K115AA<br>C3216X5R2A224M115AA |
|             | 3225      | 2.00 ± 0.20    | ± 10%<br>± 20%        |  | C3225X5R2E224K200AA<br>C3225X5R2E224M200AA |  |



## Capacitance Range Table

### Class 2 (Temperature Stable)

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

| Capacitance | Case Size | Thickness (mm) | Capacitance Tolerance | TDK Part Number         |                         |                         |
|-------------|-----------|----------------|-----------------------|-------------------------|-------------------------|-------------------------|
|             |           |                |                       | Rated Voltage Edc: 630V | Rated Voltage Edc: 250V | Rated Voltage Edc: 100V |
| 220 nF      | 5750      | 2.30 ± 0.20    | ± 10%                 | C5750X5R2J224K230KA     |                         |                         |
|             |           |                | ± 20%                 | C5750X5R2J224M230KA     |                         |                         |
| 330 nF      | 3216      | 1.30 ± 0.10    | ± 10%                 |                         |                         | C3216X5R2A334K130AA     |
|             |           |                | ± 20%                 |                         |                         | C3216X5R2A334M130AA     |
|             | 4532      | 2.30 ± 0.20    | ± 10%                 |                         | C4532X5R2E334K230KA     |                         |
|             |           |                | ± 20%                 |                         | C4532X5R2E334M230KA     |                         |
| 470 nF      | 3216      | 1.60 ± 0.20    | ± 10%                 |                         |                         | C3216X5R2A474K160AA     |
|             |           |                | ± 20%                 |                         |                         | C3216X5R2A474M160AA     |
|             | 4532      | 2.30 ± 0.20    | ± 10%                 |                         | C4532X5R2E474K230KA     |                         |
|             |           |                | ± 20%                 |                         | C4532X5R2E474M230KA     |                         |
| 680 nF      | 3216      | 1.60 ± 0.20    | ± 10%                 |                         |                         | C3216X5R2A684K160AA     |
|             |           |                | ± 20%                 |                         |                         | C3216X5R2A684M160AA     |
|             | 5750      | 2.30 ± 0.20    | ± 10%                 |                         | C5750X5R2E684K230KA     |                         |
|             |           |                | ± 20%                 |                         | C5750X5R2E684M230KA     |                         |
| 1 µF        | 3216      | 1.60 ± 0.20    | ± 10%                 |                         |                         | C3216X5R2A105K160AA     |
|             |           |                | ± 20%                 |                         |                         | C3216X5R2A105M160AA     |
|             | 5750      | 2.30 ± 0.20    | ± 10%                 |                         | C5750X5R2E105K230KA     |                         |
|             |           |                | ± 20%                 |                         | C5750X5R2E105M230KA     |                         |
| 1.5 µF      | 3225      | 2.00 ± 0.20    | ± 10%                 |                         |                         | C3225X5R2A155K200AB     |
|             |           |                | ± 20%                 |                         |                         | C3225X5R2A155M200AB     |
| 2.2 µF      | 3225      | 2.30 ± 0.20    | ± 10%                 |                         |                         | C3225X5R2A225K230AB     |
|             |           |                | ± 20%                 |                         |                         | C3225X5R2A225M230AB     |
| 3.3 µF      | 5750      | 2.30 ± 0.20    | ± 10%                 |                         |                         | C5750X5R2A335K230KA     |
|             |           |                | ± 20%                 |                         |                         | C5750X5R2A335M230KA     |
| 4.7 µF      | 5750      | 2.30 ± 0.20    | ± 10%                 |                         |                         | C5750X5R2A475K230KA     |
|             |           |                | ± 20%                 |                         |                         | C5750X5R2A475M230KA     |

### Class 2 (Temperature Stable)

Temperature Characteristics: X6S (-55 to +105°C, ±22%)

| Capacitance | Case Size | Thickness (mm) | Capacitance Tolerance | TDK Part Number         |  |
|-------------|-----------|----------------|-----------------------|-------------------------|--|
|             |           |                |                       | Rated Voltage Edc: 450V |  |
| 1 µF        | 5750      | 2.50 ± 0.30    | ± 10%                 | C5750X6S2W105K250KA     |  |
|             |           |                | ± 20%                 | C5750X6S2W105M250KA     |  |
| 2.2 µF      | 5750      | 2.50 ± 0.30    | ± 10%                 | C5750X6S2W225K250KA     |  |
|             |           |                | ± 20%                 | C5750X6S2W225M250KA     |  |

### Class 2 (Temperature Stable)

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

| Capacitance | Case Size   | Thickness (mm) | Capacitance Tolerance | TDK Part Number         |                         |                         |
|-------------|-------------|----------------|-----------------------|-------------------------|-------------------------|-------------------------|
|             |             |                |                       | Rated Voltage Edc: 630V | Rated Voltage Edc: 250V | Rated Voltage Edc: 100V |
| 1 nF        | 1608        | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608X7R2A102K080AA     |
|             |             |                | ± 20%                 |                         |                         | C1608X7R2A102M080AA     |
|             | 2012        | 0.85 ± 0.15    | ± 10%                 |                         | C2012X7R2E102K085AA     | C2012X7R2A102K085AA     |
|             |             |                | ± 20%                 |                         | C2012X7R2E102M085AA     | C2012X7R2A102M085AA     |
| 3216        | 1.15 ± 0.15 | ± 10%          | C3216X7R2J102K115AA   |                         |                         |                         |
|             |             | ± 20%          | C3216X7R2J102M115AA   |                         |                         |                         |
| 1.5 nF      | 1608        | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608X7R2A152K080AA     |
|             |             |                | ± 20%                 |                         |                         | C1608X7R2A152M080AA     |
|             | 2012        | 0.85 ± 0.15    | ± 10%                 |                         | C2012X7R2E152K085AA     | C2012X7R2A152K085AA     |
|             |             |                | ± 20%                 |                         | C2012X7R2E152M085AA     | C2012X7R2A152M085AA     |
| 3216        | 1.15 ± 0.15 | ± 10%          | C3216X7R2J152K115AA   |                         |                         |                         |
|             |             | ± 20%          | C3216X7R2J152M115AA   |                         |                         |                         |
| 2.2 nF      | 1608        | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608X7R2A222K080AA     |
|             |             |                | ± 20%                 |                         |                         | C1608X7R2A222M080AA     |
|             | 2012        | 0.85 ± 0.15    | ± 10%                 |                         | C2012X7R2E222K085AA     | C2012X7R2A222K085AA     |
|             |             |                | ± 20%                 |                         | C2012X7R2E222M085AA     | C2012X7R2A222M085AA     |
| 3216        | 1.15 ± 0.15 | ± 10%          | C3216X7R2J222K115AA   |                         |                         |                         |
|             |             | ± 20%          | C3216X7R2J222M115AA   |                         |                         |                         |



## Capacitance Range Table

### Class 2 (Temperature Stable)

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

| Capacitance | Case Size   | Thickness (mm) | Capacitance Tolerance | TDK Part Number<br>Rated Voltage Edc: 630V | Rated Voltage Edc: 250V | Rated Voltage Edc: 100V |
|-------------|-------------|----------------|-----------------------|--|-------------------------|-------------------------|
| 3.3 nF      | 1608        | 0.80 ± 0.10    | ± 10%                 |  |                         | C1608X7R2A332K080AA     |
|             |             |                | ± 20%                 |  |                         | C1608X7R2A332M080AA     |
|             | 2012        | 0.85 ± 0.15    | ± 10%                 |  | C2012X7R2E332K085AA     | C2012X7R2A332K085AA     |
|             |             |                | ± 20%                 |  | C2012X7R2E332M085AA     | C2012X7R2A332M085AA     |
| 3216        | 1.15 ± 0.15 | ± 10%          | C3216X7R2J332K115AA   |  |                         |                         |
|             |             | ± 20%          | C3216X7R2J332M115AA   |  |                         |                         |
| 4.7 nF      | 1608        | 0.80 ± 0.10    | ± 10%                 |  |                         | C1608X7R2A472K080AA     |
|             |             |                | ± 20%                 |  |                         | C1608X7R2A472M080AA     |
|             | 2012        | 0.85 ± 0.15    | ± 10%                 |  | C2012X7R2E472K085AA     | C2012X7R2A472K085AA     |
|             |             |                | ± 20%                 |  | C2012X7R2E472M085AA     | C2012X7R2A472M085AA     |
| 3216        | 1.15 ± 0.15 | ± 10%          | C3216X7R2J472K115AA   |  |                         |                         |
|             |             | ± 20%          | C3216X7R2J472M115AA   |  |                         |                         |
| 6.8 nF      | 1608        | 0.80 ± 0.10    | ± 10%                 |  |                         | C1608X7R2A682K080AA     |
|             |             |                | ± 20%                 |  |                         | C1608X7R2A682M080AA     |
|             | 2012        | 0.85 ± 0.15    | ± 10%                 |  | C2012X7R2E682K125AA     | C2012X7R2A682K085AA     |
|             |             |                | ± 20%                 |  | C2012X7R2E682M125AA     | C2012X7R2A682M085AA     |
| 3216        | 1.15 ± 0.15 | ± 10%          | C3216X7R2J682K115AA   |  |                         |                         |
|             |             | ± 20%          | C3216X7R2J682M115AA   |  |                         |                         |
| 10 nF       | 1608        | 0.80 ± 0.10    | ± 10%                 |  |                         | C1608X7R2A103K080AA     |
|             |             |                | ± 20%                 |  |                         | C1608X7R2A103M080AA     |
|             | 2012        | 0.85 ± 0.15    | ± 10%                 |  | C2012X7R2E103K125AA     | C2012X7R2A103K085AA     |
|             |             |                | ± 20%                 |  | C2012X7R2E103M125AA     | C2012X7R2A103M085AA     |
| 3216        | 1.15 ± 0.15 | ± 10%          | C3216X7R2J103K115AA   |  |                         |                         |
|             |             | ± 20%          | C3216X7R2J103M115AA   |  |                         |                         |
| 15 nF       | 1608        | 0.80 ± 0.10    | ± 10%                 |  |                         | C1608X7R2A153K080AA     |
|             |             |                | ± 20%                 |  |                         | C1608X7R2A153M080AA     |
|             | 2012        | 1.25 ± 0.20    | ± 10%                 |  | C2012X7R2E153K125AA     | C2012X7R2A153K125AA     |
|             |             |                | ± 20%                 |  | C2012X7R2E153M125AA     | C2012X7R2A153M125AA     |
| 3216        | 1.15 ± 0.15 | ± 10%          | C3216X7R2E153K115AA   |  |                         |                         |
|             |             | ± 20%          | C3216X7R2E153M115AA   |  |                         |                         |
| 22 nF       | 1608        | 0.80 ± 0.10    | ± 10%                 |  |                         | C1608X7R2A223K080AA     |
|             |             |                | ± 20%                 |  |                         | C1608X7R2A223M080AA     |
|             | 2012        | 1.25 ± 0.20    | ± 10%                 |  | C2012X7R2E223K125AA     | C2012X7R2A223K125AA     |
|             |             |                | ± 20%                 |  | C2012X7R2E223M125AA     | C2012X7R2A223M125AA     |
| 3216        | 1.15 ± 0.15 | ± 10%          | C3216X7R2E223K115AA   |  |                         |                         |
|             |             | ± 20%          | C3216X7R2E223M115AA   |  |                         |                         |
| 33 nF       | 2012        | 1.25 ± 0.20    | ± 10%                 |  |                         | C2012X7R2A333K125AA     |
|             |             |                | ± 20%                 |  |                         | C2012X7R2A333M125AA     |
|             | 3216        | 1.15 ± 0.15    | ± 10%                 |  | C3216X7R2A333K115AA     | C3216X7R2A333K115AA     |
|             |             |                | ± 20%                 |  | C3216X7R2A333M115AA     | C3216X7R2A333M115AA     |
| 3216        | 1.60 ± 0.20 | ± 10%          | C3216X7R2J333K160AA   | C3216X7R2E333K160AA                        |                         |                         |
|             |             | ± 20%          | C3216X7R2J333M160AA   | C3216X7R2E333M160AA                        |                         |                         |
| 47 nF       | 2012        | 1.25 ± 0.20    | ± 10%                 |  |                         | C2012X7R2A473K125AA     |
|             |             |                | ± 20%                 |  |                         | C2012X7R2A473M125AA     |
|             | 3216        | 1.15 ± 0.15    | ± 10%                 |  |                         | C3216X7R2A473K115AA     |
|             |             |                | ± 20%                 |  |                         | C3216X7R2A473M115AA     |
| 3216        | 1.60 ± 0.20 | ± 10%          | C3216X7R2E473K160AA   | C3216X7R2E473K160AA                        |                         |                         |
|             |             | ± 20%          | C3216X7R2E473M160AA   | C3216X7R2E473M160AA                        |                         |                         |
| 3225        | 2.00 ± 0.20 | ± 10%          | C3225X7R2J473K200AA   |  |                         |                         |
|             |             | ± 20%          | C3225X7R2J473M200AA   |  |                         |                         |
| 68 nF       | 2012        | 0.85 ± 0.15    | ± 10%                 |  |                         | C2012X7R2A683K085AA     |
|             |             |                | ± 20%                 |  |                         | C2012X7R2A683M085AA     |





## Capacitance Range Table

### Class 2 (Temperature Stable)

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

| Capacitance | Case Size   | Thickness (mm) | Capacitance Tolerance | TDK Part Number         |                         |                         |
|-------------|-------------|----------------|-----------------------|-------------------------|-------------------------|-------------------------|
|             |             |                |                       | Rated Voltage Edc: 630V | Rated Voltage Edc: 250V | Rated Voltage Edc: 100V |
| 68 nF       | 3216        | 1.60 ± 0.20    | ± 10%                 |                         | C3216X7R2E683K160AA     | C3216X7R2A683K160AA     |
|             |             |                | ± 20%                 |                         | C3216X7R2E683M160AA     | C3216X7R2A683M160AA     |
|             | 3225        | 2.00 ± 0.20    | ± 10%                 | C3225X7R2J683K200AA     |                         |                         |
|             |             |                | ± 20%                 | C3225X7R2J683M200AA     |                         |                         |
|             | 4532        | 1.60 ± 0.20    | ± 10%                 | C4532X7R2J683K160KA     |                         |                         |
|             |             |                | ± 20%                 | C4532X7R2J683M160KA     |                         |                         |
| 100 nF      | 2012        | 1.25 ± 0.20    | ± 10%                 |                         |                         | C2012X7R2A104K125AA     |
|             |             |                | ± 20%                 |                         |                         | C2012X7R2A104M125AA     |
|             | 3216        | 1.60 ± 0.20    | ± 10%                 |                         | C3216X7R2E104K160AA     | C3216X7R2A104K160AA     |
|             |             |                | ± 20%                 |                         | C3216X7R2E104M160AA     | C3216X7R2A104M160AA     |
|             | 3225        | 2.00 ± 0.20    | ± 10%                 |                         | C3225X7R2E104K200AA     |                         |
|             |             |                | ± 20%                 |                         | C3225X7R2E104M200AA     |                         |
| 4532        | 2.30 ± 0.20 | ± 10%          | C4532X7R2J104K230KA   |                         |                         |                         |
|             |             | ± 20%          | C4532X7R2J104M230KA   |                         |                         |                         |
| 150 nF      | 3216        | 1.60 ± 0.20    | ± 10%                 |                         |                         | C3216X7R2A154K160AA     |
|             |             |                | ± 20%                 |                         |                         | C3216X7R2A154M160AA     |
|             | 3225        | 2.00 ± 0.20    | ± 10%                 |                         | C3225X7R2E154K200AA     |                         |
|             |             |                | ± 20%                 |                         | C3225X7R2E154M200AA     |                         |
|             | 4532        | 1.60 ± 0.20    | ± 10%                 |                         | C4532X7R2E154K160KA     |                         |
|             |             |                | ± 20%                 |                         | C4532X7R2E154M160KA     |                         |
| 5750        | 1.60 ± 0.20 | ± 10%          | C5750X7R2J154K160KA   |                         |                         |                         |
|             |             | ± 20%          | C5750X7R2J154M160KA   |                         |                         |                         |
| 220 nF      | 3216        | 1.15 ± 0.15    | ± 10%                 |                         |                         | C3216X7R2A224K115AA     |
|             |             |                | ± 20%                 |                         |                         | C3216X7R2A224M115AA     |
|             | 3225        | 2.00 ± 0.20    | ± 10%                 |                         | C3225X7R2E224K200AA     |                         |
|             |             |                | ± 20%                 |                         | C3225X7R2E224M200AA     |                         |
|             | 4532        | 2.30 ± 0.20    | ± 10%                 |                         | C4532X7R2E224K230KA     |                         |
|             |             |                | ± 20%                 |                         | C4532X7R2E224M230KA     |                         |
| 5750        | 2.30 ± 0.20 | ± 10%          | C5750X7R2J224K230KA   |                         |                         |                         |
|             |             | ± 20%          | C5750X7R2J224M230KA   |                         |                         |                         |
| 330 nF      | 3216        | 1.30 ± 0.20    | ± 10%                 |                         |                         | C3216X7R2A334K130AA     |
|             |             |                | ± 20%                 |                         |                         | C3216X7R2A334M130AA     |
|             | 3225        | 2.00 ± 0.20    | ± 10%                 |                         |                         | C3225X7R2A334K200AA     |
|             |             |                | ± 20%                 |                         |                         | C3225X7R2A334M200AA     |
|             | 4532        | 2.30 ± 0.20    | ± 10%                 |                         | C4532X7R2E334K230KA     |                         |
|             |             |                | ± 20%                 |                         | C4532X7R2E334M230KA     |                         |
| 5750        | 1.60 ± 0.20 | ± 10%          |                       | C5750X7R2E334K160KA     |                         |                         |
|             |             | ± 20%          |                       | C5750X7R2E334M160KA     |                         |                         |
| 470 nF      | 3216        | 1.60 ± 0.20    | ± 10%                 |                         |                         | C3216X7R2A474K160AA     |
|             |             |                | ± 20%                 |                         |                         | C3216X7R2A474M160AA     |
|             | 3225        | 2.00 ± 0.20    | ± 10%                 |                         |                         | C3225X7R2A474K200AA     |
|             |             |                | ± 20%                 |                         |                         | C3225X7R2A474M200AA     |
|             | 4532        | 2.30 ± 0.20    | ± 10%                 |                         | C4532X7R2E474K230KA     |                         |
|             |             |                | ± 20%                 |                         | C4532X7R2E474M230KA     |                         |
| 5750        | 2.30 ± 0.20 | ± 10%          |                       | C5750X7R2E474K230KA     |                         |                         |
|             |             | ± 20%          |                       | C5750X7R2E474M230KA     |                         |                         |
| 680 nF      | 3216        | 1.60 ± 0.20    | ± 10%                 |                         |                         | C3216X7R2A684K160AA     |
|             |             |                | ± 20%                 |                         |                         | C3216X7R2A684M160AA     |
|             | 3225        | 1.60 ± 0.20    | ± 10%                 |                         |                         | C3225X7R2A684K160AA     |
|             |             |                | ± 20%                 |                         |                         | C3225X7R2A684M160AA     |
|             | 4532        | 2.30 ± 0.20    | ± 10%                 |                         |                         | C4532X7R2A684K230KA     |
|             |             |                | ± 20%                 |                         |                         | C4532X7R2A684M230KA     |
| 5750        | 1.60 ± 0.20 | ± 10%          |                       |                         | C5750X7R2A684K160KA     |                         |
|             |             | ± 20%          |                       |                         | C5750X7R2A684M160KA     |                         |
|             |             | 2.30 ± 0.20    | ± 10%                 |                         | C5750X7R2E684K230KA     |                         |
|             |             |                | ± 20%                 |                         | C5750X7R2E684M230KA     |                         |
| 1 μF        | 3216        | 1.60 ± 0.20    | ± 10%                 |                         |                         | C3216X7R2A105K160AA     |
|             |             |                | ± 20%                 |                         |                         | C3216X7R2A105M160AA     |
|             |             | 2.00 ± 0.20    | ± 10%                 |                         |                         | C3225X7R2A105K200AA     |
|             |             |                | ± 20%                 |                         |                         | C3225X7R2A105M200AA     |



## Capacitance Range Table

### Class 2 (Temperature Stable)

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

| Capacitance | Case Size   | Thickness (mm) | Capacitance Tolerance | TDK Part Number         |                         |                         |
|-------------|-------------|----------------|-----------------------|-------------------------|-------------------------|-------------------------|
|             |             |                |                       | Rated Voltage Edc: 630V | Rated Voltage Edc: 250V | Rated Voltage Edc: 100V |
| 1 $\mu$ F   | 4532        | 2.30 ± 0.20    | ± 10%                 |                         |                         | C4532X7R2A105K230KA     |
|             |             |                | ± 20%                 |                         |                         | C4532X7R2A105M230KA     |
|             | 5750        | 2.30 ± 0.20    | ± 10%                 |                         | C5750X7R2E105K230KA     | C5750X7R2A105K230KA     |
|             |             |                | ± 20%                 |                         | C5750X7R2E105M230KA     | C5750X7R2A105M230KA     |
| 1.5 $\mu$ F | 3225        | 2.00 ± 0.20    | ± 10%                 |                         |                         | C3225X7R2A155K200AB     |
|             |             |                | ± 20%                 |                         |                         | C3225X7R2A155M200AB     |
|             | 4532        | 2.30 ± 0.20    | ± 10%                 |                         |                         | C4532X7R2A155K230KA     |
|             |             |                | ± 20%                 |                         |                         | C4532X7R2A155M230KA     |
| 5750        | 2.30 ± 0.20 | ± 10%          |                       |                         | C5750X7R2A155K230KA     |                         |
|             |             | ± 20%          |                       |                         | C5750X7R2A155M230KA     |                         |
| 2.2 $\mu$ F | 3225        | 2.30 ± 0.20    | ± 10%                 |                         |                         | C3225X7R2A225K230AB     |
|             |             |                | ± 20%                 |                         |                         | C3225X7R2A225M230AB     |
|             | 4532        | 2.30 ± 0.20    | ± 10%                 |                         |                         | C4532X7R2A225K230KA     |
|             |             |                | ± 20%                 |                         |                         | C4532X7R2A225M230KA     |
| 5750        | 2.30 ± 0.20 | ± 10%          |                       |                         | C5750X7R2A225K230KA     |                         |
|             |             | ± 20%          |                       |                         | C5750X7R2A225M230KA     |                         |
| 3.3 $\mu$ F | 5750        | 2.30 ± 0.20    | ± 10%                 |                         |                         | C5750X7R2A335K230KA     |
|             |             |                | ± 20%                 |                         |                         | C5750X7R2A335M230KA     |
| 4.7 $\mu$ F | 5750        | 2.30 ± 0.20    | ± 10%                 |                         |                         | C5750X7R2A475K230KA     |
|             |             |                | ± 20%                 |                         |                         | C5750X7R2A475M230KA     |

### Class 2 (Temperature Stable)

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

| Capacitance | Case Size | Thickness (mm) | Capacitance Tolerance | TDK Part Number         |                         |                         |
|-------------|-----------|----------------|-----------------------|-------------------------|-------------------------|-------------------------|
|             |           |                |                       | Rated Voltage Edc: 630V | Rated Voltage Edc: 250V | Rated Voltage Edc: 100V |
| 1 nF        | 1005      | 0.50 ± 0.05    | ± 10%                 |                         |                         | C1005X7S2A102K050BB     |
|             |           |                | ± 20%                 |                         |                         | C1005X7S2A102M050BB     |
| 1.5 nF      | 1005      | 0.50 ± 0.05    | ± 10%                 |                         |                         | C1005X7S2A152K050BB     |
|             |           |                | ± 20%                 |                         |                         | C1005X7S2A152M050BB     |
| 2.2 nF      | 1005      | 0.50 ± 0.05    | ± 10%                 |                         |                         | C1005X7S2A222K050BB     |
|             |           |                | ± 20%                 |                         |                         | C1005X7S2A222M050BB     |
| 3.3 nF      | 1005      | 0.50 ± 0.05    | ± 10%                 |                         |                         | C1005X7S2A332K050BB     |
|             |           |                | ± 20%                 |                         |                         | C1005X7S2A332M050BB     |
| 4.7 nF      | 1005      | 0.50 ± 0.05    | ± 10%                 |                         |                         | C1005X7S2A472K050BB     |
|             |           |                | ± 20%                 |                         |                         | C1005X7S2A472M050BB     |
| 6.8 nF      | 1005      | 0.50 ± 0.05    | ± 10%                 |                         |                         | C1005X7S2A682K050BB     |
|             |           |                | ± 20%                 |                         |                         | C1005X7S2A682M050BB     |
| 10 nF       | 1005      | 0.50 ± 0.05    | ± 10%                 |                         |                         | C1005X7S2A103K050BB     |
|             |           |                | ± 20%                 |                         |                         | C1005X7S2A103M050BB     |
| 33 nF       | 1608      | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608X7S2A333K080AB     |
|             |           |                | ± 20%                 |                         |                         | C1608X7S2A333M080AB     |
| 47 nF       | 1608      | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608X7S2A473K080AB     |
|             |           |                | ± 20%                 |                         |                         | C1608X7S2A473M080AB     |
| 68 nF       | 1608      | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608X7S2A683K080AB     |
|             |           |                | ± 20%                 |                         |                         | C1608X7S2A683M080AB     |
| 100 nF      | 1608      | 0.80 ± 0.10    | ± 10%                 |                         |                         | C1608X7S2A104K080AB     |
|             |           |                | ± 20%                 |                         |                         | C1608X7S2A104M080AB     |
| 150 nF      | 2012      | 0.85 ± 0.15    | ± 10%                 |                         |                         | C2012X7S2A154K085AB     |
|             |           |                | ± 20%                 |                         |                         | C2012X7S2A154M085AB     |
| 220 nF      | 2012      | 0.85 ± 0.15    | ± 10%                 |                         |                         | C2012X7S2A224K085AB     |
|             |           |                | ± 20%                 |                         |                         | C2012X7S2A224M085AB     |
| 330 nF      | 2012      | 1.25 ± 0.20    | ± 10%                 |                         |                         | C2012X7S2A334K125AB     |
|             |           |                | ± 20%                 |                         |                         | C2012X7S2A334M125AB     |
| 470 nF      | 2012      | 1.25 ± 0.20    | ± 10%                 |                         |                         | C2012X7S2A474K125AB     |
|             |           |                | ± 20%                 |                         |                         | C2012X7S2A474M125AB     |
| 680 nF      | 2012      | 1.25 ± 0.20    | ± 10%                 |                         |                         | C2012X7S2A684K125AB     |
|             |           |                | ± 20%                 |                         |                         | C2012X7S2A684M125AB     |
| 1 $\mu$ F   | 2012      | 1.25 ± 0.20    | ± 10%                 |                         |                         | C2012X7S2A105K125AB     |
|             |           |                | ± 20%                 |                         |                         | C2012X7S2A105M125AB     |



## Capacitance Range Table

### Class 2 (Temperature Stable)

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

| Capacitance | Case Size   | Thickness (mm) | Capacitance Tolerance | TDK Part Number         |                         |                         |
|-------------|-------------|----------------|-----------------------|-------------------------|-------------------------|-------------------------|
|             |             |                |                       | Rated Voltage Edc: 630V | Rated Voltage Edc: 250V | Rated Voltage Edc: 100V |
| 1.5 µF      | 3216        | 1.60 ± 0.20    | ± 10%                 |                         |                         | C3216X7S2A155K160AB     |
|             |             |                | ± 20%                 |                         |                         | C3216X7S2A155M160AB     |
| 2.2 µF      | 3216        | 1.60 ± 0.20    | ± 10%                 |                         |                         | C3216X7S2A225K160AB     |
|             |             |                | ± 20%                 |                         |                         | C3216X7S2A225M160AB     |
| 3.3 µF      | 3216        | 1.60 ± 0.20    | ± 20%                 |                         |                         | C3216X7S2A335M160AB     |
|             |             |                | ± 10%                 |                         |                         | C3225X7S2A335K200AB     |
|             | 3225        | 2.00 ± 0.20    | ± 10%                 |                         |                         | C3225X7S2A335M200AB     |
|             |             |                | ± 20%                 |                         |                         | C4532X7S2A335K200KB     |
| 4532        | 2.00 ± 0.20 | ± 10%          |                       |                         | C4532X7S2A335M200KB     |                         |
|             |             | ± 20%          |                       |                         | C3225X7S2A475K200AB     |                         |
| 4.7 µF      | 3225        | 2.00 ± 0.20    | ± 10%                 |                         |                         | C3225X7S2A475M200AB     |
|             |             |                | ± 20%                 |                         |                         | C4532X7S2A475K230KB     |
|             | 4532        | 2.30 ± 0.20    | ± 10%                 |                         |                         | C4532X7S2A475M230KB     |
| 6.8 µF      | 5750        | 2.00 ± 0.20    | ± 10%                 |                         |                         | C5750X7S2A685K200KB     |
|             |             |                | ± 20%                 |                         |                         | C5750X7S2A685M200KB     |
| 10 µF       | 5750        | 2.30 ± 0.20    | ± 10%                 |                         |                         | C5750X7S2A106K230KB     |
|             |             |                | ± 20%                 |                         |                         | C5750X7S2A106M230KB     |
| 15 µF       | 5750        | 2.50 ± 0.30    | ± 20%                 |                         |                         | C5750X7S2A156M250KB     |

### Class 2 (Temperature Stable)

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

| Capacitance | Case Size   | Thickness (mm) | Capacitance Tolerance | TDK Part Number         |                         |                          |                         |
|-------------|-------------|----------------|-----------------------|-------------------------|-------------------------|--------------------------|-------------------------|
|             |             |                |                       | Rated Voltage Edc: 630V | Rated Voltage Edc: 450V | Rated Voltage Edc: 350 V | Rated Voltage Edc: 250V |
| 10 nF       | 2012        | 0.85 ± 0.15    | ± 10%                 |                         | C2012X7T2W103K085AA     | C2012X7T2V103K085AA      |                         |
|             |             |                | ± 20%                 |                         | C2012X7T2W103M085AA     | C2012X7T2V103M085AA      |                         |
| 3216        | 0.85 ± 0.10 | ± 10%          | C3216X7T2J103K085AC   |                         |                         |                          |                         |
|             |             | ± 20%          | C3216X7T2J103M085AC   |                         |                         |                          |                         |
| 15 nF       | 2012        | 0.85 ± 0.15    | ± 10%                 |                         | C2012X7T2W153K085AA     | C2012X7T2V153K085AA      |                         |
|             |             |                | ± 20%                 |                         | C2012X7T2W153M085AA     | C2012X7T2V153M085AA      |                         |
| 3216        | 0.85 ± 0.10 | ± 10%          | C3216X7T2J153K085AC   |                         |                         |                          |                         |
|             |             | ± 20%          | C3216X7T2J153M085AC   |                         |                         |                          |                         |
| 22 nF       | 2012        | 1.25 ± 0.20    | ± 10%                 |                         | C2012X7T2W223K125AA     | C2012X7T2V223K125AA      |                         |
|             |             |                | ± 20%                 |                         | C2012X7T2W223M125AA     | C2012X7T2V223M125AA      |                         |
| 3216        | 1.15 ± 0.10 | ± 10%          | C3216X7T2J223K115AC   |                         |                         |                          |                         |
|             |             | ± 20%          | C3216X7T2J223M115AC   |                         |                         |                          |                         |
| 33 nF       | 2012        | 1.25 ± 0.20    | ± 10%                 |                         | C2012X7T2W333K125AA     | C2012X7T2V333K125AA      | C2012X7T2E333K125AA     |
|             |             |                | ± 20%                 |                         | C2012X7T2W333M125AA     | C2012X7T2V333M125AA      | C2012X7T2E333M125AA     |
| 3216        | 1.15 ± 0.10 | ± 10%          | C3216X7T2J333K115AC   |                         |                         |                          |                         |
|             |             | ± 20%          | C3216X7T2J333M115AC   |                         |                         |                          |                         |
| 47 nF       | 2012        | 1.25 ± 0.20    | ± 10%                 |                         | C2012X7T2W473K125AA     | C2012X7T2V473K125AA      | C2012X7T2E473K125AA     |
|             |             |                | ± 20%                 |                         | C2012X7T2W473M125AA     | C2012X7T2V473M125AA      | C2012X7T2E473M125AA     |
| 3216        | 1.60 ± 0.20 | ± 10%          | C3216X7T2J473K160AC   |                         |                         |                          |                         |
|             |             | ± 20%          | C3216X7T2J473M160AC   |                         |                         |                          |                         |
| 68 nF       | 2012        | 1.25 ± 0.20    | ± 10%                 |                         |                         |                          | C2012X7T2E683K125AA     |
|             |             |                | ± 20%                 |                         |                         |                          | C2012X7T2E683M125AA     |
| 3216        | 1.30 ± 0.10 | ± 10%          |                       | C3216X7T2W683K130AA     | C3216X7T2V683K130AA     |                          |                         |
|             |             | ± 20%          |                       | C3216X7T2W683M130AA     | C3216X7T2V683M130AA     |                          |                         |
| 100 nF      | 2012        | 1.25 ± 0.20    | ± 10%                 |                         |                         |                          | C2012X7T2E104K125AA     |
|             |             |                | ± 20%                 |                         |                         |                          | C2012X7T2E104M125AA     |
| 3216        | 1.60 ± 0.20 | ± 10%          |                       | C3216X7T2W104K160AA     | C3216X7T2V104K160AA     |                          |                         |
|             |             | ± 20%          |                       | C3216X7T2W104M160AA     | C3216X7T2V104M160AA     |                          |                         |
| 3225        | 1.60 ± 0.20 | ± 10%          | C3225X7T2J104K160AC   |                         |                         |                          |                         |
|             |             | ± 20%          | C3225X7T2J104M160AC   |                         |                         |                          |                         |
| 3216        | 1.30 ± 0.10 | ± 10%          |                       |                         |                         |                          | C3216X7T2E154K130AA     |
|             |             | ± 20%          |                       |                         |                         |                          | C3216X7T2E154M130AA     |
| 150 nF      | 3225        | 2.00 ± 0.20    | ± 10%                 | C3225X7T2J154K200AC     |                         |                          |                         |
|             |             |                | ± 20%                 | C3225X7T2J154M200AC     |                         |                          |                         |
| 4532        | 1.60 ± 0.20 | ± 10%          | C4532X7T2J154K160KC   |                         |                         |                          |                         |
|             |             | ± 20%          | C4532X7T2J154M160KC   |                         |                         |                          |                         |



## Capacitance Range Table

### Class 2 (Temperature Stable)

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

| Capacitance | Case Size | Thickness (mm) | Capacitance Tolerance | TDK Part Number     | Rated Voltage Edc: 630V | Rated Voltage Edc: 450V | Rated Voltage Edc: 350 V | Rated Voltage Edc: 250V |
|-------------|-----------|----------------|-----------------------|---------------------|-------------------------|-------------------------|--------------------------|-------------------------|
| 220 nF      | 3216      | 1.60 ± 0.20    | ± 10%                 |                     |                         |                         |                          | C3216X7T2E224K160AA     |
|             |           |                | ± 20%                 |                     |                         |                         | C3216X7T2E224M160AA      |                         |
|             | 3225      | 2.00 ± 0.20    | ± 10%                 |                     |                         | C3225X7T2W224K200AA     |                          |                         |
|             |           |                | ± 20%                 |                     |                         | C3225X7T2W224M200AA     |                          |                         |
| 300 nF      | 4532      | 2.00 ± 0.20    | ± 10%                 | C4532X7T2J224K200KC |                         |                         |                          |                         |
|             |           |                | ± 20%                 | C4532X7T2J224M200KC |                         |                         |                          |                         |
|             | 4532      | 2.00 ± 0.20    | ± 10%                 | C4532X7T2J304K200KA |                         |                         |                          |                         |
|             |           |                | ± 20%                 | C4532X7T2J304M200KA |                         |                         |                          |                         |
| 330 nF      | 3225      | 2.00 ± 0.20    | ± 10%                 |                     |                         |                         |                          | C3225X7T2E334K200AA     |
|             |           |                | ± 20%                 |                     |                         |                         |                          | C3225X7T2E334M200AA     |
|             | 4532      | 1.60 ± 0.20    | ± 10%                 |                     |                         | C4532X7T2W334K160KA     |                          |                         |
|             |           |                | ± 20%                 |                     |                         | C4532X7T2W334M160KA     |                          |                         |
| 470 nF      | 5750      | 2.00 ± 0.20    | ± 10%                 | C5750X7T2J334K200KC |                         |                         |                          |                         |
|             |           |                | ± 20%                 | C5750X7T2J334M200KC |                         |                         |                          |                         |
|             | 4532      | 2.30 ± 0.20    | ± 10%                 |                     |                         | C4532X7T2W474K230KA     |                          |                         |
|             |           |                | ± 20%                 |                     |                         | C4532X7T2W474M230KA     |                          |                         |
| 680 nF      | 5750      | 2.50 ± 0.30    | ± 10%                 | C5750X7T2J474K250KC |                         |                         |                          |                         |
|             |           |                | ± 20%                 | C5750X7T2J474M250KC |                         |                         |                          |                         |
|             | 4532      | 1.60 ± 0.20    | ± 10%                 |                     |                         |                         |                          | C4532X7T2E684K160KA     |
|             |           |                | ± 20%                 |                     |                         |                         |                          | C4532X7T2E684M160KA     |
| 1 µF        | 5750      | 2.00 ± 0.20    | ± 10%                 |                     |                         | C5750X7T2W684K200KA     |                          |                         |
|             |           |                | ± 20%                 |                     |                         | C5750X7T2W684M200KA     |                          |                         |
|             | 4532      | 2.50 ± 0.30    | ± 10%                 |                     |                         |                         |                          | C4532X7T2E105K250KA     |
|             |           |                | ± 20%                 |                     |                         |                         |                          | C4532X7T2E105M250KA     |
| 1.5 µF      | 5750      | 2.50 ± 0.30    | ± 10%                 |                     |                         | C5750X7T2W105K250KA     |                          |                         |
|             |           |                | ± 20%                 |                     |                         | C5750X7T2W105M250KA     |                          |                         |
| 2.2 µF      | 5750      | 2.50 ± 0.30    | ± 10%                 |                     |                         |                         |                          | C5750X7T2E155K200KA     |
|             |           |                | ± 20%                 |                     |                         |                         |                          | C5750X7T2E155M200KA     |
| 2.2 µF      | 5750      | 2.50 ± 0.30    | ± 10%                 |                     |                         |                         |                          | C5750X7T2E225K250KA     |
|             |           |                | ± 20%                 |                     |                         |                         |                          | C5750X7T2E225M250KA     |