



## Surface Mount Multilayer Ceramic Chip Capacitor Kits for High Temperature, High Frequency Applications



### FEATURES

- Body size 0402, 0603, 0805, 0505, 1111
- 15 pieces of each part
- Ultra-stable dielectric material
- Lead (Pb)-free terminations code "X"
- High frequency / high temperature 175 °C / 200 °C
- 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)



### APPLICATIONS

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

### LINKS TO ADDITIONAL RESOURCES



See how our QUADs handle the power!

[www.vishay.com/videos/capacitorsconnectors/rf-quad-series-mlccs-demo-lower-temperature-vs-competition](http://www.vishay.com/videos/capacitorsconnectors/rf-quad-series-mlccs-demo-lower-temperature-vs-competition)

| ELECTRICAL SPECIFICATIONS AND DIMENSIONS (refer to the appropriate datasheet) |                     |  |
|---|---------------------|--|
| BODY SIZE   | SERIES              | DATASHEET  |
| 0402  | VJ HIFREQ HT Series | <a href="http://www.vishay.com/doc?45239">www.vishay.com/doc?45239</a> |
| 0603  |                     |  |
| 0805  |                     |  |
| 0505  |                     |  |
| 1111  |                     |  |

| ORDERING INFORMATION |           |                                |                                |
|----------------------|-----------|--------------------------------|--------------------------------|
| PART NUMBER          | BODY SIZE | MINIMUM CAPACITANCE VALUE (pF) | MAXIMUM CAPACITANCE VALUE (pF) |
| VJ0402HIFRQ1K1THT    | 0402      | 1.0                            | 47                             |
| VJ0402HIFRQ2K1THT    |           | 0.1                            | 0.9                            |
| VJ0603HIFRQ1K1THT    | 0603      | 1.0                            | 47                             |
| VJ0603HIFRQ2K1THT    |           | 56                             | 270                            |
| VJ0603HIFRQ3K1THT    |           | 0.1                            | 0.9                            |
| VJ0805HIFRQ1K1THT    | 0805      | 1.0                            | 82                             |
| VJ0805HIFRQ2K1THT    |           | 100                            | 1500                           |
| VJ0505QUARF1K1THT    | 0505      | 1.0                            | 8.2                            |
| VJ0505QUARF2K1THT    |           | 10                             | 100                            |
| VJ1111QUARF1K1THT    | 1111      | 1.0                            | 8.2                            |
| VJ1111QUARF2K1THT    |           | 10                             | 82                             |
| VJ1111QUARF3K1THT    |           | 100                            | 1000                           |



VJ HIFREQ HT SERIES DESIGN KITS: 0402 BODY SIZE

| VJ0402HIFRQ1KITHT |           |             |
|-------------------|-----------|-------------|
| CAPACITANCE (pF)  | TOLERANCE | VOLTAGE (V) |
| 1.0               | ± 0.10 pF | 100         |
| 1.2               | ± 0.10 pF | 100         |
| 1.5               | ± 0.10 pF | 100         |
| 1.8               | ± 0.10 pF | 100         |
| 2.0               | ± 0.10 pF | 100         |
| 2.7               | ± 0.10 pF | 100         |
| 3.0               | ± 0.10 pF | 50          |
| 3.3               | ± 0.10 pF | 50          |
| 4.7               | ± 0.25 pF | 50          |
| 5.6               | ± 0.25 pF | 50          |
| 6.2               | ± 0.25 pF | 50          |
| 6.8               | ± 0.25 pF | 50          |
| 7.5               | ± 0.25 pF | 50          |
| 8.2               | ± 0.25 pF | 50          |
| 12                | ± 5 %     | 50          |
| 15                | ± 5 %     | 50          |
| 18                | ± 5 %     | 25          |
| 20                | ± 5 %     | 25          |
| 22                | ± 5 %     | 25          |
| 27                | ± 5 %     | 25          |
| 39                | ± 5 %     | 16          |
| 47                | ± 5 %     | 16          |

| VJ0402HIFRQ2KITHT |                |             |
|-------------------|----------------|-------------|
| CAPACITANCE (pF)  | TOLERANCE (pF) | VOLTAGE (V) |
| 0.1               | ± 0.05         | 100         |
| 0.2               | ± 0.05         | 100         |
| 0.3               | ± 0.05         | 100         |
| 0.4               | ± 0.05         | 100         |
| 0.5               | ± 0.05         | 100         |
| 0.6               | ± 0.05         | 100         |
| 0.7               | ± 0.05         | 100         |
| 0.8               | ± 0.05         | 100         |
| 0.9               | ± 0.05         | 100         |

QUAD HIFREQ HT SERIES DESIGN KITS: 0505 BODY SIZE

| VJ0505QUARF1KITHT |                |             |
|-------------------|----------------|-------------|
| CAPACITANCE (pF)  | TOLERANCE (pF) | VOLTAGE (V) |
| 1.0               | ± 0.10         | 250         |
| 1.2               | ± 0.10         | 250         |
| 1.5               | ± 0.10         | 250         |
| 1.8               | ± 0.10         | 250         |
| 2.0               | ± 0.10         | 250         |
| 2.2               | ± 0.10         | 250         |
| 2.4               | ± 0.10         | 250         |
| 2.7               | ± 0.10         | 250         |
| 3.0               | ± 0.10         | 250         |
| 3.3               | ± 0.10         | 250         |
| 3.9               | ± 0.10         | 250         |
| 4.7               | ± 0.25         | 250         |
| 5.6               | ± 0.25         | 250         |
| 6.8               | ± 0.25         | 250         |
| 8.2               | ± 0.25         | 250         |

| VJ0505QUARF2KITHT |               |             |
|-------------------|---------------|-------------|
| CAPACITANCE (pF)  | TOLERANCE (%) | VOLTAGE (V) |
| 10                | ± 5           | 250         |
| 12                | ± 5           | 250         |
| 15                | ± 5           | 250         |
| 18                | ± 5           | 250         |
| 20                | ± 5           | 250         |
| 22                | ± 5           | 250         |
| 24                | ± 5           | 250         |
| 27                | ± 5           | 250         |
| 30                | ± 5           | 250         |
| 33                | ± 5           | 250         |
| 39                | ± 5           | 250         |
| 47                | ± 5           | 250         |
| 56                | ± 5           | 200         |
| 68                | ± 5           | 200         |
| 82                | ± 5           | 150         |
| 100               | ± 5           | 150         |



## VJ HIFREQ HT SERIES DESIGN KITS: 0603 BODY SIZE

| VJ0603HIFRQ1KITHT |           |             |
|-------------------|-----------|-------------|
| CAPACITANCE (pF)  | TOLERANCE | VOLTAGE (V) |
| 1.0               | ± 0.10 pF | 200         |
| 1.2               | ± 0.10 pF | 200         |
| 1.5               | ± 0.10 pF | 200         |
| 1.8               | ± 0.10 pF | 200         |
| 2.0               | ± 0.10 pF | 200         |
| 2.2               | ± 0.10 pF | 200         |
| 2.4               | ± 0.10 pF | 200         |
| 2.7               | ± 0.10 pF | 200         |
| 3.0               | ± 0.10 pF | 200         |
| 3.3               | ± 0.10 pF | 200         |
| 3.9               | ± 0.25 pF | 200         |
| 4.7               | ± 0.25 pF | 200         |
| 5.6               | ± 0.25 pF | 200         |
| 6.2               | ± 0.25 pF | 200         |
| 6.8               | ± 0.25 pF | 200         |
| 7.5               | ± 0.25 pF | 200         |
| 8.2               | ± 0.25 pF | 200         |
| 9.1               | ± 0.25 pF | 100         |
| 10                | ± 5 %     | 100         |
| 12                | ± 5 %     | 100         |
| 15                | ± 5 %     | 100         |
| 18                | ± 5 %     | 100         |
| 20                | ± 5 %     | 100         |
| 22                | ± 5 %     | 100         |
| 27                | ± 5 %     | 100         |
| 30                | ± 5 %     | 100         |
| 33                | ± 5 %     | 100         |
| 39                | ± 5 %     | 100         |
| 47                | ± 5 %     | 100         |

| VJ0603HIFRQ2KITHT |               |             |
|-------------------|---------------|-------------|
| CAPACITANCE (pF)  | TOLERANCE (%) | VOLTAGE (V) |
| 56                | ± 5           | 50          |
| 68                | ± 5           | 50          |
| 82                | ± 5           | 50          |
| 100               | ± 5           | 50          |
| 120               | ± 5           | 25          |
| 150               | ± 5           | 25          |
| 180               | ± 5           | 16          |
| 200               | ± 5           | 16          |
| 220               | ± 5           | 16          |
| 270               | ± 5           | 16          |

| VJ0603HIFRQ3KITHT |                |             |
|-------------------|----------------|-------------|
| CAPACITANCE (pF)  | TOLERANCE (pF) | VOLTAGE (V) |
| 0.1               | ± 0.05         | 200         |
| 0.2               | ± 0.05         | 200         |
| 0.3               | ± 0.05         | 200         |
| 0.4               | ± 0.05         | 200         |
| 0.5               | ± 0.05         | 200         |
| 0.6               | ± 0.05         | 200         |
| 0.7               | ± 0.05         | 200         |
| 0.8               | ± 0.05         | 200         |
| 0.9               | ± 0.05         | 200         |



VJ HIFREQ HT SERIES DESIGN KITS: 0805 BODY SIZE

| VJ0805HIFRQ1KITHT |           |             |
|-------------------|-----------|-------------|
| CAPACITANCE (pF)  | TOLERANCE | VOLTAGE (V) |
| 1.0               | ± 0.10 pF | 250         |
| 1.2               | ± 0.10 pF | 250         |
| 1.5               | ± 0.10 pF | 250         |
| 1.8               | ± 0.10 pF | 250         |
| 2.0               | ± 0.10 pF | 250         |
| 2.2               | ± 0.10 pF | 250         |
| 2.4               | ± 0.10 pF | 250         |
| 2.7               | ± 0.10 pF | 250         |
| 3.0               | ± 0.10 pF | 250         |
| 3.3               | ± 0.10 pF | 250         |
| 3.9               | ± 0.25 pF | 250         |
| 4.7               | ± 0.25 pF | 250         |
| 5.6               | ± 0.25 pF | 250         |
| 6.8               | ± 0.25 pF | 250         |
| 8.2               | ± 0.25 pF | 250         |
| 10                | ± 5 %     | 250         |
| 12                | ± 5 %     | 250         |
| 15                | ± 5 %     | 250         |
| 18                | ± 5 %     | 250         |
| 20                | ± 5 %     | 250         |
| 22                | ± 5 %     | 250         |
| 24                | ± 5 %     | 250         |
| 27                | ± 5 %     | 250         |
| 30                | ± 5 %     | 250         |
| 33                | ± 5 %     | 250         |
| 39                | ± 5 %     | 250         |
| 47                | ± 5 %     | 250         |
| 56                | ± 5 %     | 250         |
| 68                | ± 5 %     | 200         |
| 82                | ± 5 %     | 100         |

| VJ0805HIFRQ2KITHT |               |             |
|-------------------|---------------|-------------|
| CAPACITANCE (pF)  | TOLERANCE (%) | VOLTAGE (V) |
| 100               | ± 5           | 100         |
| 120               | ± 5           | 100         |
| 150               | ± 5           | 100         |
| 180               | ± 5           | 100         |
| 200               | ± 5           | 100         |
| 220               | ± 5           | 100         |
| 240               | ± 5           | 100         |
| 270               | ± 5           | 50          |
| 300               | ± 5           | 50          |
| 330               | ± 5           | 50          |
| 390               | ± 5           | 50          |
| 470               | ± 5           | 50          |
| 560               | ± 5           | 25          |
| 680               | ± 5           | 25          |
| 820               | ± 5           | 16          |
| 1000              | ± 5           | 16          |



QUAD HIFREQ HT SERIES DESIGN KITS: 1111 BODY SIZE

| VJ1111QUARF1KITHT |                |             |
|-------------------|----------------|-------------|
| CAPACITANCE (pF)  | TOLERANCE (pF) | VOLTAGE (V) |
| 1.0               | ± 0.10         | 500         |
| 1.2               | ± 0.10         | 500         |
| 1.5               | ± 0.10         | 500         |
| 1.8               | ± 0.10         | 500         |
| 2.0               | ± 0.10         | 500         |
| 2.2               | ± 0.10         | 500         |
| 2.4               | ± 0.10         | 500         |
| 2.7               | ± 0.10         | 500         |
| 3.0               | ± 0.10         | 500         |
| 3.3               | ± 0.25         | 500         |
| 3.9               | ± 0.25         | 500         |
| 4.7               | ± 0.25         | 500         |
| 5.6               | ± 0.25         | 500         |
| 6.8               | ± 0.25         | 500         |
| 8.2               | ± 0.25         | 500         |

| VJ1111QUARF3KITHT |               |             |
|-------------------|---------------|-------------|
| CAPACITANCE (pF)  | TOLERANCE (%) | VOLTAGE (V) |
| 100               | ± 5           | 500         |
| 120               | ± 5           | 500         |
| 150               | ± 5           | 500         |
| 180               | ± 5           | 500         |
| 200               | ± 5           | 300         |
| 220               | ± 5           | 300         |
| 240               | ± 5           | 300         |
| 270               | ± 5           | 300         |
| 300               | ± 5           | 300         |
| 330               | ± 5           | 300         |
| 390               | ± 5           | 300         |
| 470               | ± 5           | 300         |
| 560               | ± 5           | 100         |
| 680               | ± 5           | 100         |
| 820               | ± 5           | 100         |
| 1000              | ± 5           | 100         |

| VJ1111QUARF2KITHT |               |             |
|-------------------|---------------|-------------|
| CAPACITANCE (pF)  | TOLERANCE (%) | VOLTAGE (V) |
| 10                | ± 5           | 500         |
| 12                | ± 5           | 500         |
| 15                | ± 5           | 500         |
| 18                | ± 5           | 500         |
| 20                | ± 5           | 500         |
| 22                | ± 5           | 500         |
| 24                | ± 5           | 500         |
| 27                | ± 5           | 500         |
| 30                | ± 5           | 500         |
| 33                | ± 5           | 500         |
| 39                | ± 5           | 500         |
| 47                | ± 5           | 500         |
| 56                | ± 5           | 500         |
| 68                | ± 5           | 500         |
| 82                | ± 5           | 500         |