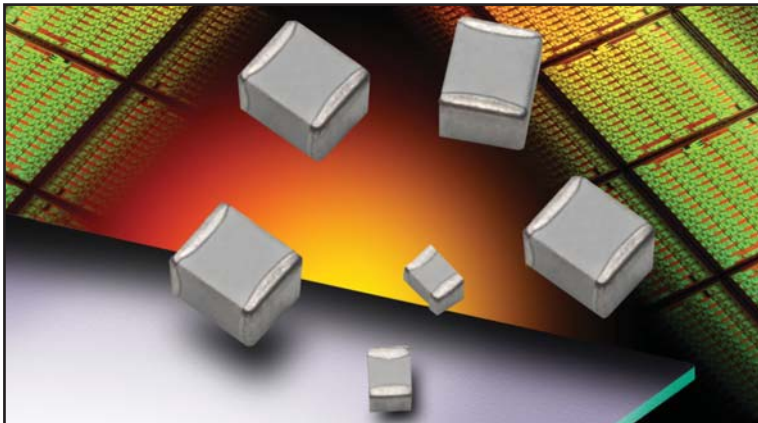


# RF/Microwave MLC's

## SQ Series Ultra Low ESR MLC



### FEATURES:

- Low ESR
- High Q
- High Self Resonance
- Capacitance Range 0.1 pF to 5100 pF
- 175°C Capability SQCB (Standard voltages only)

### APPLICATIONS:

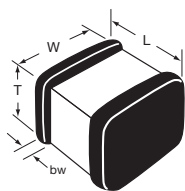
- RF Power Amplifiers
- Low Noise Amplifiers
- Filter Networks
- MRI Systems

### HOW TO ORDER

|                                   |   |  |  |   |  |   |   |  |
|-----------------------------------|---|--|--|---|--|---|---|--|
| <p><b>SQ</b></p> <p>AVX Style</p> | <p><b>CA</b></p> <p><b>Case Size</b><br/>CA = 0505<br/>CB = 1111</p> <p>See mechanical dimensions below</p> | <p><b>7</b></p> <p><b>Voltage Code</b></p> <p>5 = 50V<br/>1 = 100V<br/>E = 150V<br/>2 = 200V<br/>V = 250V<br/>9 = 300V<br/>7 = 500V<br/>C = 600V<br/>A = 1000V<br/>S = 1500V</p> | <p><b>M</b></p> <p><b>Temperature Coefficient Code</b></p> <p>M = +90±20ppm/°C<br/>A = 0±30ppm/°C<br/>C = 15% ("J" Termination only)</p> | <p><b>100</b></p> <p><b>Capacitance</b></p> <p>EIA Capacitance Code in pF.<br/>First two digits = significant figures or "R" for decimal place.<br/>Third digit = number of zeros or after "R" significant figures.</p> | <p><b>J</b></p> <p><b>Capacitance Tolerance Code</b></p> <p>B = ±.1 pF<br/>C = ±.25 pF<br/>D = ±.5 pF<br/>F = ±1%<br/>G = ±2%<br/>J = ±5%<br/>K = ±10%<br/>M = ±20%<br/>N = ±30%</p> | <p><b>A</b></p> <p><b>Failure Rate Code</b></p> <p>A = Not Applicable</p> | <p><b>T</b></p> <p><b>Termination Style Code</b></p> <p>**T = 100% Tin<br/>J = Nickel Barrier Sn/Pb (60/40)<br/>**7 = Ag/Ni/Au<br/>H = Cu/Sn (Non-Magnetic)</p> | <p><b>1A</b></p> <p><b>Packaging Code</b></p> <p>1A = 7" Reel Unmarked<br/>6A = Waffle Pack Unmarked<br/>ME = 7" Reel Marked<br/>WE = Waffle Pack Marked</p> <p>* Vertical T&amp;R available</p> |
|-----------------------------------|---|--|--|---|--|---|---|--|

**\*\*RoHS compliant**

### MECHANICAL DIMENSIONS: inches (millimeters)



| Case  | Length (L)                                 | Width (W)                | Thickness (T)            | Band Width (bw)                            |
|-------|--|--------------------------|--------------------------|--|
| SQCA* | .055 + .015 - .010<br>(1.40 + .381 - .254) | .055±.015<br>(1.40±.381) | .020/.057<br>(.508/1.45) | .010 + .010 - .005<br>(.254 + .254 - .127) |
| SQCB* | .110 + .020 - .010<br>(2.79 + .508 - .254) | .110±.010<br>(2.79±.254) | .030/.102<br>(.762/2.59) | .015±.010<br>(.381±.254)                   |

**TAPE & REEL:** All tape and reel specifications are in compliance with EIA RS481 (equivalent to IEC 286 part 3).

- 8mm carrier
- 7" reel: SQCA/SQCB = 1000 pcs

### WAFFLE PACK

SQCA 100 pcs  
SQCB 100 pcs

**Not RoHS Compliant**



LEAD-FREE  
LEAD-FREE COMPATIBLE  
COMPONENT

RoHS  
COMPLIANT

For RoHS compliant products,  
please select correct termination style.

### ELECTRICAL SPECIFICATIONS

| Dielectric                            |                         | M & A  | C   |
|---------------------------------------|-------------------------|--|---|
| Temperature Coefficient (TCC)         |                         | (M) $+90 \pm 20$ PPM/°C ( -55°C to +125°C)<br>(M) $+90 \pm 30$ PPM/°C ( +125°C to +175°C)*<br>(A) $0 \pm 30$ PPM/°C  | $\pm 15\%$ (-55°C to 125°C)   |
| Capacitance Range                     |                         | (M) 0.1 pF to 1000 pF<br>(A) 0.1 pF to 5100 pF   | 0.001 $\mu$ F to 0.1 $\mu$ F  |
| Operating Temperature                 |                         | A Case: -55°C to +125°C*<br><br>B Case (M Dielectric):<br>0.1 pF to 330 pF: from -55°C to +175°C<br>360 pF to 5100 pF: from -55°C to +125°C<br><br>B Case (A Dielectric):<br>0.1 pF to 200 pF: from -55°C to +175°C<br>220 pF to 5100 pF: from -55°C to +125°C | -55°C to +125°C   |
| Quality Factor (Q)                    | M Dielectric A & B Case | Greater than 10,000 at 1 MHz   | 2.5% @ 1kHz   |
|                                       | A Dielectric B Case     | Greater than 10,000 at 1 MHz<br>Greater than 2,000 at 1 MHz<br>Greater than 2,000 at 1 KHz   | 0.1 - 200 pF<br>220 - 1000 pF<br>1100 - 5100 pF   |
|                                       | A Dielectric A Case     | Greater than 10,000 at 1 MHz<br>Greater than 2,000 at 1 MHz  | 0.1 - 100 pF<br>110 - 1000 pF   |
| Insulation Resistance (IR)            |                         | 0.2 pF to 470 pF<br>10 <sup>6</sup> Megohms min. @ 25°C at rated WVDC<br>10 <sup>5</sup> Megohms min. @ 125°C at rated WVDC<br>510 pF to 5100 pF<br>10 <sup>5</sup> Megohms min. @ 25°C at rated WVDC<br>10 <sup>4</sup> Megohms min. @ 125°C at rated WVDC    | 10 <sup>4</sup> Megohms min. @ 25°C at rated WVDC<br>10 <sup>3</sup> Megohms min. @ 125°C at rated WVDC |
| Working Voltage (WVDC)                |                         | See Capacitance Values table   | See Capacitance Values table  |
| Dielectric Withstanding Voltage (DWW) |                         | WVDC 500V or less: 250% of rated WVDC for 5 seconds<br>WVDC 1250V or less: 150% of rated WVDC for 5 seconds<br>WVDC > 1250V: 120% of rated WVDC for 5 seconds  | 250% of rated WVDC for 5 secs   |
| Aging Effects                         |                         | None   | <3% per decade hour   |
| Piezoelectric Effects                 |                         | None   | None  |
| Capacitance Drift                     |                         | $\pm$ (0.02% or 0.02 pF), whichever is greater   | Not Applicable  |

\* 175 SQCB only

### ENVIRONMENTAL CHARACTERISTICS

AVX SQ will meet and exceed the requirements of EIA-198, MIL-PRF-55681 and MIL-PRF-123

|                           |   |
|---------------------------|---|
| Thermal Shock             | Mil-STD-202, Method 107, Condition A  |
| Moisture Resistance       | Mil-STD-202, Method 106   |
| Low Voltage Humidity      | Mil-STD-202, Method 103, condition A, with 1.5 VDC applied while subjected to an environment of 85°C with 85% relative humidity for 240 hours |
| Life Test                 | Mil-STD-202, Method 108, for 2000 hours at 125°C  |
| Shock                     | Mil-STD-202, Method 213, Condition J  |
| Vibration                 | Mil-STD-202, Method 204, Condition B  |
| Immersion                 | Mil-STD-202, Method 104, Condition B  |
| Salt Spray                | Mil-STD-202, Method 101, Condition B  |
| Solderability             | Mil-STD-202, Method 208   |
| Terminal Strength         | Mil-STD-202, Method 211   |
| Temperature Cycling       | Mil-STD-202, Method 102, Condition C  |
| Barometric Pressure       | Mil-STD-202, Method 105, Condition B  |
| Resistance to Solder Heat | Mil-STD-202, Method 210, Condition C  |

### Case Size A

**TABLE I: TC: M (+90±20PPM/°C)**

| Cap. pF | Cap. Tol. | WVDC* |     | Cap. pF | Cap. Tol. | WVDC* |     | Cap. pF | Cap. Tol.  | WVDC* |     | Cap. pF | Cap. Tol.  | WVDC* |     |
|---------|-----------|-------|-----|---------|-----------|-------|-----|---------|------------|-------|-----|---------|------------|-------|-----|
|         |           | STD   | HV  |         |           | STD   | HV  |         |            | STD   | HV  |         |            | STD   | HV  |
| 0.1     | B         | 150   | 250 | 1.7     | B, C, D   | 150   | 250 | 6.2     | B, C, D    | 150   | 250 | 27      | F, G, J, K | 150   | 250 |
| 0.2     | B         | 150   | 250 | 1.8     | B, C, D   | 150   | 250 | 6.8     | B, C, J, K | 150   | 250 | 30      | F, G, J, K | 150   | 250 |
| 0.3     | B,C       | 150   | 250 | 1.9     | B, C, D   | 150   | 250 | 7.5     | B, C, J, K | 150   | 250 | 33      | F, G, J, K | 150   | 250 |
| 0.4     | B,C       | 150   | 250 | 2.0     | B, C, D   | 150   | 250 | 8.2     | B, C, J, K | 150   | 250 | 36      | F, G, J, K | 150   | 250 |
| 0.5     | B, C, D   | 150   | 250 | 2.2     | B, C, D   | 150   | 250 | 9.1     | B, C, J, K | 150   | 250 | 39      | F, G, J, K | 150   | 250 |
| 0.6     | B, C, D   | 150   | 250 | 2.4     | B, C, D   | 150   | 250 | 10      | F, G, J, K | 150   | 250 | 43      | F, G, J, K | 150   | 250 |
| 0.7     | B, C, D   | 150   | 250 | 2.7     | B, C, D   | 150   | 250 | 11      | F, G, J, K | 150   | 250 | 47      | F, G, J, K | 150   | 250 |
| 0.8     | B, C, D   | 150   | 250 | 3.0     | B, C, D   | 150   | 250 | 12      | F, G, J, K | 150   | 250 | 51      | F, G, J, K | 150   | 250 |
| 0.9     | B, C, D   | 150   | 250 | 3.3     | B, C, D   | 150   | 250 | 13      | F, G, J, K | 150   | 250 | 56      | F, G, J, K | 150   | 250 |
| 1.0     | B, C, D   | 150   | 250 | 3.6     | B, C, D   | 150   | 250 | 15      | F, G, J, K | 150   | 250 | 62      | F, G, J, K | 150   | 200 |
| 1.1     | B, C, D   | 150   | 250 | 3.9     | B, C, D   | 150   | 250 | 16      | F, G, J, K | 150   | 250 | 68      | F, G, J, K | 150   | 200 |
| 1.2     | B, C, D   | 150   | 250 | 4.3     | B, C, D   | 150   | 250 | 18      | F, G, J, K | 150   | 250 | 75      | F, G, J, K | 150   | 200 |
| 1.3     | B, C, D   | 150   | 250 | 4.7     | B, C, D   | 150   | 250 | 20      | F, G, J, K | 150   | 250 | 82      | F, G, J, K | 150   | 200 |
| 1.4     | B, C, D   | 150   | 250 | 5.1     | B, C, D   | 150   | 250 | 22      | F, G, J, K | 150   | 250 | 91      | F, G, J, K | 150   | 200 |
| 1.5     | B, C, D   | 150   | 250 | 5.6     | B, C, D   | 150   | 250 | 24      | F, G, J, K | 150   | 250 | 100     | F, G, J, K | 150   | 200 |
| 1.6     | B, C, D   | 150   | 250 |         |           |       |     |         |            |       |     |         |            |       |     |

**TABLE II: TC: A (0±30PPM/°C)**

| Cap. pF | Cap. Tol. | WVDC* |     | Cap. pF | Cap. Tol.  | WVDC* |     | Cap. pF | Cap. Tol.  | WVDC* |     | Cap. pF | Cap. Tol.  | WVDC* |    |
|---------|-----------|-------|-----|---------|------------|-------|-----|---------|------------|-------|-----|---------|------------|-------|----|
|         |           | STD   | HV  |         |            | STD   | HV  |         |            | STD   | HV  |         |            | STD   | HV |
| 0.1     | B         | 150   | 250 | 2.7     | B, C, D    | 150   | 250 | 20      | F, G, J, K | 150   | 250 | 150     | F, G, J, K | 150   | —  |
| 0.2     | B         | 150   | 250 | 3.0     | B, C, D    | 150   | 250 | 22      | F, G, J, K | 150   | 250 | 160     | F, G, J, K | 150   | —  |
| 0.3     | B,C       | 150   | 250 | 3.3     | B, C, D    | 150   | 250 | 24      | F, G, J, K | 150   | 250 | 180     | F, G, J, K | 150   | —  |
| 0.4     | B,C       | 150   | 250 | 3.6     | B, C, D    | 150   | 250 | 27      | F, G, J, K | 150   | 250 | 200     | F, G, J, K | 150   | —  |
| 0.5     | B, C, D   | 150   | 250 | 3.9     | B, C, D    | 150   | 250 | 30      | F, G, J, K | 150   | 250 | 220     | F, G, J, K | 150   | —  |
| 0.6     | B, C, D   | 150   | 250 | 4.3     | B, C, D    | 150   | 250 | 33      | F, G, J, K | 150   | 250 | 240     | F, G, J, K | 150   | —  |
| 0.7     | B, C, D   | 150   | 250 | 4.7     | B, C, D    | 150   | 250 | 36      | F, G, J, K | 150   | 250 | 270     | F, G, J, K | 150   | —  |
| 0.8     | B, C, D   | 150   | 250 | 5.1     | B, C, D    | 150   | 250 | 39      | F, G, J, K | 150   | 250 | 300     | F, G, J, K | 150   | —  |
| 0.9     | B, C, D   | 150   | 250 | 5.6     | B, C, D    | 150   | 250 | 43      | F, G, J, K | 150   | 250 | 330     | F, G, J, K | 150   | —  |
| 1.0     | B, C, D   | 150   | 250 | 6.2     | B, C, D    | 150   | 250 | 47      | F, G, J, K | 150   | 250 | 360     | F, G, J, K | 150   | —  |
| 1.1     | B, C, D   | 150   | 250 | 6.8     | B, C, J, K | 150   | 250 | 51      | F, G, J, K | 150   | 250 | 390     | F, G, J, K | 150   | —  |
| 1.2     | B, C, D   | 150   | 250 | 7.5     | B, C, J, K | 150   | 250 | 56      | F, G, J, K | 150   | 250 | 430     | F, G, J, K | 150   | —  |
| 1.3     | B, C, D   | 150   | 250 | 8.2     | B, C, J, K | 150   | 250 | 62      | F, G, J, K | 150   | 200 | 470     | F, G, J, K | 150   | —  |
| 1.4     | B, C, D   | 150   | 250 | 9.1     | B, C, J, K | 150   | 250 | 68      | F, G, J, K | 150   | 200 | 510     | F, G, J, K | 150   | —  |
| 1.5     | B, C, D   | 150   | 250 | 10      | F, G, J, K | 150   | 250 | 75      | F, G, J, K | 150   | 200 | 560     | F, G, J, K | 150   | —  |
| 1.6     | B, C, D   | 150   | 250 | 11      | F, G, J, K | 150   | 250 | 82      | F, G, J, K | 150   | 200 | 620     | F, G, J, K | 150   | —  |
| 1.7     | B, C, D   | 150   | 250 | 12      | F, G, J, K | 150   | 250 | 91      | F, G, J, K | 150   | 200 | 680     | F, G, J, K | 50    | —  |
| 1.8     | B, C, D   | 150   | 250 | 13      | F, G, J, K | 150   | 250 | 100     | F, G, J, K | 150   | —   | 750     | F, G, J, K | 50    | —  |
| 1.9     | B, C, D   | 150   | 250 | 15      | F, G, J, K | 150   | 250 | 110     | F, G, J, K | 150   | —   | 820     | F, G, J, K | 50    | —  |
| 2.0     | B, C, D   | 150   | 250 | 16      | F, G, J, K | 150   | 250 | 120     | F, G, J, K | 150   | —   | 910     | F, G, J, K | 50    | —  |
| 2.2     | B, C, D   | 150   | 250 | 18      | F, G, J, K | 150   | 250 | 130     | F, G, J, K | 150   | —   | 1000    | F, G, J, K | 50    | —  |
| 2.4     | B, C, D   | 150   | 250 |         |            |       |     |         |            |       |     |         |            |       |    |

**TABLE III: TC: C (±15%)**

| Cap. pF | Cap. Tol. | WVDC STD | Cap. pF | Cap. Tol. | WVDC STD | Cap. pF | Cap. Tol. | WVDC STD |
|---------|-----------|----------|---------|-----------|----------|---------|-----------|----------|
| 1000    | K, M, N   | 50       | 2200    | K, M, N   | 50       | 5100    | K, M, N   | 50       |
| 1200    | K, M, N   | 50       | 2700    | K, M, N   | 50       | 5600    | K, M, N   | 50       |
| 1500    | K, M, N   | 50       | 3300    | K, M, N   | 50       | 6800    | K, M, N   | 50       |
| 1800    | K, M, N   | 50       | 3900    | K, M, N   | 50       | 8200    | K, M, N   | 50       |
| 2000    | K, M, N   | 50       | 4700    | K, M, N   | 50       | 10000   | K, M, N   | 50       |

\*STD = Standard voltage rating; HV = High voltage rating

### Case Size B

**TABLE IV: TC: M (+90±20PPM/°C)**

| Cap. pF | Cap. Tol. | WVDC* |      | Cap. pF | Cap. Tol.  | WVDC* |      | Cap. pF | Cap. Tol.  | WVDC* |      | Cap. pF | Cap. Tol.  | WVDC* |      |
|---------|-----------|-------|------|---------|------------|-------|------|---------|------------|-------|------|---------|------------|-------|------|
|         |           | STD   | HV   |         |            | STD   | HV   |         |            | STD   | HV   |         |            | STD   | HV   |
| 0.1     | B         | 500   | 1500 | 2.7     | B, C, D    | 500   | 1500 | 20      | F, G, J, K | 500   | 1500 | 150     | F, G, J, K | 300   | 1000 |
| 0.2     | B         | 500   | 1500 | 3.0     | B, C, D    | 500   | 1500 | 22      | F, G, J, K | 500   | 1500 | 160     | F, G, J, K | 300   | 1000 |
| 0.3     | B,C       | 500   | 1500 | 3.3     | B, C, D    | 500   | 1500 | 24      | F, G, J, K | 500   | 1500 | 180     | F, G, J, K | 300   | 1000 |
| 0.4     | B,C       | 500   | 1500 | 3.6     | B, C, D    | 500   | 1500 | 27      | F, G, J, K | 500   | 1500 | 200     | F, G, J, K | 300   | 1000 |
| 0.5     | B, C, D   | 500   | 1500 | 3.9     | B, C, D    | 500   | 1500 | 30      | F, G, J, K | 500   | 1500 | 220     | F, G, J, K | 200   | 1000 |
| 0.6     | B, C, D   | 500   | 1500 | 4.3     | B, C, D    | 500   | 1500 | 33      | F, G, J, K | 500   | 1500 | 240     | F, G, J, K | 200   | 600  |
| 0.7     | B, C, D   | 500   | 1500 | 4.7     | B, C, D    | 500   | 1500 | 36      | F, G, J, K | 500   | 1500 | 270     | F, G, J, K | 200   | 600  |
| 0.8     | B, C, D   | 500   | 1500 | 5.1     | B, C, D    | 500   | 1500 | 39      | F, G, J, K | 500   | 1500 | 300     | F, G, J, K | 200   | 600  |
| 0.9     | B, C, D   | 500   | 1500 | 5.6     | B, C, D    | 500   | 1500 | 43      | F, G, J, K | 500   | 1500 | 330     | F, G, J, K | 200   | 600  |
| 1.0     | B, C, D   | 500   | 1500 | 6.2     | B, C, D    | 500   | 1500 | 47      | F, G, J, K | 500   | 1500 | 360     | F, G, J, K | 200   | 600  |
| 1.1     | B, C, D   | 500   | 1500 | 6.8     | B, C, J, K | 500   | 1500 | 51      | F, G, J, K | 500   | 1500 | 390     | F, G, J, K | 200   | 600  |
| 1.2     | B, C, D   | 500   | 1500 | 7.5     | B, C, J, K | 500   | 1500 | 56      | F, G, J, K | 500   | 1500 | 430     | F, G, J, K | 200   | 600  |
| 1.3     | B, C, D   | 500   | 1500 | 8.2     | B, C, J, K | 500   | 1500 | 62      | F, G, J, K | 500   | 1500 | 470     | F, G, J, K | 200   | 600  |
| 1.4     | B, C, D   | 500   | 1500 | 9.1     | B, C, J, K | 500   | 1500 | 68      | F, G, J, K | 500   | 1500 | 510     | F, G, J, K | 100   | 300  |
| 1.5     | B, C, D   | 500   | 1500 | 10      | F, G, J, K | 500   | 1500 | 75      | F, G, J, K | 500   | 1500 | 560     | F, G, J, K | 100   | 300  |
| 1.6     | B, C, D   | 500   | 1500 | 11      | F, G, J, K | 500   | 1500 | 82      | F, G, J, K | 500   | 1500 | 620     | F, G, J, K | 100   | 300  |
| 1.7     | B, C, D   | 500   | 1500 | 12      | F, G, J, K | 500   | 1500 | 91      | F, G, J, K | 500   | 1500 | 680     | F, G, J, K | 50    | 300  |
| 1.8     | B, C, D   | 500   | 1500 | 13      | F, G, J, K | 500   | 1500 | 100     | F, G, J, K | 500   | 1500 | 750     | F, G, J, K | 50    | 300  |
| 1.9     | B, C, D   | 500   | 1500 | 15      | F, G, J, K | 500   | 1500 | 110     | F, G, J, K | 300   | 1500 | 820     | F, G, J, K | 50    | 300  |
| 2.0     | B, C, D   | 500   | 1500 | 16      | F, G, J, K | 500   | 1500 | 120     | F, G, J, K | 300   | 1000 | 910     | F, G, J, K | 50    | 300  |
| 2.2     | B, C, D   | 500   | 1500 | 18      | F, G, J, K | 500   | 1500 | 130     | F, G, J, K | 300   | 1000 | 1000    | F, G, J, K | 50    | 300  |
| 2.4     | B, C, D   | 500   | 1500 |         |            |       |      |         |            |       |      |         |            |       |      |

**TABLE V: TC: A (0±30PPM/°C)**

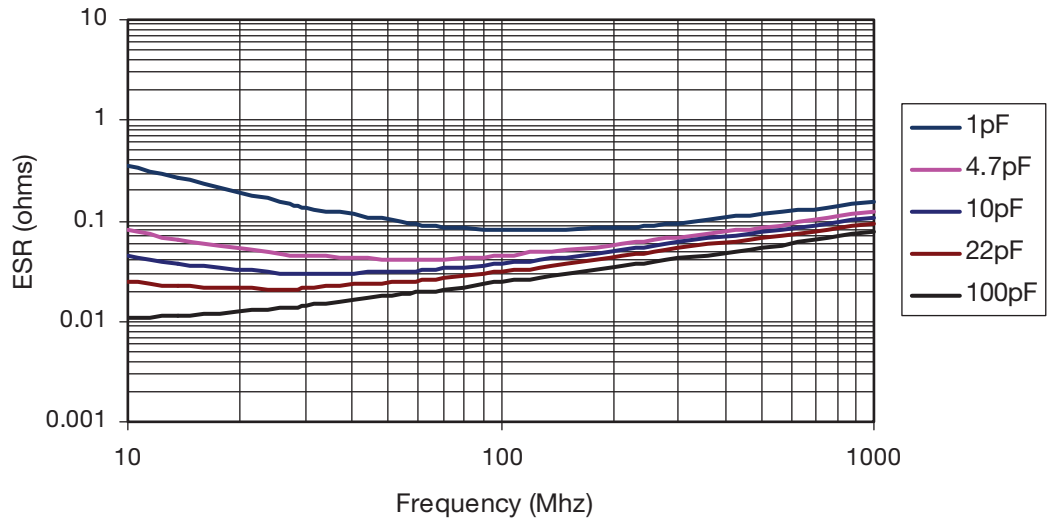
| Cap. pF | Cap. Tol. | WVDC* |      | Cap. pF | Cap. Tol.  | WVDC* |      | Cap. pF | Cap. Tol.  | WVDC* |      | Cap. pF | Cap. Tol.  | WVDC* |    |
|---------|-----------|-------|------|---------|------------|-------|------|---------|------------|-------|------|---------|------------|-------|----|
|         |           | STD   | HV   |         |            | STD   | HV   |         |            | STD   | HV   |         |            | STD   | HV |
| 0.1     | B         | 500   | 1500 | 3.9     | B, C, D    | 500   | 1500 | 47      | F, G, J, K | 500   | 1500 | 560     | F, G, J, K | 100   | —  |
| 0.2     | B         | 500   | 1500 | 4.3     | B, C, D    | 500   | 1500 | 51      | F, G, J, K | 500   | 1000 | 620     | F, G, J, K | 100   | —  |
| 0.3     | B,C       | 500   | 1500 | 4.7     | B, C, D    | 500   | 1500 | 56      | F, G, J, K | 500   | 1000 | 680     | F, G, J, K | 50    | —  |
| 0.4     | B,C       | 500   | 1500 | 5.1     | B, C, D    | 500   | 1500 | 62      | F, G, J, K | 500   | 1000 | 750     | F, G, J, K | 50    | —  |
| 0.5     | B, C, D   | 500   | 1500 | 5.6     | B, C, D    | 500   | 1500 | 68      | F, G, J, K | 500   | 1000 | 820     | F, G, J, K | 50    | —  |
| 0.6     | B, C, D   | 500   | 1500 | 6.2     | B, C, D    | 500   | 1500 | 75      | F, G, J, K | 500   | 1000 | 910     | F, G, J, K | 50    | —  |
| 0.7     | B, C, D   | 500   | 1500 | 6.8     | B, C, J, K | 500   | 1500 | 82      | F, G, J, K | 500   | 1000 | 1000    | F, G, J, K | 50    | —  |
| 0.8     | B, C, D   | 500   | 1500 | 7.5     | B, C, J, K | 500   | 1500 | 91      | F, G, J, K | 500   | 1000 | 1100    | F, G, J, K | 50    | —  |
| 0.9     | B, C, D   | 500   | 1500 | 8.2     | B, C, J, K | 500   | 1500 | 100     | F, G, J, K | 500   | 1000 | 1200    | F, G, J, K | 50    | —  |
| 1.0     | B, C, D   | 500   | 1500 | 9.1     | B, C, J, K | 500   | 1500 | 110     | F, G, J, K | 300   | 1000 | 1300    | F, G, J, K | 50    | —  |
| 1.1     | B, C, D   | 500   | 1500 | 10      | F, G, J, K | 500   | 1500 | 120     | F, G, J, K | 300   | 1000 | 1500    | F, G, J, K | 50    | —  |
| 1.2     | B, C, D   | 500   | 1500 | 11      | F, G, J, K | 500   | 1500 | 130     | F, G, J, K | 300   | 1000 | 1600    | F, G, J, K | 50    | —  |
| 1.3     | B, C, D   | 500   | 1500 | 12      | F, G, J, K | 500   | 1500 | 150     | F, G, J, K | 300   | 1000 | 1800    | F, G, J, K | 50    | —  |
| 1.4     | B, C, D   | 500   | 1500 | 13      | F, G, J, K | 500   | 1500 | 160     | F, G, J, K | 300   | 1000 | 2000    | F, G, J, K | 50    | —  |
| 1.5     | B, C, D   | 500   | 1500 | 15      | F, G, J, K | 500   | 1500 | 180     | F, G, J, K | 300   | 1000 | 2200    | F, G, J, K | 50    | —  |
| 1.6     | B, C, D   | 500   | 1500 | 16      | F, G, J, K | 500   | 1500 | 200     | F, G, J, K | 300   | 1000 | 2400    | F, G, J, K | 50    | —  |
| 1.7     | B, C, D   | 500   | 1500 | 18      | F, G, J, K | 500   | 1500 | 220     | F, G, J, K | 200   | —    | 2700    | F, G, J, K | 50    | —  |
| 1.8     | B, C, D   | 500   | 1500 | 20      | F, G, J, K | 500   | 1500 | 240     | F, G, J, K | 200   | —    | 3000    | F, G, J, K | 50    | —  |
| 1.9     | B, C, D   | 500   | 1500 | 22      | F, G, J, K | 500   | 1500 | 270     | F, G, J, K | 200   | —    | 3300    | F, G, J, K | 50    | —  |
| 2.0     | B, C, D   | 500   | 1500 | 24      | F, G, J, K | 500   | 1500 | 300     | F, G, J, K | 200   | —    | 3600    | F, G, J, K | 50    | —  |
| 2.2     | B, C, D   | 500   | 1500 | 27      | F, G, J, K | 500   | 1500 | 330     | F, G, J, K | 200   | —    | 3900    | F, G, J, K | 50    | —  |
| 2.4     | B, C, D   | 500   | 1500 | 30      | F, G, J, K | 500   | 1500 | 360     | F, G, J, K | 200   | —    | 4300    | F, G, J, K | 50    | —  |
| 2.7     | B, C, D   | 500   | 1500 | 33      | F, G, J, K | 500   | 1500 | 390     | F, G, J, K | 200   | —    | 4700    | F, G, J, K | 50    | —  |
| 3.0     | B, C, D   | 500   | 1500 | 36      | F, G, J, K | 500   | 1500 | 430     | F, G, J, K | 200   | —    | 5000    | F, G, J, K | 50    | —  |
| 3.3     | B, C, D   | 500   | 1500 | 39      | F, G, J, K | 500   | 1500 | 470     | F, G, J, K | 200   | —    | 5100    | F, G, J, K | 50    | —  |
| 3.6     | B, C, D   | 500   | 1500 | 43      | F, G, J, K | 500   | 1500 | 510     | F, G, J, K | 100   | —    |         |            |       |    |

**TABLE VI: TC: C (±15%)**

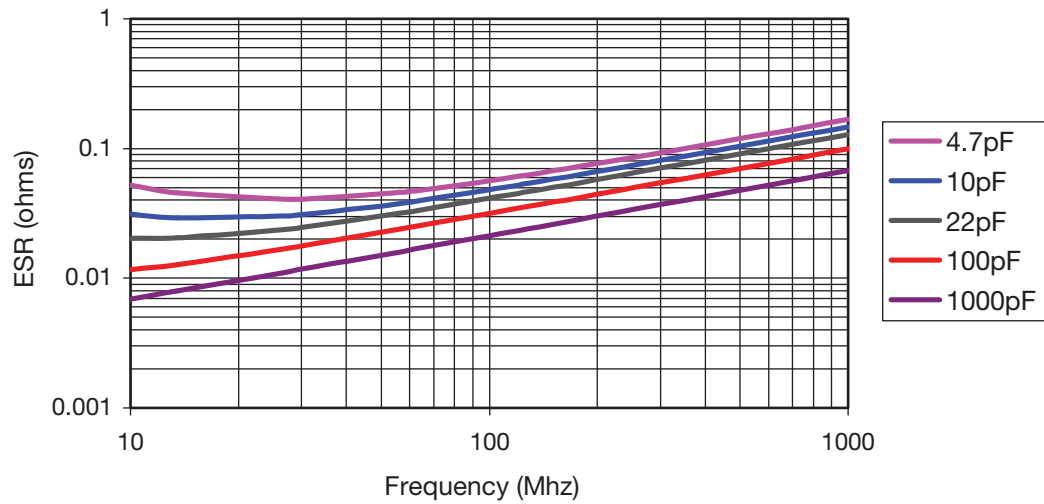
| Cap. pF | Cap. Tol. | WVDC STD | Cap. pF | Cap. Tol. | WVDC STD | Cap. pF | Cap. Tol. | WVDC STD |
|---------|-----------|----------|---------|-----------|----------|---------|-----------|----------|
| 5000    | K, M, N   | 50       | 15000   | K, M, N   | 50       | 47000   | K, M, N   | 50       |
| 6800    | K, M, N   | 50       | 18000   | K, M, N   | 50       | 68000   | K, M, N   | 50       |
| 8200    | K, M, N   | 50       | 27000   | K, M, N   | 50       | 82000   | K, M, N   | 50       |
| 10000   | K, M, N   | 50       | 33000   | K, M, N   | 50       | 100000  | K, M, N   | 50       |
| 12000   | K, M, N   | 50       | 39000   | K, M, N   | 50       |         |           |          |

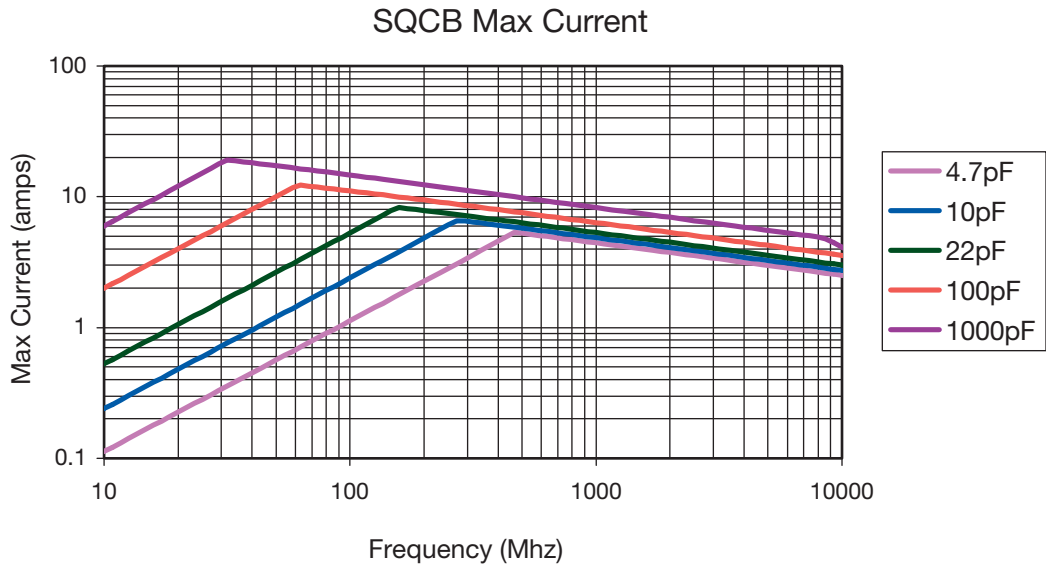
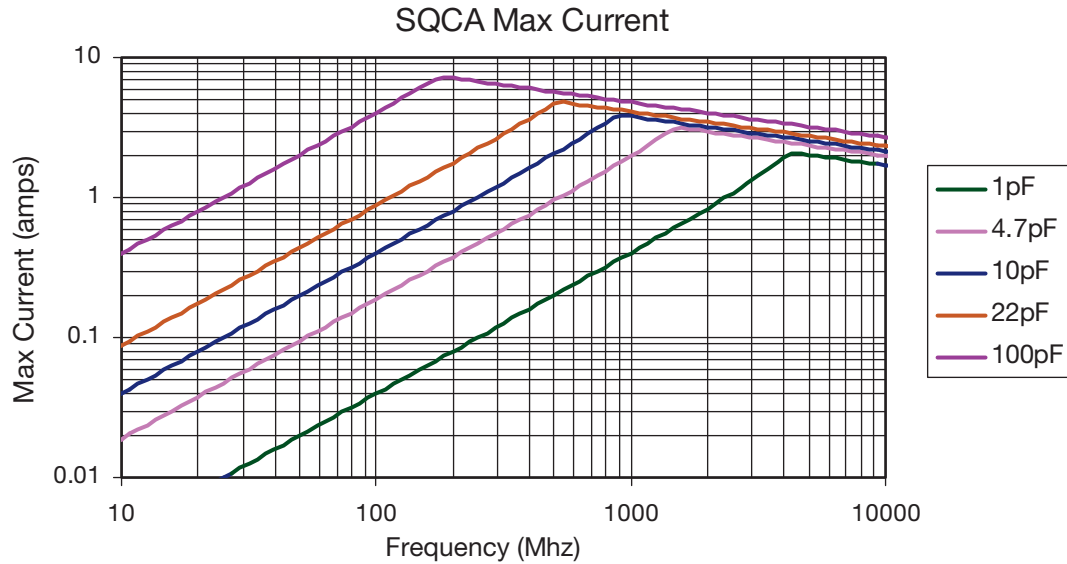
\*STD = Standard voltage rating; HV = High voltage rating

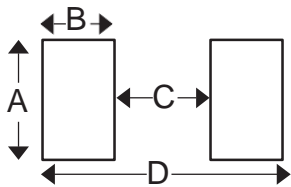
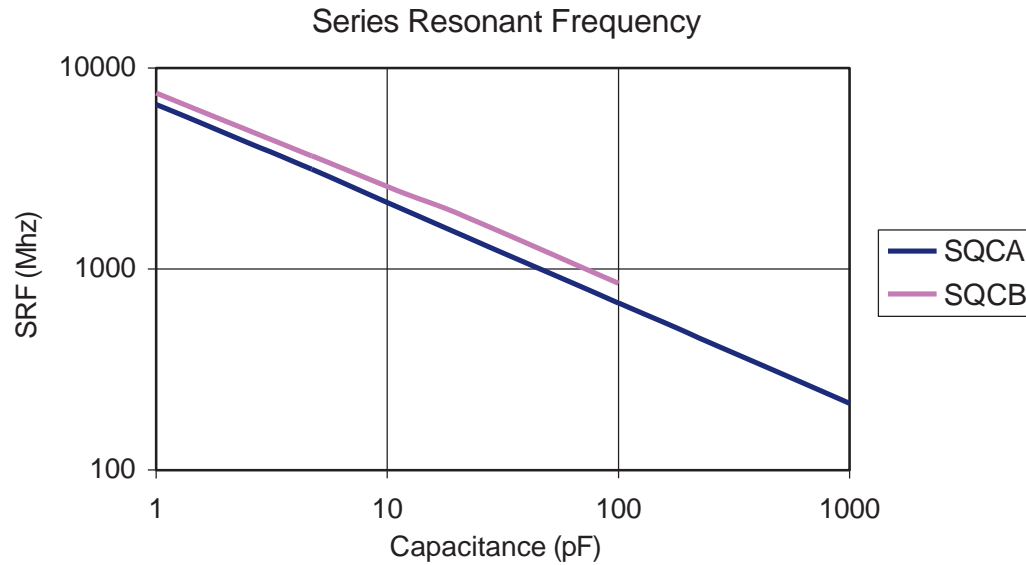
Typical ESR SQCA



Typical ESR SQCB







### MOUNTING PAD DIMENSIONS: inches (millimeters)

| Case | Amin          | Bmin          | Cmin          | Dmin          |
|------|---------------|---------------|---------------|---------------|
| SQCA | 0.082 (2.083) | 0.051 (1.295) | 0.032 (0.813) | 0.130 (3.302) |
| SQCB | 0.131 (3.327) | 0.051 (1.295) | 0.074 (1.880) | 0.177 (4.496) |
| SQCS | 0.038 (0.965) | 0.043 (1.092) | 0.025 (0.635) | 0.112 (2.845) |
| SQCF | 0.059 (1.499) | 0.051 (1.295) | 0.024 (0.610) | 0.125 (3.175) |

### SQCA & SQCB DESIGN KITS

| PN          | Series | Diel | Term             | Range           |
|-------------|--------|------|------------------|-----------------|
| KITSQ100LF  | SQCA   | P90  | 100% Tin<br>RoHS | .1 to 2pF       |
| KITSQ400LF  |        | C0G  |                  |                 |
| KITSQ200LF  | SQCA   | P90  | 100% Tin<br>RoHS | 1 to 10pF       |
| KITSQ500LF  |        | C0G  |                  |                 |
| KITSQ300LF  | SQCA   | P90  | 100% Tin<br>RoHS | 10 to 100pF     |
| KITSQ600LF  |        | C0G  |                  |                 |
| KITSQ700LF  | SQCA   | C0G  | 100% Tin<br>RoHS | 100 to 1000pF   |
| KITSQ800LF  | SQCB   | P90  | 100% Tin<br>RoHS | 1 to 10pF       |
| KITSQ1100LF |        | C0G  |                  |                 |
| KITSQ900LF  | SQCB   | P90  | 100% Tin<br>RoHS | 10 to 100pF     |
| KITSQ1200LF |        | C0G  |                  |                 |
| KITSQ1000LF | SQCB   | P90  | 100% Tin<br>RoHS | 100 to 1000pF   |
| KITSQ1300LF |        | C0G  |                  |                 |
| KITSQ1400LF | SQCB   | C0G  | 100% Tin<br>RoHS | 1000 to 5100 pF |