

## Surface Mount Multilayer Ceramic Chip Capacitors for High Frequency



### FEATURES

- Case size 0402, 0603, 0805
- High frequency
- Ultra-stable dielectric material
- Non-magnetic copper termination "C"
- Lead (Pb)-free terminations code "X"
- Tin/lead termination code "L"
- Surface mount, wet build process
- Reliable Noble Metal Electrode (NME) system
- Made with a combination of design, materials and tight process control to achieve very high field reliability
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS\***  
Available  
**HALOGEN**  
**FREE**  
**GREEN**  
(5-2008)  
Available

### Note

\* This datasheet provides information about parts that are RoHS-compliant and / or parts that are non-RoHS-compliant. For example, parts with lead (Pb) terminations are not RoHS-compliant. Please see the information / tables in this datasheet for details.

### APPLICATIONS

- RF and microwave
- Broadband communication
- Satellite communication
- Base stations
- Medical instrumentation and test
- Military devices (radar, communication, etc.)
- Wireless devices

### ELECTRICAL SPECIFICATIONS

#### Note

- Electrical characteristics at 25 °C unless otherwise specified

**Operating Temperature:** -55 °C to +200 °C  
(see "Selection Charts for Extended Temperature Range")

#### Capacitance Range:

0402: 0.1 pF to 82 pF  
0603: 0.1 pF to 470 pF  
0805: 0.1 pF to 1.5 nF

**Voltage Rating:** 25 V<sub>DC</sub> to 250 V<sub>DC</sub>

#### Temperature Coefficient of Capacitance (TCC):

C0G (D): 0 ppm/°C ± 30 ppm/°C from -55 °C to +125 °C with zero (0) V<sub>DC</sub> applied

#### Dissipation Factor (DF):

C0G (D): 0.05 % max. at 1.0 V<sub>RMS</sub> and 1 MHz  
for values ≤ 1000 pF  
C0G (D): 0.05 % max. at 1.0 V<sub>RMS</sub> and 1 kHz  
for values > 1000 pF

**Aging Rate:** 0 % maximum per decade

#### Insulation Resistance (IR):

at +25 °C and rated voltage 100 000 MΩ minimum or 1000 ΩF, whichever is less  
at +125 °C and rated voltage 10 000 MΩ minimum or 100 ΩF, whichever is less

#### Dielectric Strength Test:

performed per method 103 of EIA-198-2-E.

#### Applied test voltages:

≤ 200 V<sub>DC</sub>-rated: min. 250 % of rated voltage  
> 200 V<sub>DC</sub>-rated: min. 200 % of rated voltage

## QUICK REFERENCE DATA

| DIELECTRIC | CASE | MAXIMUM VOLTAGE<br>(V) | CAPACITANCE |         |
|------------|------|------------------------|-------------|---------|
|            |      |                        | MINIMUM     | MAXIMUM |
| D = HIFREQ | 0402 | 200                    | 0.1 pF      | 82 pF   |
|            | 0603 | 250                    | 0.1 pF      | 470 pF  |
|            | 0805 | 250                    | 0.1 pF      | 1.5 nF  |

### Note

- For values below 0.4 pF, contact [mlccrf@vishay.com](mailto:mlccrf@vishay.com)

## ORDERING INFORMATION

| VJ0603               | D          | 1R0                                                                                                                                                     | B                                                                                                                                                                                                                           | X                                                                                                                                                                                                           | B                                                           | A              | C                                                                                                                                                                                                                                                                                                                      |
|----------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CASE CODE            | DIELECTRIC | CAPACITANCE NOMINAL CODE                                                                                                                                | CAPACITANCE TOLERANCE                                                                                                                                                                                                       | TERMINATION                                                                                                                                                                                                 | DC VOLTAGE RATING <sup>(1)</sup>                            | MARKING        | PACKAGING                                                                                                                                                                                                                                                                                                              |
| 0402<br>0603<br>0805 | D = HIFREQ | Expressed in picofarads (pF). The first two digits are significant, the third is a multiplier. An "R" indicates a decimal point. Examples: 1R0 = 1.0 pF | V = $\pm 0.05$ pF<br>B = $\pm 0.10$ pF<br>C = $\pm 0.25$ pF<br>D = $\pm 0.50$ pF<br>F = $\pm 1$ %<br>G = $\pm 2$ %<br>J = $\pm 5$ %<br>K = $\pm 10$ %<br>M = $\pm 20$ %<br><br><b>Note</b><br>Details see "Selection Chart" | C = non-magnetic copper barrier<br>100 % tin plate matte finish<br>E = AgPd <sup>(2)</sup><br>X = Ni barrier<br>100 % tin plate matte finish<br>L = Ni barrier with tin lead plated finish<br>min. 4 % lead | X = 25 V<br>A = 50 V<br>B = 100 V<br>C = 200 V<br>P = 250 V | A = no marking | T = 7" reel/plastic tape<br>C = 7" reel/paper tape<br>O = 7" reel/flamed paper tape<br>J = 7" reel (low quantity)<br>R = 11 1/4"/13" reel/plastic tape<br>P = 11 1/4"/13" reel/paper tape<br>I = 11 1/4"/13" reel/flamed paper tape<br>B = bulk<br><br><b>Note</b><br>"I" and "O" is used for "E"/"N" termination code |

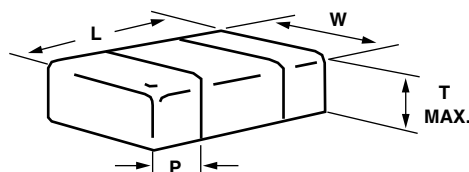
### Notes

- DC voltage rating should not be exceeded in application
- Termination code "E" is for conductive epoxy assembly

## ENVIRONMENTAL STATUS

| TERMINATION CODE | TERMINATION DESCRIPTION                                   | RoHS COMPLIANT | VISHAY GREEN |
|------------------|-----------------------------------------------------------|----------------|--------------|
| C                | Non-magnetic copper barrier 100 % tin plated matte finish | Yes            | Yes          |
| X                | Ni barrier 100 % tin plated matte finish                  | Yes            | Yes          |
| E                | AgPd                                                      | Yes            | Yes          |
| L                | Ni barrier 100 % tin plated matte finish min. 4 % lead    | No             | No           |

## DIMENSIONS in inches (millimeters)



| CASE CODE | STYLE  | LENGTH (L)                             | WIDTH (W)                              | MAXIMUM THICKNESS (T) | TERMINATIONS PAD (P) |                        |
|-----------|--------|----------------------------------------|----------------------------------------|-----------------------|----------------------|------------------------|
|           |        |                                        |                                        |                       | MINIMUM              | MAXIMUM <sup>(1)</sup> |
| 0402      | VJ0402 | 0.040 $\pm$ 0.004<br>(1.02 $\pm$ 0.10) | 0.020 $\pm$ 0.004<br>(0.51 $\pm$ 0.10) | 0.021<br>(0.61)       | 0.004<br>(0.10)      | 0.016<br>(0.41)        |
| 0603      | VJ0603 | 0.063 $\pm$ 0.006<br>(1.60 $\pm$ 0.15) | 0.031 $\pm$ 0.005<br>(0.80 $\pm$ 0.12) | 0.037<br>(0.94)       | 0.012<br>(0.30)      | 0.018<br>(0.46)        |
| 0805      | VJ0805 | 0.079 $\pm$ 0.008<br>(2.00 $\pm$ 0.20) | 0.049 $\pm$ 0.008<br>(1.25 $\pm$ 0.20) | 0.057<br>(1.45)       | 0.010<br>(0.25)      | 0.028<br>(0.71)        |

### Note

- For Cu termination "C" add 0.01 mm to maximum pad terminations



| SELECTION CHART            |        |         |    |     |     |                           |
|----------------------------|--------|---------|----|-----|-----|---------------------------|
| DIELECTRIC (VISHAY CODE)   |        | C0G (D) |    |     |     | TOLERANCE                 |
| STYLE                      |        | VJ0402  |    |     |     |                           |
| CASE CODE                  |        | 0402    |    |     |     |                           |
| VOLTAGE (V <sub>DC</sub> ) |        | 25      | 50 | 100 | 200 |                           |
| VOLTAGE CODE               |        | X       | A  | B   | C   |                           |
| CAP. CODE                  | CAP.   |         |    |     |     |                           |
| 0R1                        | 0.1 pF | ••      | •• | ••  | ••  | V, B, C, D <sup>(1)</sup> |
| 0R2                        | 0.2 pF | ••      | •• | ••  | ••  | V, B, C, D <sup>(1)</sup> |
| 0R3                        | 0.3 pF | ••      | •• | ••  | ••  | V, B, C, D <sup>(1)</sup> |
| 0R4                        | 0.4 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 0R5                        | 0.5 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 0R6                        | 0.6 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 0R7                        | 0.7 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 0R8                        | 0.8 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 0R9                        | 0.9 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 1R0                        | 1.0 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 1R1                        | 1.1 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 1R2                        | 1.2 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 1R3                        | 1.3 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 1R4                        | 1.4 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 1R5                        | 1.5 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 1R6                        | 1.6 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 1R7                        | 1.7 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 1R8                        | 1.8 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 1R9                        | 1.9 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 2R0                        | 2.0 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 2R1                        | 2.1 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 2R2                        | 2.2 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 2R4                        | 2.4 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 2R7                        | 2.7 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 3R0                        | 3.0 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 3R3                        | 3.3 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 3R6                        | 3.6 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 3R9                        | 3.9 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 4R3                        | 4.3 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 4R7                        | 4.7 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 5R1                        | 5.1 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 5R6                        | 5.6 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 6R2                        | 6.2 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 6R8                        | 6.8 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 7R5                        | 7.5 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 8R2                        | 8.2 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 9R1                        | 9.1 pF | ••      | •• | ••  | ••  | V, B, C, D                |
| 100                        | 10 pF  | ••      | •• | ••  | ••  | V, F, G, J, K, M          |
| 110                        | 11 pF  | ••      | •• | ••  | ••  | F, G, J, K, M             |
| 120                        | 12 pF  | ••      | •• | ••  | ••  | F, G, J, K, M             |
| 130                        | 13 pF  | ••      | •• | ••  | ••  | F, G, J, K, M             |
| 150                        | 15 pF  | ••      | •• | ••  | ••  | F, G, J, K, M             |
| 180                        | 18 pF  | ••      | •• | ••  | ••  | F, G, J, K, M             |
| 200                        | 20 pF  | ••      | •• | ••  | ••  | F, G, J, K, M             |
| 220                        | 22 pF  | ••      | •• | ••  | ••  | F, G, J, K, M             |
| 240                        | 24 pF  | ••      | •• | ••  | ••  | F, G, J, K, M             |
| 270                        | 27 pF  | ••      | •• | ••  | ••  | F, G, J, K, M             |
| 300                        | 30 pF  | ••      | •• |     |     | F, G, J, K, M             |
| 330                        | 33 pF  | ••      | •• |     |     | F, G, J, K, M             |
| 360                        | 36 pF  | ••      | •• |     |     | F, G, J, K, M             |
| 390                        | 39 pF  | ••      | •• |     |     | F, G, J, K, M             |
| 430                        | 43 pF  | ••      | •• |     |     | F, G, J, K, M             |
| 470                        | 47 pF  | ••      | •• |     |     | F, G, J, K, M             |
| 510                        | 51 pF  | ••      | •• |     |     | F, G, J, K, M             |
| 560                        | 56 pF  | ••      | •• |     |     | F, G, J, K, M             |
| 620                        | 62 pF  | ••      |    |     |     | F, G, J, K, M             |
| 680                        | 68 pF  | ••      |    |     |     | F, G, J, K, M             |
| 750                        | 75 pF  | ••      |    |     |     | F, G, J, K, M             |
| 820                        | 82 pF  | ••      |    |     |     | F, G, J, K, M             |
| 910                        | 91 pF  |         |    |     |     |                           |
| 101                        | 100 pF |         |    |     |     |                           |
| 111                        | 110 pF |         |    |     |     |                           |
| 121                        | 120 pF |         |    |     |     |                           |

## Notes

RoHS-compliant except when supplied with lead (Pb)-containing termination, code "L"

•• Paper carrier

<sup>(1)</sup> For values below 0.4 pF and tolerance  $\pm 0.05$  pF, contact [mlccrf@vishay.com](mailto:mlccrf@vishay.com)



| SELECTION CHART            |        |         |    |     |     |     |                           |
|----------------------------|--------|---------|----|-----|-----|-----|---------------------------|
| DIELECTRIC (VISHAY CODE)   |        | COG (D) |    |     |     |     | TOLERANCE                 |
| STYLE                      |        | VJ0603  |    |     |     |     |                           |
| CASE CODE                  |        | 0603    |    |     |     |     |                           |
| VOLTAGE (V <sub>DC</sub> ) |        | 25      | 50 | 100 | 200 | 250 |                           |
| VOLTAGE CODE               |        | X       | A  | B   | C   | P   |                           |
| CAP. CODE                  | CAP.   |         |    |     |     |     |                           |
| 0R1                        | 0.1 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D <sup>(1)</sup> |
| 0R2                        | 0.2 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D <sup>(1)</sup> |
| 0R3                        | 0.3 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D <sup>(1)</sup> |
| 0R4                        | 0.4 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 0R5                        | 0.5 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 0R6                        | 0.6 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 0R7                        | 0.7 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 0R8                        | 0.8 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 0R9                        | 0.9 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 1R0                        | 1.0 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 1R1                        | 1.1 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 1R2                        | 1.2 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 1R3                        | 1.3 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 1R4                        | 1.4 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 1R5                        | 1.5 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 1R6                        | 1.6 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 1R7                        | 1.7 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 1R8                        | 1.8 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 1R9                        | 1.9 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 2R0                        | 2.0 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 2R1                        | 2.1 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 2R2                        | 2.2 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 2R4                        | 2.4 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 2R7                        | 2.7 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 3R0                        | 3.0 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 3R3                        | 3.3 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 3R6                        | 3.6 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 3R9                        | 3.9 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 4R3                        | 4.3 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 4R7                        | 4.7 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 5R1                        | 5.1 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 5R6                        | 5.6 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 6R2                        | 6.2 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 6R8                        | 6.8 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 7R5                        | 7.5 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 8R2                        | 8.2 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 9R1                        | 9.1 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 100                        | 10 pF  | ••      | •• | ••  | ••  | ••  | V, F, G, J, K, M          |
| 110                        | 11 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M             |
| 120                        | 12 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M             |
| 130                        | 13 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M             |
| 150                        | 15 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M             |
| 180                        | 18 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M             |
| 200                        | 20 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M             |
| 220                        | 22 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M             |
| 240                        | 24 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M             |
| 270                        | 27 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M             |
| 300                        | 30 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M             |
| 330                        | 33 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M             |
| 360                        | 36 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M             |
| 390                        | 39 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M             |
| 430                        | 43 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M             |
| 470                        | 47 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M             |
| 510                        | 51 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M             |
| 560                        | 56 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M             |
| 620                        | 62 pF  | •       | •  | •   | •   | •   | F, G, J, K, M             |
| 680                        | 68 pF  | •       | •  | •   | •   | •   | F, G, J, K, M             |
| 750                        | 75 pF  | •       | •  | •   | •   | •   | F, G, J, K, M             |
| 820                        | 82 pF  | •       | •  | •   | •   | •   | F, G, J, K, M             |
| 910                        | 91 pF  | •       | •  | •   | •   | •   | F, G, J, K, M             |

**Notes**

•• RoHS-compliant except when supplied with lead (Pb)-containing termination, code "L"

•• Paper carrier • Plastic carrier tape

<sup>(1)</sup> For values below 0.4 pF and tolerance  $\pm 0.05$  pF, contact [mlccrf@vishay.com](mailto:mlccrf@vishay.com)



| SELECTION CHART            |        |         |    |     |     |     |               |
|----------------------------|--------|---------|----|-----|-----|-----|---------------|
| DIELECTRIC (VISHAY CODE)   |        | C0G (D) |    |     |     |     | TOLERANCE     |
| STYLE                      |        | VJ0603  |    |     |     |     |               |
| CASE CODE                  |        | 0603    |    |     |     |     |               |
| VOLTAGE (V <sub>DC</sub> ) |        | 25      | 50 | 100 | 200 | 250 |               |
| VOLTAGE CODE               |        | X       | A  | B   | C   | P   |               |
| CAP. CODE                  | CAP.   |         |    |     |     |     |               |
| 101                        | 100 pF | •       | •  | •   | •   | •   | F, G, J, K, M |
| 111                        | 110 pF | •       | •  | •   |     |     | F, G, J, K, M |
| 121                        | 120 pF | •       | •  | •   |     |     | F, G, J, K, M |
| 131                        | 130 pF | •       | •  | •   |     |     | F, G, J, K, M |
| 151                        | 150 pF | •       | •  | •   |     |     | F, G, J, K, M |
| 181                        | 180 pF | •       | •  |     |     |     | F, G, J, K, M |
| 201                        | 200 pF | •       | •  |     |     |     | F, G, J, K, M |
| 221                        | 220 pF | •       | •  |     |     |     | F, G, J, K, M |
| 241                        | 240 pF | •       | •  |     |     |     | F, G, J, K, M |
| 271                        | 270 pF | •       | •  |     |     |     | F, G, J, K, M |
| 301                        | 300 pF | •       | •  |     |     |     | F, G, J, K, M |
| 331                        | 330 pF | •       | •  |     |     |     | F, G, J, K, M |
| 361                        | 360 pF | •       |    |     |     |     | F, G, J, K, M |
| 391                        | 390 pF | •       |    |     |     |     | F, G, J, K, M |
| 431                        | 430 pF | •       |    |     |     |     | F, G, J, K, M |
| 471                        | 470 pF | •       |    |     |     |     | F, G, J, K, M |
| 511                        | 510 pF |         |    |     |     |     |               |
| 561                        | 560 pF |         |    |     |     |     |               |
| 621                        | 620 pF |         |    |     |     |     |               |
| 681                        | 680 pF |         |    |     |     |     |               |
| 751                        | 750 pF |         |    |     |     |     |               |
| 821                        | 820 pF |         |    |     |     |     |               |
| 911                        | 910 pF |         |    |     |     |     |               |
| 102                        | 1.0 nF |         |    |     |     |     |               |
| 112                        | 1.1 nF |         |    |     |     |     |               |
| 122                        | 1.2 nF |         |    |     |     |     |               |
| 132                        | 1.3 nF |         |    |     |     |     |               |
| 152                        | 1.5 nF |         |    |     |     |     |               |
| 182                        | 1.8 nF |         |    |     |     |     |               |

**Notes**

• RoHS-compliant except when supplied with lead (Pb)-containing termination, code "L"

• Paper carrier • Plastic carrier tape

(1) For values below 0.4 pF and tolerance  $\pm 0.05$  pF, contact [mlccrf@vishay.com](mailto:mlccrf@vishay.com)



| SELECTION CHART            |        |         |    |     |     |     |                           |
|----------------------------|--------|---------|----|-----|-----|-----|---------------------------|
| DIELECTRIC (VISHAY CODE)   |        | C0G (D) |    |     |     |     | TOLERANCE                 |
| STYLE                      |        | VJ0805  |    |     |     |     |                           |
| CASE CODE                  |        | 0805    |    |     |     |     |                           |
| VOLTAGE (V <sub>DC</sub> ) |        | 25      | 50 | 100 | 200 | 250 |                           |
| VOLTAGE CODE               |        | X       | A  | B   | C   | P   |                           |
| CAP. CODE                  | CAP.   |         |    |     |     |     |                           |
| 0R1                        | 0.1 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D <sup>(1)</sup> |
| 0R2                        | 0.2 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D <sup>(1)</sup> |
| 0R3                        | 0.3 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D <sup>(1)</sup> |
| 0R4                        | 0.4 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 0R5                        | 0.5 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 0R6                        | 0.6 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 0R7                        | 0.7 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 0R8                        | 0.8 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 0R9                        | 0.9 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 1R0                        | 1.0 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 1R1                        | 1.1 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 1R2                        | 1.2 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 1R3                        | 1.3 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 1R4                        | 1.4 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 1R5                        | 1.5 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 1R6                        | 1.6 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 1R7                        | 1.7 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 1R8                        | 1.8 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 1R9                        | 1.9 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 2R0                        | 2.0 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 2R1                        | 2.1 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 2R2                        | 2.2 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 2R4                        | 2.4 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 2R7                        | 2.7 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 3R0                        | 3.0 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 3R3                        | 3.3 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 3R6                        | 3.6 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 3R9                        | 3.9 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 4R3                        | 4.3 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 4R7                        | 4.7 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 5R1                        | 5.1 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 5R6                        | 5.6 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 6R2                        | 6.2 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 6R8                        | 6.8 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 7R5                        | 7.5 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 8R2                        | 8.2 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |
| 9R1                        | 9.1 pF | ••      | •• | ••  | ••  | ••  | V, B, C, D                |

**Notes**

•• RoHS-compliant except when supplied with lead (Pb)-containing termination, code "L"

•• Paper carrier • Plastic carrier tape

<sup>(1)</sup> For values below 0.4 pF and tolerance  $\pm 0.05$  pF, contact [mlccrf@vishay.com](mailto:mlccrf@vishay.com)



| SELECTION CHART            |        |         |    |     |     |     |                  |
|----------------------------|--------|---------|----|-----|-----|-----|------------------|
| DIELECTRIC (VISHAY CODE)   |        | C0G (D) |    |     |     |     | TOLERANCE        |
| STYLE                      |        | VJ0805  |    |     |     |     |                  |
| CASE CODE                  |        | 0805    |    |     |     |     |                  |
| VOLTAGE (V <sub>DC</sub> ) |        | 25      | 50 | 100 | 200 | 250 |                  |
| VOLTAGE CODE               |        | X       | A  | B   | C   | P   |                  |
| CAP. CODE                  | CAP.   |         |    |     |     |     |                  |
| 100                        | 10 pF  | ••      | •• | ••  | ••  | ••  | V, F, G, J, K, M |
| 110                        | 11 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M    |
| 120                        | 12 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M    |
| 130                        | 13 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M    |
| 150                        | 15 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M    |
| 180                        | 18 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M    |
| 200                        | 20 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M    |
| 220                        | 22 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M    |
| 240                        | 24 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M    |
| 270                        | 27 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M    |
| 300                        | 30 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M    |
| 330                        | 33 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M    |
| 360                        | 36 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M    |
| 390                        | 39 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M    |
| 430                        | 43 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M    |
| 470                        | 47 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M    |
| 510                        | 51 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M    |
| 560                        | 56 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M    |
| 620                        | 62 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M    |
| 680                        | 68 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M    |
| 750                        | 75 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M    |
| 820                        | 82 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M    |
| 910                        | 91 pF  | ••      | •• | ••  | ••  | ••  | F, G, J, K, M    |
| 101                        | 100 pF | •       | •  | •   | •   | •   | F, G, J, K, M    |
| 111                        | 110 pF | •       | •  | •   | •   | •   | F, G, J, K, M    |
| 121                        | 120 pF | •       | •  | •   | •   | •   | F, G, J, K, M    |
| 131                        | 130 pF | •       | •  | •   | •   | •   | F, G, J, K, M    |
| 151                        | 150 pF | •       | •  | •   | •   | •   | F, G, J, K, M    |
| 181                        | 180 pF | •       | •  | •   | •   | •   | F, G, J, K, M    |
| 201                        | 200 pF | •       | •  | •   | •   | •   | F, G, J, K, M    |
| 221                        | 220 pF | •       | •  | •   | •   | •   | F, G, J, K, M    |
| 241                        | 240 pF | •       | •  | •   | •   | •   | F, G, J, K, M    |
| 271                        | 270 pF | •       | •  | •   | •   | •   | F, G, J, K, M    |
| 301                        | 300 pF | •       | •  | •   | •   | •   | F, G, J, K, M    |
| 331                        | 330 pF | •       | •  | •   | •   | •   | F, G, J, K, M    |
| 361                        | 360 pF | •       | •  | •   | •   |     | F, G, J, K, M    |
| 391                        | 390 pF | •       | •  | •   | •   |     | F, G, J, K, M    |
| 431                        | 430 pF | •       | •  | •   |     |     | F, G, J, K, M    |
| 471                        | 470 pF | •       | •  | •   |     |     | F, G, J, K, M    |
| 511                        | 510 pF | •       | •  | •   |     |     | F, G, J, K, M    |
| 561                        | 560 pF | •       | •  | •   |     |     | F, G, J, K, M    |
| 621                        | 620 pF | •       | •  | •   |     |     | F, G, J, K, M    |
| 681                        | 680 pF | •       | •  | •   |     |     | F, G, J, K, M    |
| 751                        | 750 pF | •       | •  |     |     |     | F, G, J, K, M    |
| 821                        | 820 pF | •       | •  |     |     |     | F, G, J, K, M    |
| 911                        | 910 pF | •       | •  |     |     |     | F, G, J, K, M    |
| 102                        | 1.0 nF | •       | •  |     |     |     | F, G, J, K, M    |
| 112                        | 1.1 nF | •       |    |     |     |     | F, G, J, K, M    |
| 122                        | 1.2 nF | •       |    |     |     |     | F, G, J, K, M    |
| 132                        | 1.3 nF | •       |    |     |     |     | F, G, J, K, M    |
| 152                        | 1.5 nF | •       |    |     |     |     | F, G, J, K, M    |
| 182                        | 1.8 nF |         |    |     |     |     |                  |

## Notes

• RoHS-compliant except when supplied with lead (Pb)-containing termination, code "L"

•• Paper carrier • Plastic carrier tape

(1) For values below 0.4 pF and tolerance  $\pm 0.05$  pF, contact [mlccrf@vishay.com](mailto:mlccrf@vishay.com)

**SELECTION CHART FOR EXTENDED TEMPERATURE RANGE**

| DIELECTRIC (VISHAY CODE)   |        | C0G (D) |    |    |
|----------------------------|--------|---------|----|----|
| STYLE                      |        | VJ0402  |    |    |
| CASE CODE                  |        | 0402    |    |    |
| VOLTAGE (V <sub>DC</sub> ) |        | 16      | 25 | 50 |
| VOLTAGE CODE               |        | J       | X  | A  |
| CAP. CODE                  | CAP.   |         |    |    |
| 0R1                        | 0.1 pF | ••      | •• | •• |
| 0R2                        | 0.2 pF | ••      | •• | •• |
| 0R3                        | 0.3 pF | ••      | •• | •• |
| 0R4                        | 0.4 pF | ••      | •• | •• |
| 0R5                        | 0.5 pF | ••      | •• | •• |
| 0R6                        | 0.6 pF | ••      | •• | •• |
| 0R7                        | 0.7 pF | ••      | •• | •• |
| 0R8                        | 0.8 pF | ••      | •• | •• |
| 0R9                        | 0.9 pF | ••      | •• | •• |
| 1R0                        | 1.0 pF | ••      | •• | •• |
| 1R1                        | 1.1 pF | ••      | •• | •• |
| 1R2                        | 1.2 pF | ••      | •• | •• |
| 1R3                        | 1.3 pF | ••      | •• | •• |
| 1R4                        | 1.4 pF | ••      | •• | •• |
| 1R5                        | 1.5 pF | ••      | •• | •• |
| 1R6                        | 1.6 pF | ••      | •• | •• |
| 1R7                        | 1.7 pF | ••      | •• | •• |
| 1R8                        | 1.8 pF | ••      | •• | •• |
| 1R9                        | 1.9 pF | ••      | •• | •• |
| 2R0                        | 2.0 pF | ••      | •• | •• |
| 2R1                        | 2.1 pF | ••      | •• | •• |
| 2R2                        | 2.2 pF | ••      | •• | •• |
| 2R4                        | 2.4 pF | ••      | •• | •• |
| 2R7                        | 2.7 pF | ••      | •• | •• |
| 3R0                        | 3.0 pF | ••      | •• | •• |
| 3R3                        | 3.3 pF | ••      | •• | •• |
| 3R6                        | 3.6 pF | ••      | •• | •• |
| 3R9                        | 3.9 pF | ••      | •• | •• |
| 4R3                        | 4.3 pF | ••      | •• | •• |
| 4R7                        | 4.7 pF | ••      | •• | •• |
| 5R1                        | 5.1 pF | ••      | •• | •• |
| 5R6                        | 5.6 pF | ••      | •• | •• |
| 6R2                        | 6.2 pF | ••      | •• | •• |
| 6R8                        | 6.8 pF | ••      | •• | •• |
| 7R5                        | 7.5 pF | ••      | •• | •• |
| 8R2                        | 8.2 pF | ••      | •• | •• |
| 9R1                        | 9.1 pF | ••      | •• | •• |
| 100                        | 10 pF  | ••      | •• | •• |
| 110                        | 11 pF  | ••      | •• | •• |
| 120                        | 12 pF  | ••      | •• | •• |
| 130                        | 13 pF  | ••      | •• | •• |
| 150                        | 15 pF  | ••      | •• | •• |
| 180                        | 18 pF  | ••      | •• | •• |

**Notes**

- RoHS-compliant except when supplied with lead (Pb)-containing termination, code "L"
- Paper carrier

**SELECTION CHART FOR EXTENDED TEMPERATURE RANGE**

| DIELECTRIC (VISHAY CODE)   |         | C0G (D) |    |    |
|----------------------------|---------|---------|----|----|
| STYLE                      |         | VJ0402  |    |    |
| CASE CODE                  |         | 0402    |    |    |
| VOLTAGE (V <sub>DC</sub> ) |         | 16      | 25 | 50 |
| VOLTAGE CODE               |         | J       | X  | A  |
| CAP. CODE                  | CAP.    |         |    |    |
| 200                        | 20 pF   | ••      | •• | •• |
| 220                        | 22 pF   | ••      | •• | •• |
| 240                        | 24 pF   | ••      | •• | •• |
| 270                        | 27 pF   | ••      | •• | •• |
| 300                        | 30 pF   | ••      | •• | •• |
| 330                        | 33 pF   | ••      | •• | •• |
| 360                        | 36 pF   | ••      | •• | •• |
| 390                        | 39 pF   | ••      | •• | •• |
| 430                        | 43 pF   | ••      | •• | •• |
| 470                        | 47 pF   | ••      | •• | •• |
| 510                        | 51 pF   | ••      | •• | •• |
| 560                        | 56 pF   | ••      | •• | •• |
| 620                        | 62 pF   | ••      | •• | •• |
| 680                        | 68 pF   | ••      | •• | •• |
| 750                        | 75 pF   | ••      | •• | •• |
| 820                        | 82 pF   | ••      | •• | •• |
| 910                        | 91 pF   | ••      | •• | •• |
| 101                        | 100 pF  | ••      | •• | •• |
| 111                        | 110 pF  | ••      | •• | •• |
| 121                        | 120 pF  | ••      | •• | •• |
| 131                        | 130 pF  | ••      | •• | •• |
| 151                        | 150 pF  | ••      | •• | •• |
| 181                        | 180 pF  | ••      | •• |    |
| 201                        | 200 pF  | ••      | •• |    |
| 221                        | 220 pF  | ••      | •• |    |
| 241                        | 240 pF  | ••      |    |    |
| 271                        | 270 pF  | ••      |    |    |
| 301                        | 300 pF  |         |    |    |
| 331                        | 330 pF  |         |    |    |
| 361                        | 360 pF  |         |    |    |
| 391                        | 390 pF  |         |    |    |
| 430                        | 430 pF  |         |    |    |
| 471                        | 470 pF  |         |    |    |
| 511                        | 510 pF  |         |    |    |
| 561                        | 560 pF  |         |    |    |
| 621                        | 620 pF  |         |    |    |
| 681                        | 680 pF  |         |    |    |
| 751                        | 750 pF  |         |    |    |
| 821                        | 820 pF  |         |    |    |
| 910                        | 910 pF  |         |    |    |
| 102                        | 1000 pF |         |    |    |

**Notes**

RoHS-compliant except when supplied with lead (Pb)-containing termination, code "L"

•• Paper carrier

**SELECTION CHART FOR EXTENDED TEMPERATURE RANGE**

| DIELECTRIC (VISHAY CODE)   |        | C0G (D) |    |    |     |
|----------------------------|--------|---------|----|----|-----|
| STYLE                      |        | VJ0603  |    |    |     |
| CASE CODE                  |        | 0603    |    |    |     |
| VOLTAGE (V <sub>DC</sub> ) |        | 16      | 25 | 50 | 100 |
| VOLTAGE CODE               |        | J       | X  | A  | B   |
| CAP. CODE                  | CAP.   |         |    |    |     |
| 0R1                        | 0.1 pF | ••      | •• | •• | ••  |
| 0R2                        | 0.2 pF | ••      | •• | •• | ••  |
| 0R3                        | 0.3 pF | ••      | •• | •• | ••  |
| 0R4                        | 0.4 pF | ••      | •• | •• | ••  |
| 0R5                        | 0.5 pF | ••      | •• | •• | ••  |
| 0R6                        | 0.6 pF | ••      | •• | •• | ••  |
| 0R7                        | 0.7 pF | ••      | •• | •• | ••  |
| 0R8                        | 0.8 pF | ••      | •• | •• | ••  |
| 0R9                        | 0.9 pF | ••      | •• | •• | ••  |
| 1R0                        | 1.0 pF | ••      | •• | •• | ••  |
| 1R1                        | 1.1 pF | ••      | •• | •• | ••  |
| 1R2                        | 1.2 pF | ••      | •• | •• | ••  |
| 1R3                        | 1.3 pF | ••      | •• | •• | ••  |
| 1R4                        | 1.4 pF | ••      | •• | •• | ••  |
| 1R5                        | 1.5 pF | ••      | •• | •• | ••  |
| 1R6                        | 1.6 pF | ••      | •• | •• | ••  |
| 1R7                        | 1.7 pF | ••      | •• | •• | ••  |
| 1R8                        | 1.8 pF | ••      | •• | •• | ••  |
| 1R9                        | 1.9 pF | ••      | •• | •• | ••  |
| 2R0                        | 2.0 pF | ••      | •• | •• | ••  |
| 2R1                        | 2.1 pF | ••      | •• | •• | ••  |
| 2R2                        | 2.2 pF | ••      | •• | •• | ••  |
| 2R4                        | 2.4 pF | ••      | •• | •• | ••  |
| 2R7                        | 2.7 pF | ••      | •• | •• | ••  |
| 3R0                        | 3.0 pF | ••      | •• | •• | ••  |
| 3R3                        | 3.3 pF | ••      | •• | •• | ••  |
| 3R6                        | 3.6 pF | ••      | •• | •• | ••  |
| 3R9                        | 3.9 pF | ••      | •• | •• | ••  |
| 4R3                        | 4.3 pF | ••      | •• | •• | ••  |
| 4R7                        | 4.7 pF | ••      | •• | •• | ••  |
| 5R1                        | 5.1 pF | ••      | •• | •• | ••  |
| 5R6                        | 5.6 pF | ••      | •• | •• | ••  |
| 6R2                        | 6.2 pF | ••      | •• | •• | ••  |
| 6R8                        | 6.8 pF | ••      | •• | •• | ••  |
| 7R5                        | 7.5 pF | ••      | •• | •• | ••  |
| 8R2                        | 8.2 pF | ••      | •• | •• | ••  |
| 9R1                        | 9.1 pF | ••      | •• | •• | ••  |
| 100                        | 10 pF  | ••      | •• | •• | ••  |
| 110                        | 11 pF  | ••      | •• | •• | ••  |
| 120                        | 12 pF  | ••      | •• | •• | ••  |
| 130                        | 13 pF  | ••      | •• | •• | ••  |
| 150                        | 15 pF  | ••      | •• | •• | ••  |

**Notes**

•• RoHS-compliant except when supplied with lead (Pb)-containing termination, code "L"

•• Paper carrier

**SELECTION CHART FOR EXTENDED TEMPERATURE RANGE**

| DIELECTRIC (VISHAY CODE)   |         | C0G (D) |    |    |     |
|----------------------------|---------|---------|----|----|-----|
| STYLE                      |         | VJ0603  |    |    |     |
| CASE CODE                  |         | 0603    |    |    |     |
| VOLTAGE (V <sub>DC</sub> ) |         | 16      | 25 | 50 | 100 |
| VOLTAGE CODE               |         | J       | X  | A  | B   |
| CAP. CODE                  | CAP.    |         |    |    |     |
| 180                        | 18 pF   | ••      | •• | •• | ••  |
| 200                        | 20 pF   | ••      | •• | •• | ••  |
| 220                        | 22 pF   | ••      | •• | •• | ••  |
| 240                        | 24 pF   | ••      | •• | •• | ••  |
| 270                        | 27 pF   | ••      | •• | •• | ••  |
| 300                        | 30 pF   | ••      | •• | •• | ••  |
| 330                        | 33 pF   | ••      | •• | •• | ••  |
| 360                        | 36 pF   | ••      | •• | •• | ••  |
| 390                        | 39 pF   | ••      | •• | •• | ••  |
| 430                        | 43 pF   | ••      | •• | •• | ••  |
| 470                        | 47 pF   | ••      | •• | •• | ••  |
| 510                        | 51 pF   | ••      | •• | •• |     |
| 560                        | 56 pF   | ••      | •• | •• |     |
| 620                        | 62 pF   | ••      | •• | •• |     |
| 680                        | 68 pF   | ••      | •• | •• |     |
| 750                        | 75 pF   | ••      | •• | •• |     |
| 820                        | 82 pF   | ••      | •• | •• |     |
| 910                        | 91 pF   | ••      | •• | •• |     |
| 101                        | 100 pF  | ••      | •• | •• |     |
| 111                        | 110 pF  | ••      | •• | •• |     |
| 121                        | 120 pF  | ••      | •• | •• |     |
| 131                        | 130 pF  | ••      | •• | •• |     |
| 151                        | 150 pF  | ••      | •• | •• |     |
| 181                        | 180 pF  | ••      | •• |    |     |
| 201                        | 200 pF  | ••      | •• |    |     |
| 221                        | 220 pF  | ••      | •• |    |     |
| 241                        | 240 pF  | ••      |    |    |     |
| 271                        | 270 pF  | ••      |    |    |     |
| 301                        | 300 pF  |         |    |    |     |
| 331                        | 330 pF  |         |    |    |     |
| 361                        | 360 pF  |         |    |    |     |
| 391                        | 390 pF  |         |    |    |     |
| 430                        | 430 pF  |         |    |    |     |
| 471                        | 470 pF  |         |    |    |     |
| 511                        | 510 pF  |         |    |    |     |
| 561                        | 560 pF  |         |    |    |     |
| 621                        | 620 pF  |         |    |    |     |
| 681                        | 680 pF  |         |    |    |     |
| 751                        | 750 pF  |         |    |    |     |
| 821                        | 820 pF  |         |    |    |     |
| 910                        | 910 pF  |         |    |    |     |
| 102                        | 1000 pF |         |    |    |     |

**Notes**

- RoHS-compliant except when supplied with lead (Pb)-containing termination, code "L"
- Paper carrier

**SELECTION CHART FOR EXTENDED TEMPERATURE RANGE**

| DIELECTRIC (VISHAY CODE)   |        | C0G (D) |    |    |     |
|----------------------------|--------|---------|----|----|-----|
| STYLE                      |        | VJ0805  |    |    |     |
| CASE CODE                  |        | 0805    |    |    |     |
| VOLTAGE (V <sub>DC</sub> ) |        | 16      | 25 | 50 | 100 |
| VOLTAGE CODE               |        | J       | X  | A  | B   |
| CAP. CODE                  | CAP.   |         |    |    |     |
| 0R1                        | 0.1 pF | ••      | •• | •• | ••  |
| 0R2                        | 0.2 pF | ••      | •• | •• | ••  |
| 0R3                        | 0.3 pF | ••      | •• | •• | ••  |
| 0R4                        | 0.4 pF | ••      | •• | •• | ••  |
| 0R5                        | 0.5 pF | ••      | •• | •• | ••  |
| 0R6                        | 0.6 pF | ••      | •• | •• | ••  |
| 0R7                        | 0.7 pF | ••      | •• | •• | ••  |
| 0R8                        | 0.8 pF | ••      | •• | •• | ••  |
| 0R9                        | 0.9 pF | ••      | •• | •• | ••  |
| 1R0                        | 1.0 pF | ••      | •• | •• | ••  |
| 1R1                        | 1.1 pF | ••      | •• | •• | ••  |
| 1R2                        | 1.2 pF | ••      | •• | •• | ••  |
| 1R3                        | 1.3 pF | ••      | •• | •• | ••  |
| 1R4                        | 1.4 pF | ••      | •• | •• | ••  |
| 1R5                        | 1.5 pF | ••      | •• | •• | ••  |
| 1R6                        | 1.6 pF | ••      | •• | •• | ••  |
| 1R7                        | 1.7 pF | ••      | •• | •• | ••  |
| 1R8                        | 1.8 pF | ••      | •• | •• | ••  |
| 1R9                        | 1.9 pF | ••      | •• | •• | ••  |
| 2R0                        | 2.0 pF | ••      | •• | •• | ••  |
| 2R1                        | 2.1 pF | ••      | •• | •• | ••  |
| 2R2                        | 2.2 pF | ••      | •• | •• | ••  |
| 2R4                        | 2.4 pF | ••      | •• | •• | ••  |
| 2R7                        | 2.7 pF | ••      | •• | •• | ••  |
| 3R0                        | 3.0 pF | ••      | •• | •• | ••  |
| 3R3                        | 3.3 pF | ••      | •• | •• | ••  |
| 3R6                        | 3.6 pF | ••      | •• | •• | ••  |
| 3R9                        | 3.9 pF | ••      | •• | •• | ••  |
| 4R3                        | 4.3 pF | ••      | •• | •• | ••  |
| 4R7                        | 4.7 pF | ••      | •• | •• | ••  |
| 5R1                        | 5.1 pF | ••      | •• | •• | ••  |
| 5R6                        | 5.6 pF | ••      | •• | •• | ••  |
| 6R2                        | 6.2 pF | ••      | •• | •• | ••  |
| 6R8                        | 6.8 pF | ••      | •• | •• | ••  |
| 7R5                        | 7.5 pF | ••      | •• | •• | ••  |
| 8R2                        | 8.2 pF | ••      | •• | •• | ••  |
| 9R1                        | 9.1 pF | ••      | •• | •• | ••  |
| 100                        | 10 pF  | ••      | •• | •• | ••  |
| 110                        | 11 pF  | ••      | •• | •• | ••  |
| 120                        | 12 pF  | ••      | •• | •• | ••  |
| 130                        | 13 pF  | ••      | •• | •• | ••  |
| 150                        | 15 pF  | ••      | •• | •• | ••  |

**Notes**

•• RoHS-compliant except when supplied with lead (Pb)-containing termination, code "L"

•• Paper carrier

**SELECTION CHART FOR EXTENDED TEMPERATURE RANGE**

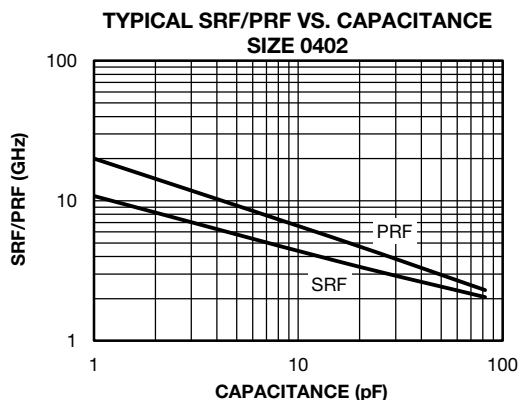
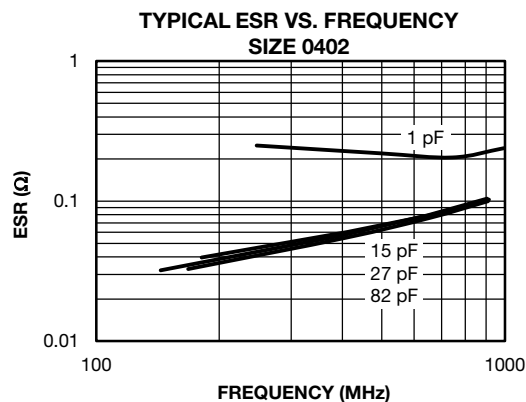
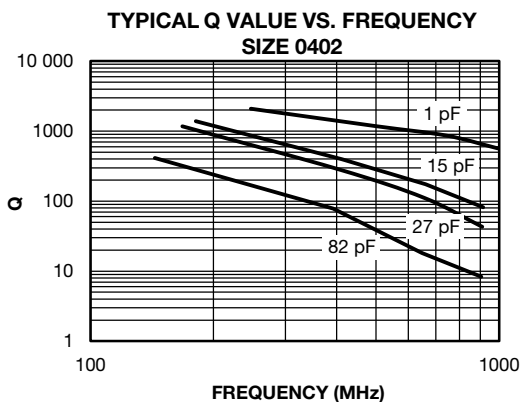
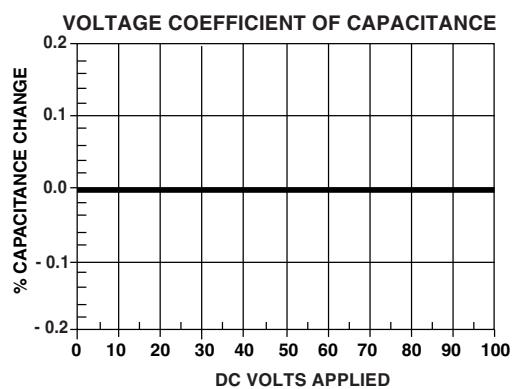
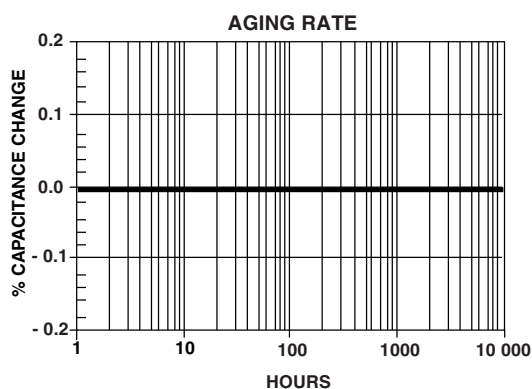
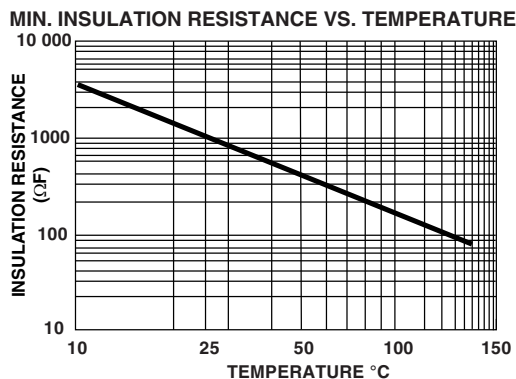
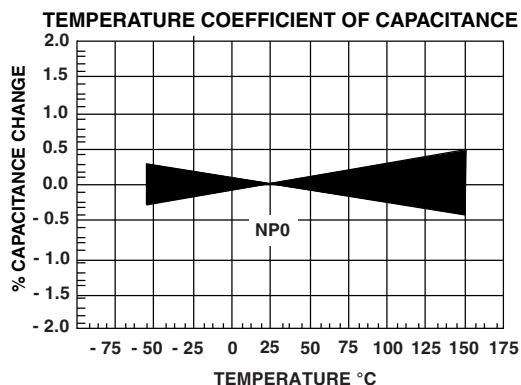
| DIELECTRIC (VISHAY CODE)   |         | C0G (D) |    |    |     |
|----------------------------|---------|---------|----|----|-----|
| STYLE                      |         | VJ0805  |    |    |     |
| CASE CODE                  |         | 0805    |    |    |     |
| VOLTAGE (V <sub>DC</sub> ) |         | 16      | 25 | 50 | 100 |
| VOLTAGE CODE               |         | J       | X  | A  | B   |
| CAP. CODE                  | CAP.    |         |    |    |     |
| 180                        | 18 pF   | ••      | •• | •• | ••  |
| 200                        | 20 pF   | ••      | •• | •• | ••  |
| 220                        | 22 pF   | ••      | •• | •• | ••  |
| 240                        | 24 pF   | ••      | •• | •• | ••  |
| 270                        | 27 pF   | ••      | •• | •• | ••  |
| 300                        | 30 pF   | ••      | •• | •• | ••  |
| 330                        | 33 pF   | ••      | •• | •• | ••  |
| 360                        | 36 pF   | ••      | •• | •• | ••  |
| 390                        | 39 pF   | ••      | •• | •• | ••  |
| 430                        | 43 pF   | ••      | •• | •• | ••  |
| 470                        | 47 pF   | ••      | •• | •• | ••  |
| 510                        | 51 pF   | ••      | •• | •• | ••  |
| 560                        | 56 pF   | ••      | •• | •• | ••  |
| 620                        | 62 pF   | ••      | •• | •• | ••  |
| 680                        | 68 pF   | ••      | •• | •• | ••  |
| 750                        | 75 pF   | ••      | •• | •• | ••  |
| 820                        | 82 pF   | ••      | •• | •• | ••  |
| 910                        | 91 pF   | ••      | •• | •• | ••  |
| 101                        | 100 pF  | ••      | •• | •• | ••  |
| 111                        | 110 pF  | ••      | •• | •• | ••  |
| 121                        | 120 pF  | ••      | •• | •• | ••  |
| 131                        | 130 pF  | ••      | •• | •• | ••  |
| 151                        | 150 pF  | ••      | •• | •• | ••  |
| 181                        | 180 pF  | ••      | •• | •• | ••  |
| 201                        | 200 pF  | ••      | •• | •• | ••  |
| 221                        | 220 pF  | ••      | •• | •• | ••  |
| 241                        | 240 pF  | ••      | •• | •• |     |
| 271                        | 270 pF  | ••      | •• | •• |     |
| 301                        | 300 pF  | ••      | •• | •• |     |
| 331                        | 330 pF  | ••      | •• | •• |     |
| 361                        | 360 pF  | ••      | •• | •• |     |
| 391                        | 390 pF  | ••      | •• | •• |     |
| 430                        | 430 pF  | ••      | •• | •• |     |
| 471                        | 470 pF  | ••      | •• | •• |     |
| 511                        | 510 pF  | ••      | •• |    |     |
| 561                        | 560 pF  | ••      | •• |    |     |
| 621                        | 620 pF  | ••      | •• |    |     |
| 681                        | 680 pF  | ••      | •• |    |     |
| 751                        | 750 pF  | ••      | •• |    |     |
| 821                        | 820 pF  | ••      | •• |    |     |
| 910                        | 910 pF  | ••      |    |    |     |
| 102                        | 1000 pF | ••      |    |    |     |

**Notes**

- RoHS-compliant except when supplied with lead (Pb)-containing termination, code "L"
- Paper carrier

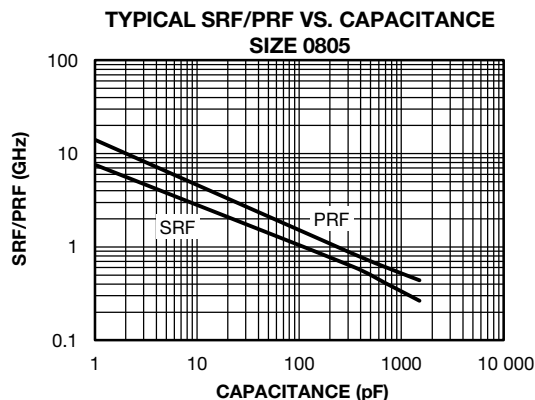
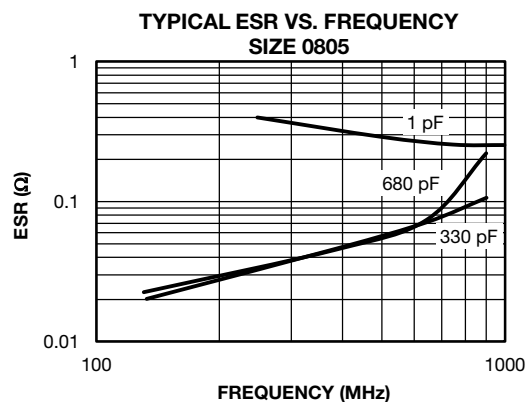
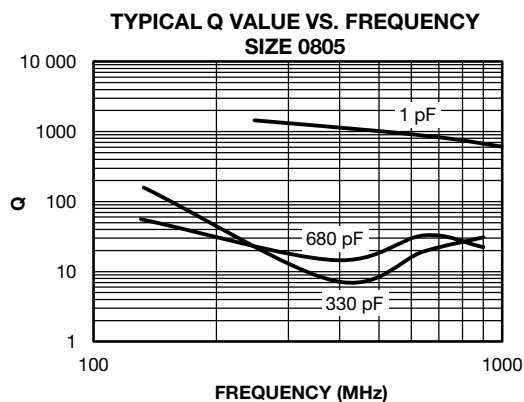
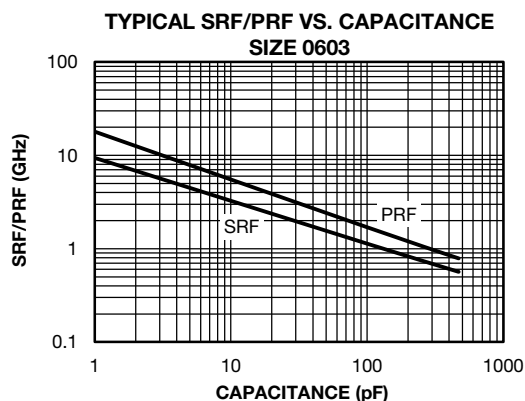
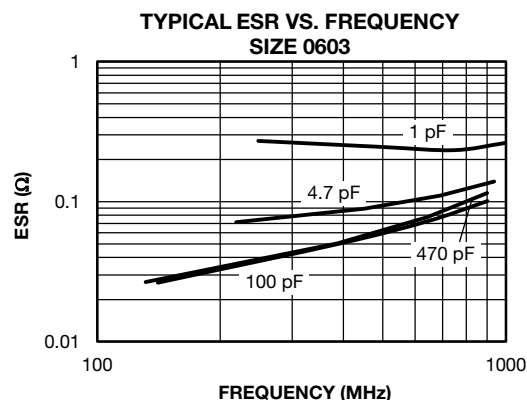
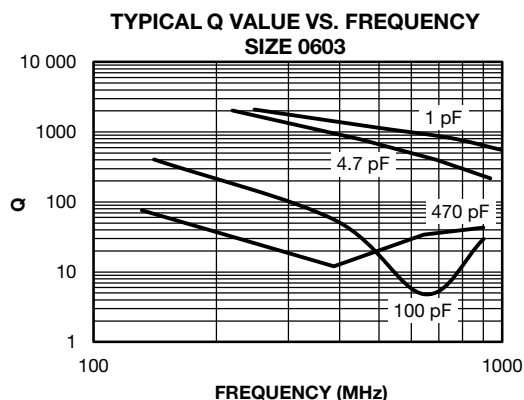


HIGH FREQ DIELECTRIC - TYPICAL PARAMETERS





HIGH FREQ DIELECTRIC - TYPICAL PARAMETERS



**STANDARD PACKAGING QUANTITIES (1)(2)(3)**

| CASE CODE | TAPE SIZE | 7" REEL QUANTITIES                |                                 |                      | 11 1/4" AND 13" REEL QUANTITIES   |                                 |
|-----------|-----------|-----------------------------------|---------------------------------|----------------------|-----------------------------------|---------------------------------|
|           |           | PAPER TAPE PACKAGING CODE "C"/"O" | PLASTIC TAPE PACKAGING CODE "T" | LOW QUANTITY "J" (5) | PAPER TAPE PACKAGING CODE "P"/"I" | PLASTIC TAPE PACKAGING CODE "R" |
| 0402      | 8 mm      | 5000                              | n/a                             | 1000                 | 10 000                            | n/a                             |
| 0603 (4)  | 8 mm      | 4000                              | 4000                            | 1000                 | 10 000                            | 10 000                          |
| 0805 (4)  | 8 mm      | 3000                              | 3000                            | 1000                 | 10 000                            | 10 000                          |

**Notes**

- (1) Vishay Vitramon uses embossed plastic carrier tape  
(2) REFERENCE: EIA standard RS 481 - "Taping of Surface Mount Components for Automatic Placement"  
(3) n/a = not available  
(4) Packaging "C"/"P"/"O"/"I" and "T"/"R" or lower quantities can depend from product thickness  
(5) Paper/plastic tape used by availability

**STORAGE AND HANDLING CONDITIONS**

- (1) Store the components at 5 °C to +40 °C ambient temperature and  $\leq 70$  % relative humidity conditions.  
(2) The product is recommended to be used within a time-frame of 2 years after shipment (1 year for copper).  
Check solderability in case extended shelf life beyond the expiry date is needed.

## Precautions:

- Do not store products in an environment containing corrosive elements, especially where chloride gas, sulfide gas, acid, alkali, salt or the like are present. This may cause corrosion or oxidization of the terminations, which can easily lead to poor soldering.
- Store products on the shelf and avoid exposure to moisture or dust.
- Do not expose products to excessive shock, vibration, direct sunlight and so on.



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**Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.**

**Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.**