

RF/Microwave Capacitors

RF/Microwave Multilayer Capacitors (MLC)

UQ Series High Q Ultra Low ESR MLC



FEATURES

- Ultra Low ESR
 - High Q
 - High Self Resonance
 - Capacitance Range 0.1 pF to 1000 pF

APPLICATIONS

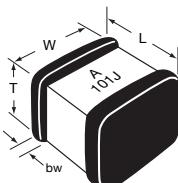
- RF Power Amplifiers
 - Low Noise Amplifiers
 - Filter Networks
 - MRI Systems

HOW TO ORDER

| UQ | CB | 7 | A | 100 | J | A | T | ME |
|---------------------------------|-----------|--------------|------------------------------|--|---|--|--|--|
| AVX Style | Case Size | Voltage Code | Temperature Coefficient Code | Capacitance | Capacitance Tolerance Code | Failure Rate Code | Termination Style Code | Packaging Code |
| CA = 0605 | CA = 0605 | 5 = 50V | 1 = 100V | EIA Capacitance Code in pF. First two digits = significant figures or "R" for decimal place. Third digit = number of zeros or after "R" significant figures. | A = $\pm 0.30\text{ppm}/^{\circ}\text{C}$ | A = $\pm .05\text{ pF}$ B = $\pm 1\text{ pF}$ C = $\pm .25\text{ pF}$ D = $\pm .5\text{ pF}$ F = $\pm 1\%$ G = $\pm 2\%$ J = $\pm 5\%$ K = $\pm 10\%$ M = $\pm 20\%$ | A = Not Applicable J=Nickel Barrier Sn/Pb (60/40) **T=100% Tin **C=Non-Magnetic Barrier/Tin | ME = 7" Reel Marked (0605, 1210 & 0709 only) 2A = 7" Unmarked (0402, 0603, & 0805 only) * Vertical T&R available |
| CB = 1210 | CB = 1210 | 5 = 50V | 1 = 100V | | | | | |
| CR = 0709 | CR = 0709 | 1 = 100V | 1 = 100V | | | | | |
| CL = 0402 | CL = 0402 | E = 150V | E = 150V | | | | | |
| CS = 0603 | CS = 0603 | 2 = 200V | 2 = 200V | | | | | |
| CF = 0805 | CF = 0805 | V = 250V | V = 250V | | | | | |
| See mechanical dimensions below | | 9 = 300V | 9 = 300V | | | | | |
| | | 7 = 500V | 7 = 500V | | | | | |

****RoHS compliant**

MECHANICAL DIMENSIONS: inches (millimeters)



| Case | Length (L) | Width (W) | Thickness (T) | Band Width (bw) |
|-------------|--|--------------------------|----------------------|---|
| UQCA | .055 ± .015 (1.40± .381 - .254) | .055±.015 (1.40±.381) | .057 (1.45) max. | .010 + .010 -.005 (.254 +.254 -.127) |
| UQCB | .110 + .020 - .010 (.279 +.508 -.254) | .110±.015 (2.79±.381) | .102 (2.59) max. | .015±.010 (.381±.254) |
| UQCR | .070 ± .015 (1.78 ± .381) | .090±.010 (2.29±.254) | .115 (2.92) max. | .010 + .010 -.005 (.254 +.254 -.127) |
| UQCL | .040 ± .004 (1.02 ± .100) | .020±.004 (0.51±.100) | .024 (.600) max. | .010 ± .006 (0.25 ± 0.15) |
| UQCS | .063 ± .006 (1.60 ± .15) | .032±.006 (0.81±.15) | .035 (.890) max. | .014 ± .006 (0.36 ± 0.15) |
| UQCF | .079 ± .008 (2.01 ± .20) | .049±.008 (1.24±.20) | .051 (1.30) max. | .020 ± .01 (0.51 ± 0.25) |



**LEAD-FREE
LEAD-FREE COMPATIBLE
COMPONENT**



**RoHS
COMPLIANT**

*For RoHS compliant products,
please select correct termination style.*

Also available in:

Not RoHS Compliant

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

-8mm carrier

-7" reel: UQCA = 500 or 4000 pc T&R
UQCB = 500 or 1000 pc T&R
UQCR = 500 or 1000 pc T&R

UQCL = 500, 4000 or 10,000 pc T&R
UQCS = 500 or 4000 pc T&R
UQCF = 500 or 4000 pc T&R

RF/Microwave Capacitors

RF/Microwave Multilayer Capacitors (MLC)

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ELECTRICAL SPECIFICATIONS

| Temperature Characteristic Code A | |
|---------------------------------------|--|
| Temperature Coefficient (TCC) | (A) $0 \pm 30 \text{ PPM}/^\circ\text{C}$ |
| Capacitance Range | (A) 0.1 pF to 1000 pF |
| Operating Temperature | 0.1 pF to 1000 pF: from -55°C to +125°C |
| Quality Factor (Q) | Greater than 2,000 at 1 MHz |
| Insulation Resistance (IR) | 0.1 pF to 1000 pF 10^5 Megohms min. @ 25°C at rated WVDC 10^4 Megohms min. @ 125°C at rated WVDC |
| Working Voltage (WVDC) | See Capacitance Values table |
| Dielectric Withstanding Voltage (DWV) | 250% of rated WVDC for 5 secs |
| Aging Effects | None |
| Piezoelectric Effects | None |
| Capacitance Drift | $\pm (0.02\% \text{ or } 0.02 \text{ pF})$, whichever is greater |

ENVIRONMENTAL CHARACTERISTICS

AVX UQ 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 200% WVDC |
| 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 |

RF/Microwave Capacitors

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Case Size A

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

Case Size B

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

Case Size R

TABLE III: 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 |
|---------|-----------|------|---------|------------|------|---------|------------|------|---------|------------|------|
| 1.0 | B, C, D | 500 | 3.0 | B, C, D | 500 | 12 | G, J, K, M | 500 | 51 | G, J, K, M | 500 |
| 1.1 | B, C, D | 500 | 3.3 | B, C, D | 500 | 13 | G, J, K, M | 500 | 56 | G, J, K, M | 500 |
| 1.2 | B, C, D | 500 | 3.6 | B, C, D | 500 | 15 | G, J, K, M | 500 | 62 | G, J, K, M | 500 |
| 1.3 | B, C, D | 500 | 3.9 | B, C, D | 500 | 16 | G, J, K, M | 500 | 68 | G, J, K, M | 500 |
| 1.4 | B, C, D | 500 | 4.3 | B, C, D | 500 | 18 | G, J, K, M | 500 | 75 | G, J, K, M | 500 |
| 1.5 | B, C, D | 500 | 4.7 | B, C, D | 500 | 20 | G, J, K, M | 500 | 82 | G, J, K, M | 500 |
| 1.6 | B, C, D | 500 | 5.1 | B, C, D | 500 | 22 | G, J, K, M | 500 | 91 | G, J, K, M | 500 |
| 1.7 | B, C, D | 500 | 5.6 | G, J, K, M | 500 | 24 | G, J, K, M | 500 | 100 | G, J, K, M | 500 |
| 1.8 | B, C, D | 500 | 6.2 | G, J, K, M | 500 | 27 | G, J, K, M | 500 | | | |
| 1.9 | B, C, D | 500 | 6.8 | G, J, K, M | 500 | 30 | G, J, K, M | 500 | | | |
| 2.0 | B, C, D | 500 | 7.5 | G, J, K, M | 500 | 33 | G, J, K, M | 500 | | | |
| 2.1 | B, C, D | 500 | 8.2 | G, J, K, M | 500 | 36 | G, J, K, M | 500 | | | |
| 2.2 | B, C, D | 500 | 9.1 | G, J, K, M | 500 | 39 | G, J, K, M | 500 | | | |
| 2.4 | B, C, D | 500 | 10 | G, J, K, M | 500 | 43 | G, J, K, M | 500 | | | |
| 2.7 | B, C, D | 500 | 11 | G, J, K, M | 500 | 47 | G, J, K, M | 500 | | | |

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Case Size L

TABLE IV: TC: A (0±30PPM/°C)

| Cap. pF | Cap. Tol. | WVDC |
|---------|------------|------|
| 0.1 | A, B | 200 |
| 0.2 | A, B | 200 |
| 0.3 | A, B, C | 200 |
| 0.4 | A, B, C | 200 |
| 0.5 | A, B, C | 200 |
| 0.6 | A, B, C | 200 |
| 0.7 | A, B, C | 200 |
| 0.8 | A, B, C | 200 |
| 0.9 | A, B, C | 200 |
| 1.0 | A, B, C, D | 200 |
| 1.1 | A, B, C, D | 200 |
| 1.2 | A, B, C, D | 200 |
| 1.3 | A, B, C, D | 200 |
| 1.5 | A, B, C, D | 200 |

| Cap. pF | Cap. Tol. | WVDC |
|---------|------------|------|
| 1.6 | A, B, C, D | 200 |
| 1.8 | A, B, C, D | 200 |
| 2.0 | A, B, C, D | 200 |
| 2.2 | A, B, C, D | 200 |
| 2.4 | A, B, C, D | 200 |
| 2.7 | A, B, C, D | 200 |
| 3.0 | A, B, C, D | 200 |
| 3.3 | A, B, C, D | 200 |
| 3.6 | A, B, C, D | 200 |
| 3.9 | A, B, C, D | 200 |
| 4.3 | A, B, C, D | 200 |
| 4.7 | A, B, C, D | 200 |
| 5.1 | A, B, C, D | 200 |
| 5.6 | A, B, C, D | 200 |

Case Size S

TABLE V:

| Cap. pF | Cap. Tol. | WVDC |
|---------|------------|------|
| 0.1 | A, B | 250 |
| 0.2 | A, B | 250 |
| 0.3 | A, B, C | 250 |
| 0.4 | A, B, C | 250 |
| 0.5 | A, B, C | 250 |
| 0.6 | A, B, C | 250 |
| 0.7 | A, B, C | 250 |
| 0.8 | A, B, C | 250 |
| 0.9 | A, B, C | 250 |
| 1.0 | A, B, C, D | 250 |
| 1.1 | A, B, C, D | 250 |
| 1.2 | A, B, C, D | 250 |
| 1.3 | A, B, C, D | 250 |
| 1.5 | A, B, C, D | 250 |
| 1.6 | A, B, C, D | 250 |
| 1.8 | A, B, C, D | 250 |
| 2.0 | A, B, C, D | 250 |
| 2.2 | A, B, C, D | 250 |
| 2.4 | A, B, C, D | 250 |

| Cap. pF | Cap. Tol. | WVDC |
|---------|---------------|------|
| 2.7 | A, B, C, D | 250 |
| 3.0 | A, B, C, D | 250 |
| 3.3 | A, B, C, D | 250 |
| 3.6 | A, B, C, D | 250 |
| 3.9 | A, B, C, D | 250 |
| 4.3 | A, B, C, D | 250 |
| 4.7 | A, B, C, D | 250 |
| 5.1 | A, B, C, D | 250 |
| 5.6 | A, B, C, D | 250 |
| 6.2 | A, B, C, D | 250 |
| 6.8 | B, C, J, K | 250 |
| 7.5 | B, C, J, K | 250 |
| 8.2 | B, C, J, K | 250 |
| 9.1 | B, C, J, K | 250 |
| 10 | F, G, J, K, M | 250 |
| 11 | F, G, J, K, M | 250 |
| 12 | F, G, J, K, M | 250 |
| 15 | F, G, J, K, M | 250 |
| 18 | F, G, J, K, M | 250 |

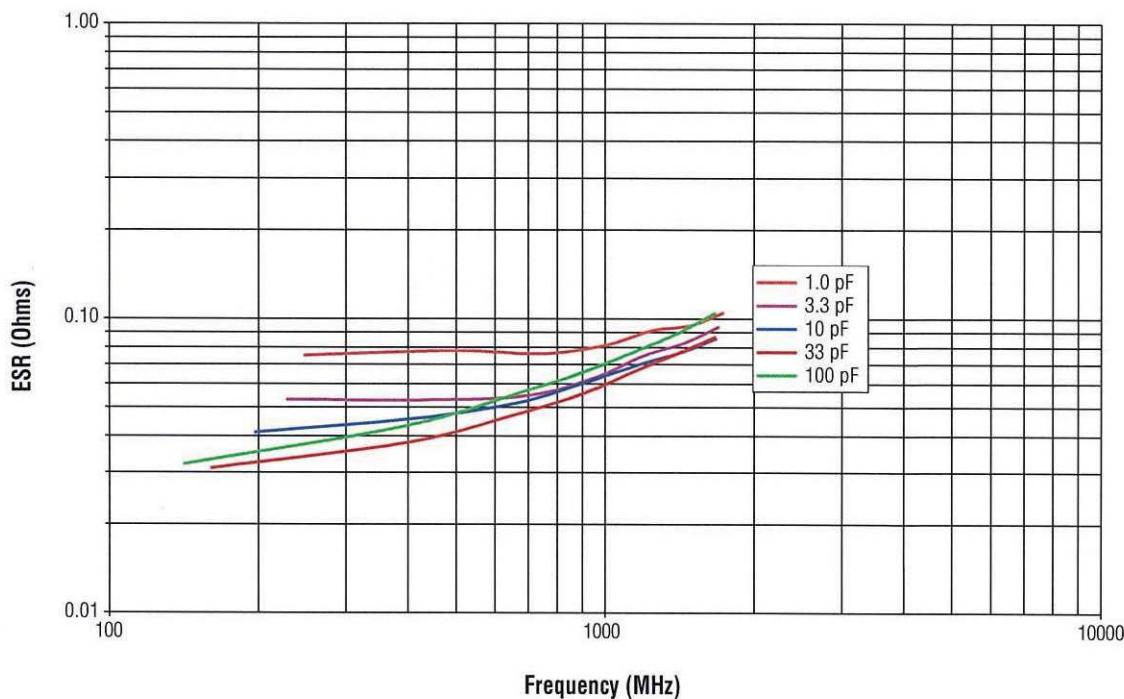
Case Size F

TABLE VI:

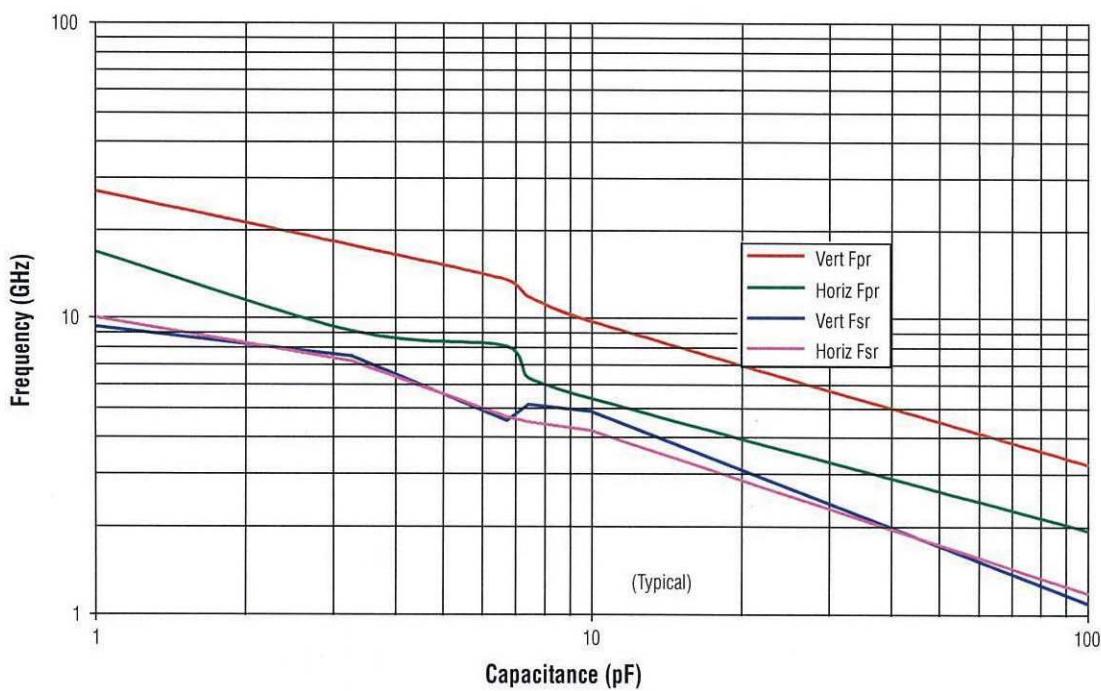
| Cap. pF | Cap. Tol. | WVDC |
|---------|------------|------|
| 0.1 | A, B | 250 |
| 0.2 | A, B | 250 |
| 0.3 | A, B, C | 250 |
| 0.4 | A, B, C | 250 |
| 0.5 | A, B, C | 250 |
| 0.6 | A, B, C | 250 |
| 0.7 | A, B, C | 250 |
| 0.8 | A, B, C | 250 |
| 0.9 | A, B, C | 250 |
| 1.0 | A, B, C, D | 250 |
| 1.1 | A, B, C, D | 250 |
| 1.2 | A, B, C, D | 250 |
| 1.3 | A, B, C, D | 250 |
| 1.5 | A, B, C, D | 250 |
| 1.6 | A, B, C, D | 250 |
| 1.8 | A, B, C, D | 250 |
| 2.0 | A, B, C, D | 250 |
| 2.2 | A, B, C, D | 250 |
| 2.4 | A, B, C, D | 250 |
| 2.7 | A, B, C, D | 250 |
| 3.0 | A, B, C, D | 250 |

| Cap. pF | Cap. Tol. | WVDC |
|---------|---------------|------|
| 3.3 | A, B, C, D | 250 |
| 3.6 | A, B, C, D | 250 |
| 3.9 | A, B, C, D | 250 |
| 4.3 | A, B, C, D | 250 |
| 4.7 | A, B, C, D | 250 |
| 5.1 | A, B, C, D | 250 |
| 5.6 | A, B, C, D | 250 |
| 6.2 | A, B, C, D | 250 |
| 6.8 | B, C, J, K | 250 |
| 7.5 | B, C, J, K | 250 |
| 8.2 | B, C, J, K | 250 |
| 9.1 | B, C, J, K | 250 |
| 10 | F, G, J, K, M | 250 |
| 11 | F, G, J, K, M | 250 |
| 12 | F, G, J, K, M | 250 |
| 15 | F, G, J, K, M | 250 |
| 18 | F, G, J, K, M | 250 |
| 20 | F, G, J, K, M | 250 |
| 22 | F, G, J, K, M | 250 |
| 24 | F, G, J, K, M | 250 |
| 27 | F, G, J, K, M | 250 |

UQ CA ESR vs. Frequency



UQ CA FSR & FPR vs. Capacitance



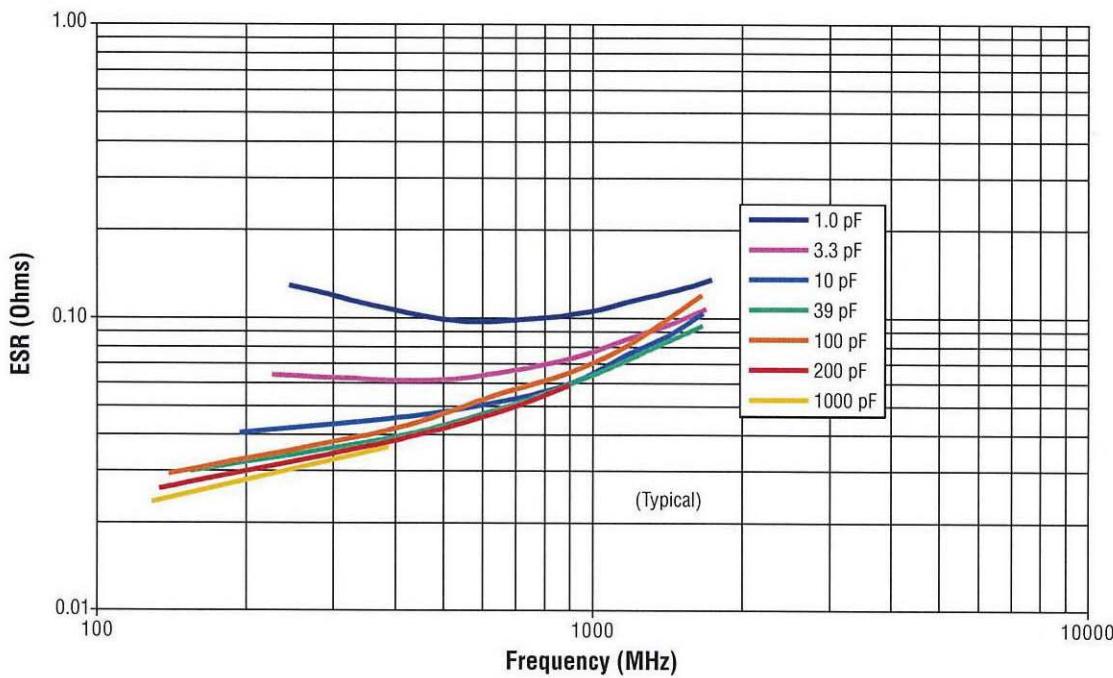
RF/Microwave Capacitors

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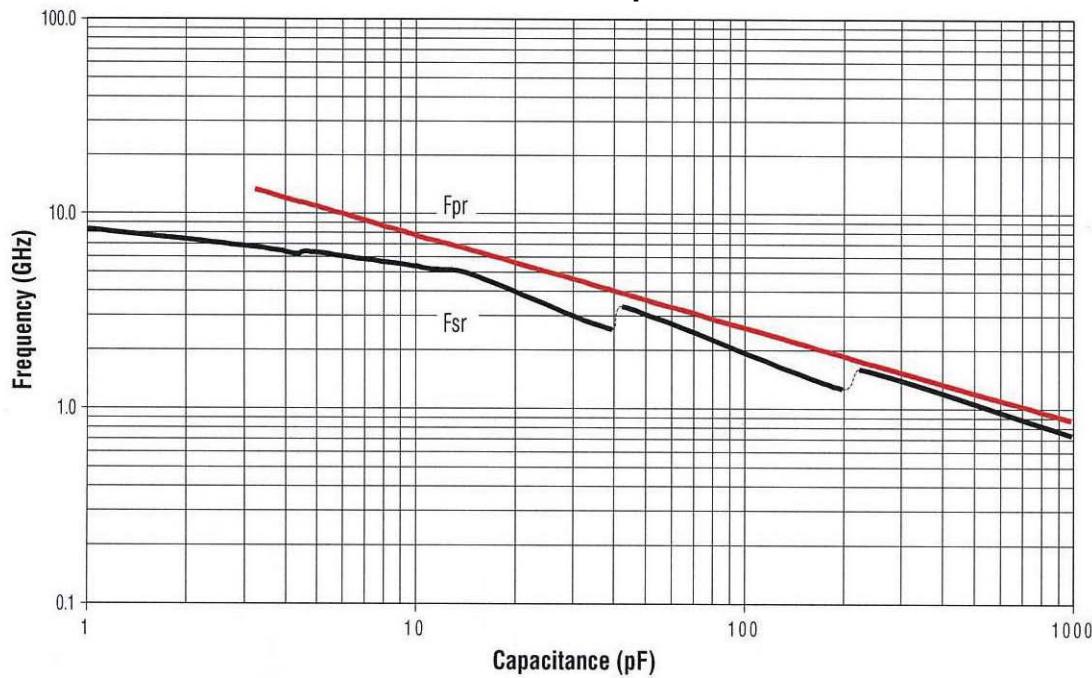
UQ Series High Q Ultra Low ESR MLC



UQ CB ESR vs. Frequency



UQ CB FSR & FPR vs. Capacitance



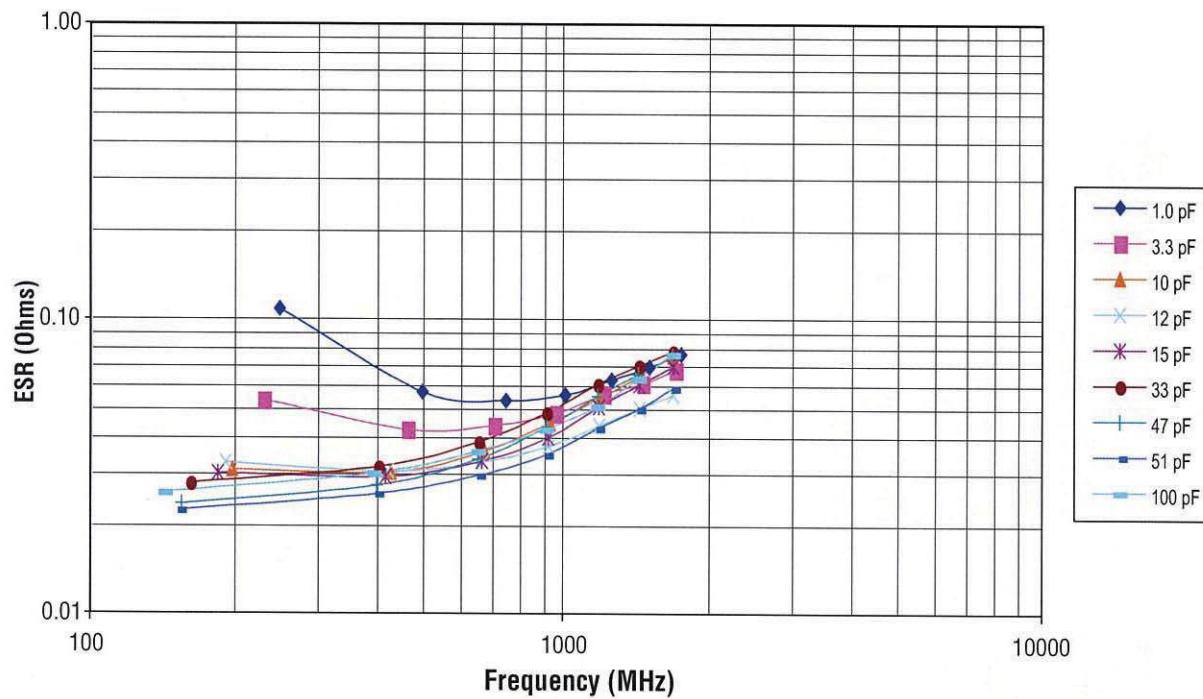
RF/Microwave Capacitors

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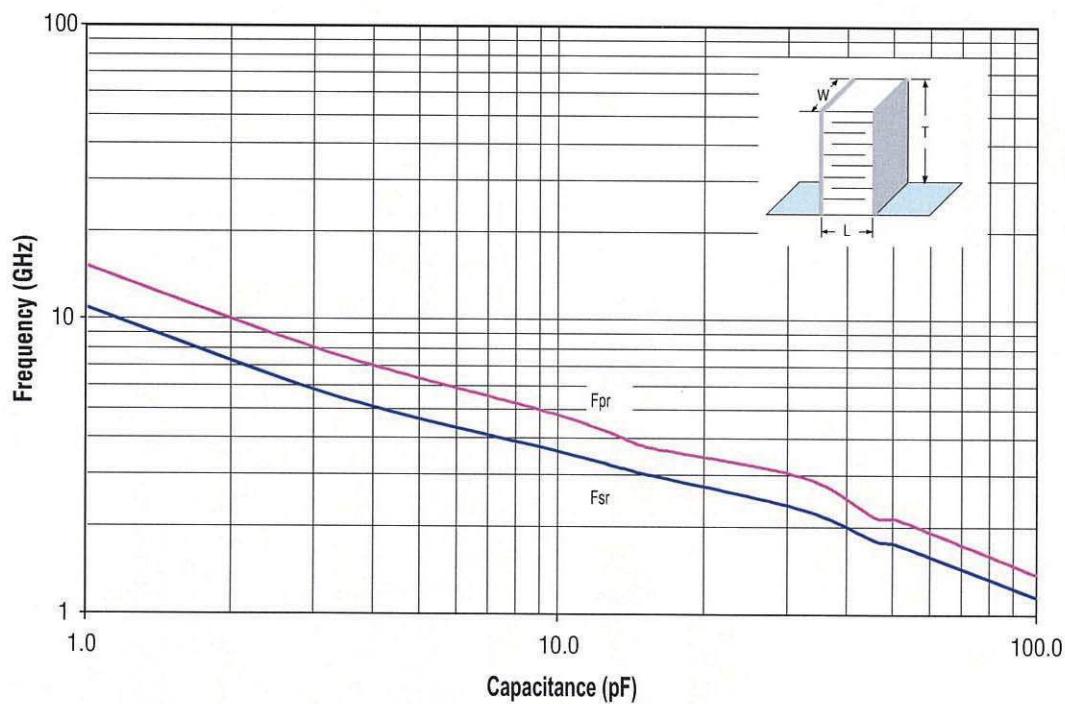
UQ Series High Q Ultra Low ESR MLC



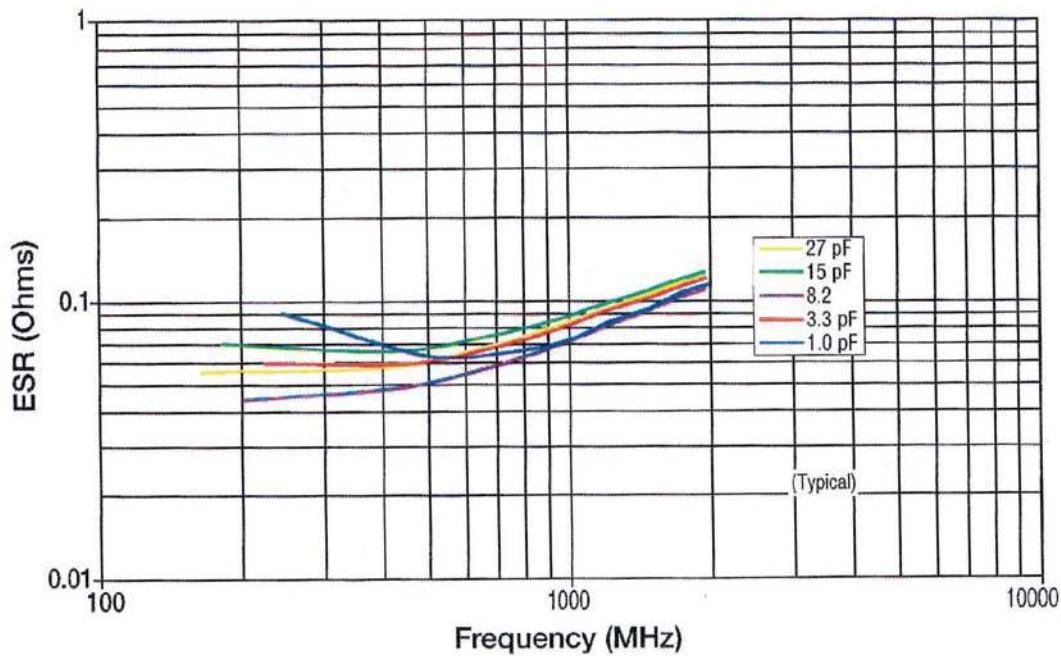
UQ CR ESR vs. Frequency



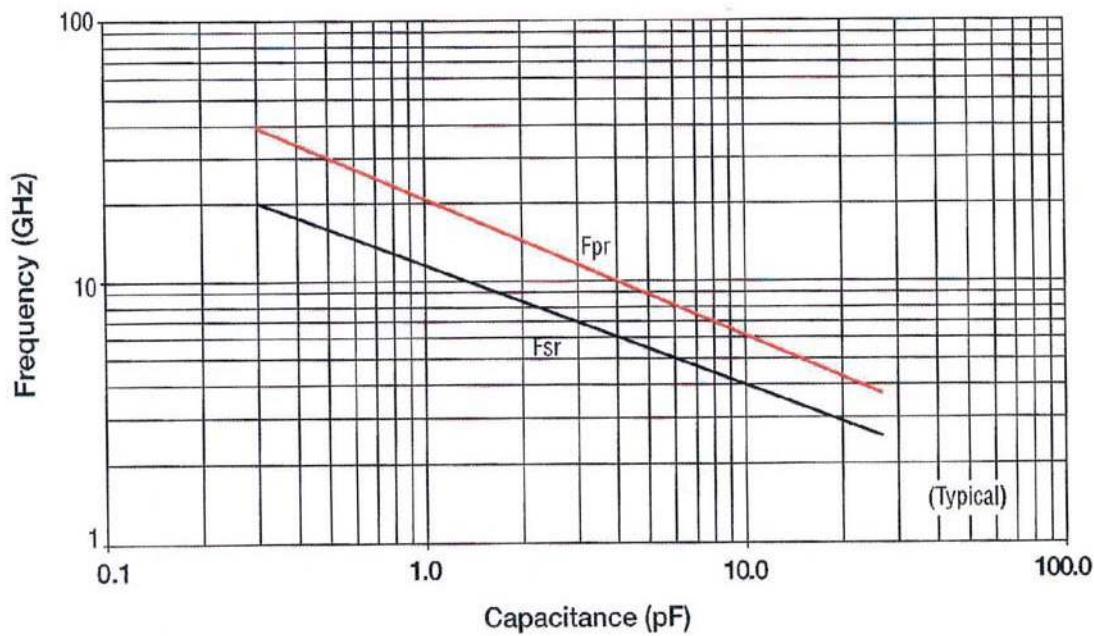
UQ CR Resonance Horizontal Orientation



UQ CL ESR vs. Frequency



UQ CL Resonance Frequency



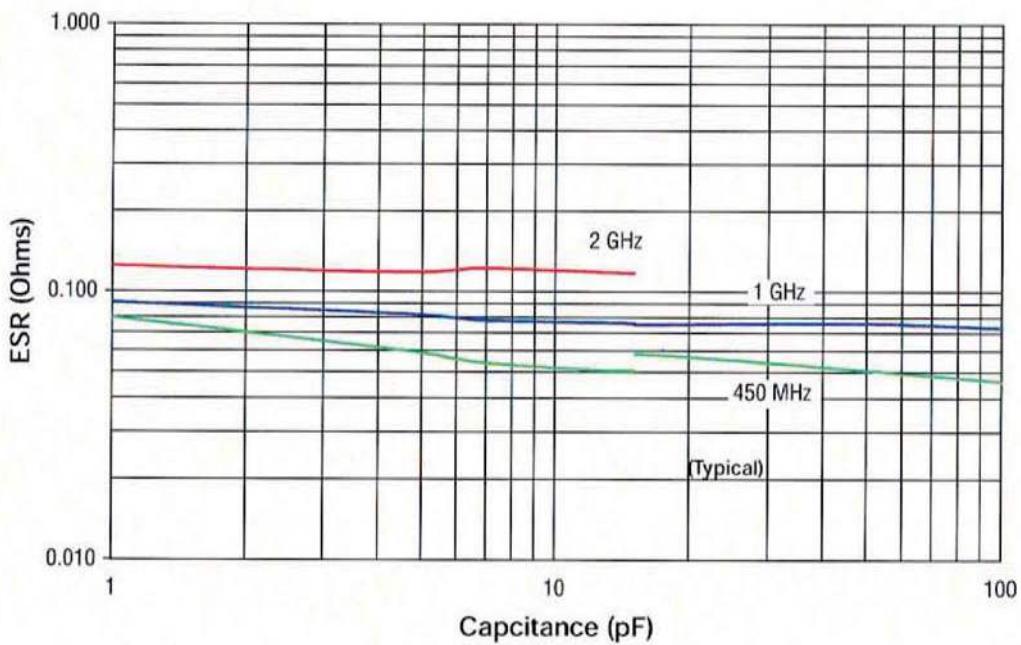
RF/Microwave Capacitors

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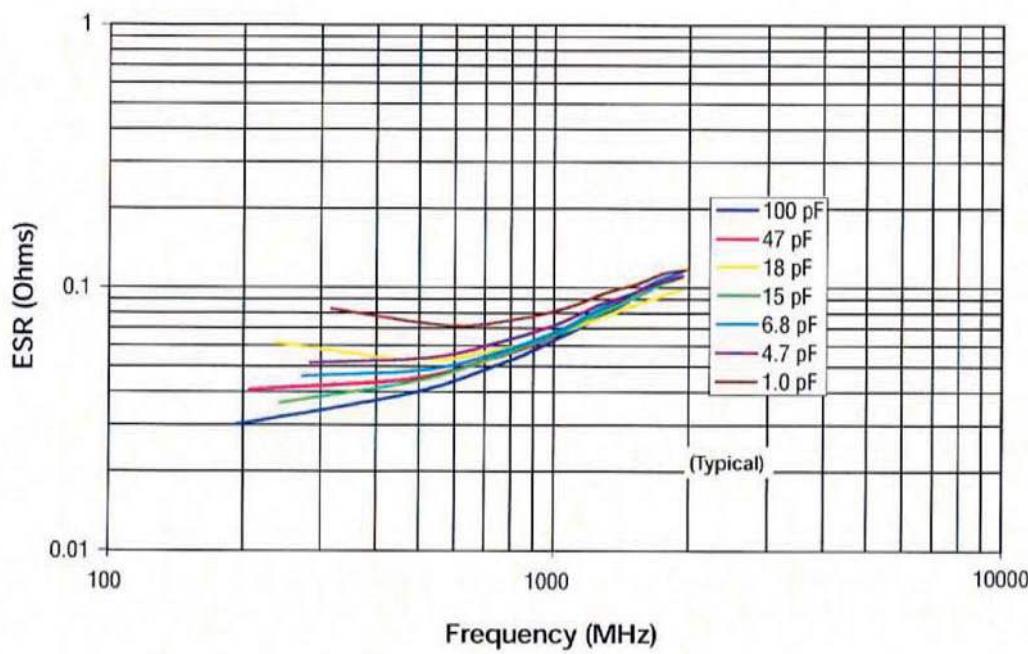
UQ Series High Q Ultra Low ESR MLC



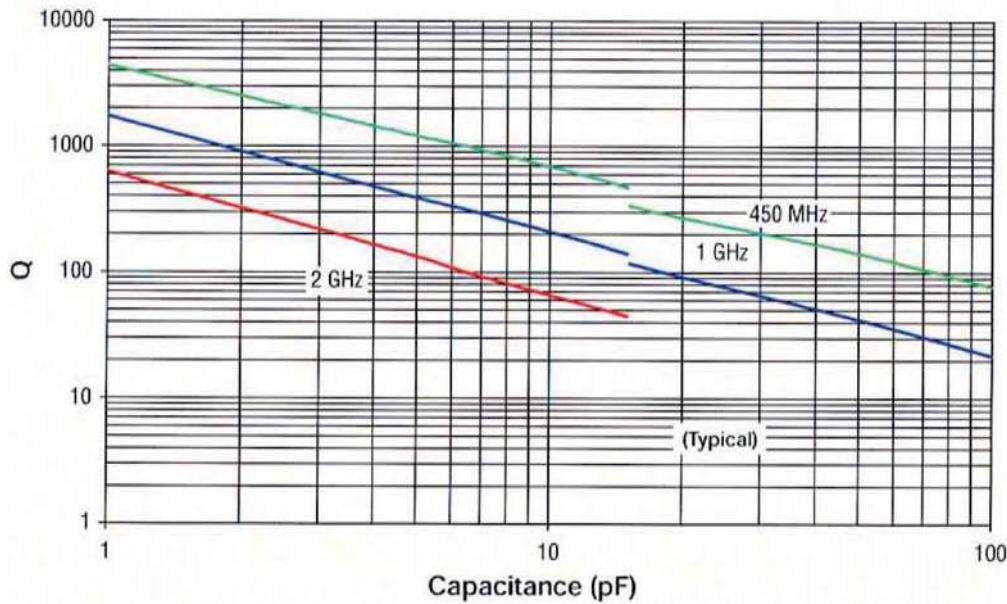
UQ CS ESR vs. Frequency



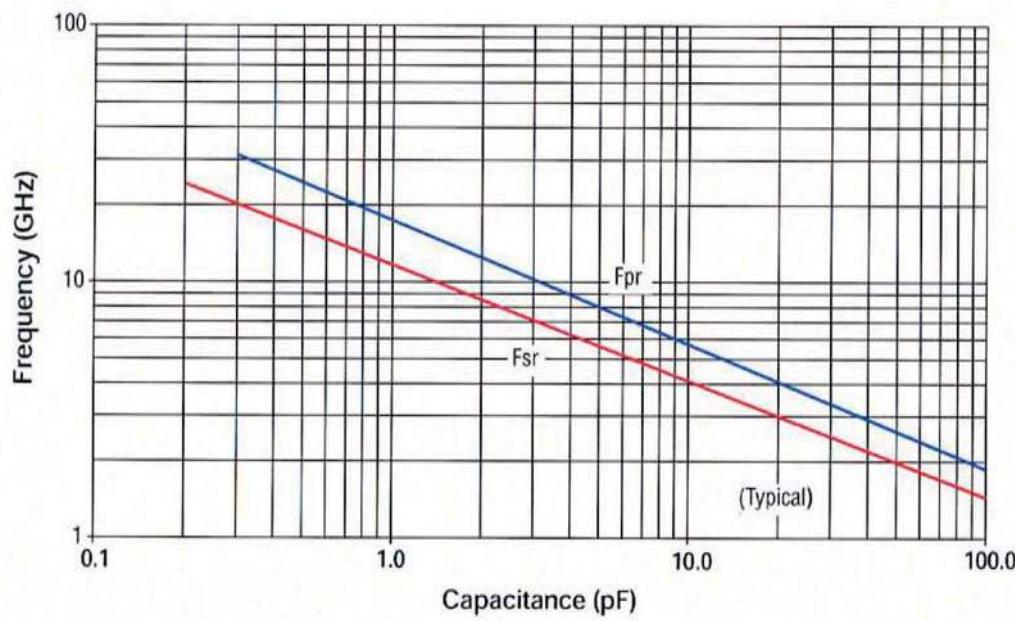
UQ CS ESR vs. Frequency



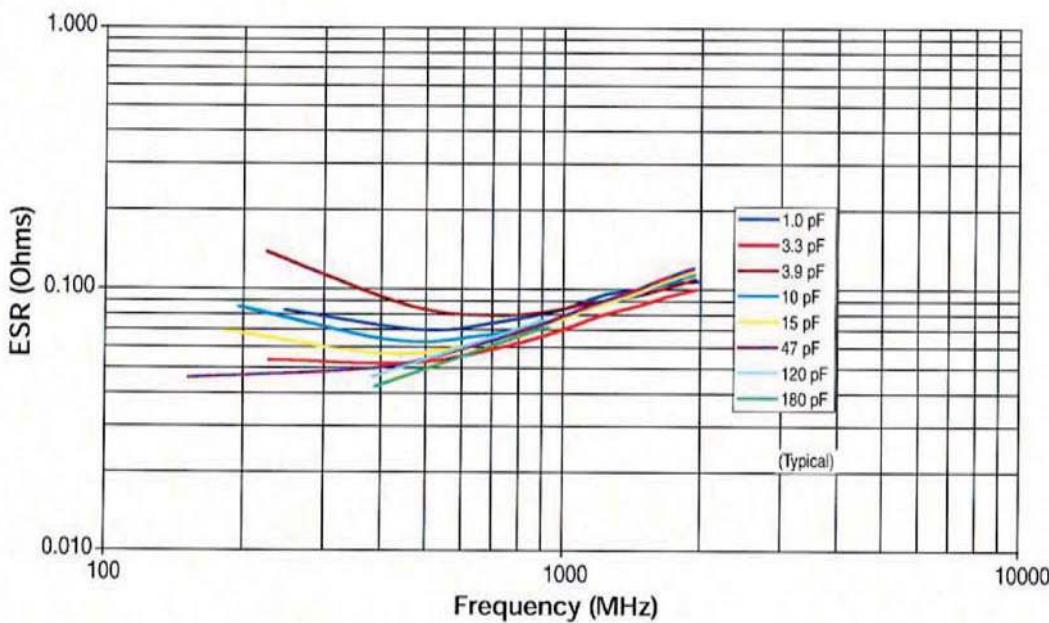
UQ CS Q vs. Capacitance



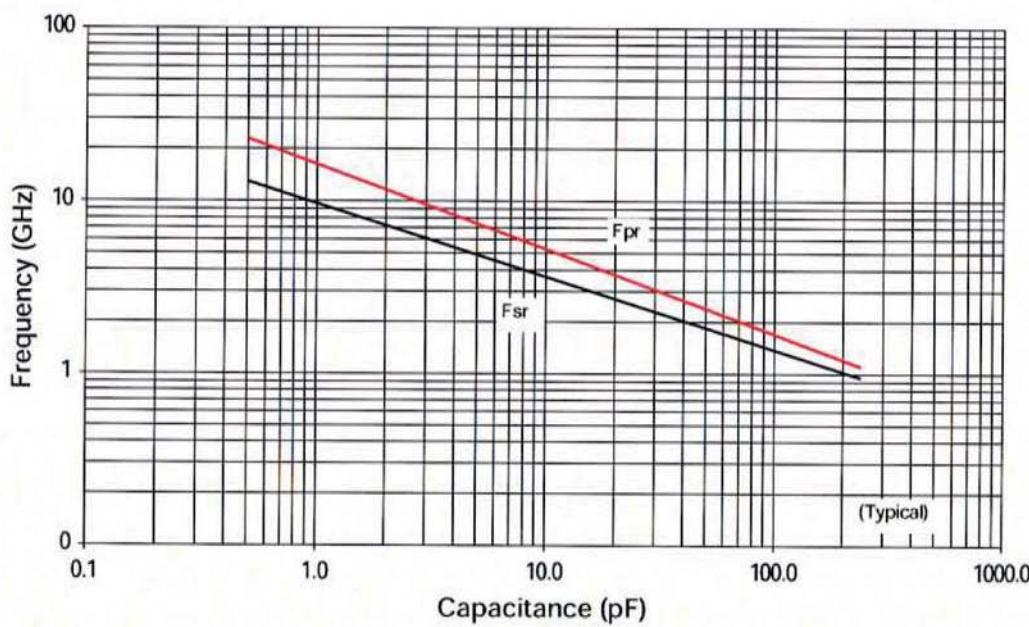
UQ CL Resonance Frequency



UQ CF ESR vs. Frequency



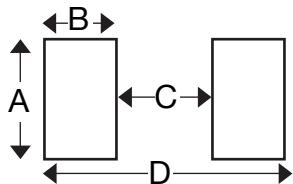
UQ CF Resonant Frequency



RF/Microwave Capacitors

RF/Microwave Multilayer Capacitors (MLC)

UQ Series High Q Ultra Low ESR MLC



MOUNTING PAD DIMENSIONS CASE CA:

inches (millimeters)

| | Pad Size | A min | B min | C min | D min |
|------------------|--------------|---------------|---------------|---------------|---------------|
| Vertical Mount | Normal | 0.070 (1.778) | 0.050 (1.270) | 0.030 (0.762) | 0.130 (3.302) |
| | High Density | 0.050 (1.270) | 0.030 (0.762) | 0.030 (0.762) | 0.090 (2.286) |
| Horizontal Mount | Normal | 0.080 (2.032) | 0.050 (1.270) | 0.030 (0.762) | 0.130 (3.302) |
| | High Density | 0.060 (1.524) | 0.030 (0.762) | 0.030 (0.762) | 0.090 (2.286) |

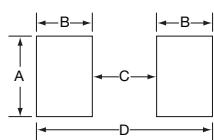
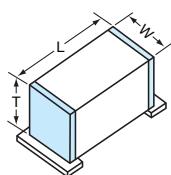
MOUNTING PAD DIMENSIONS CASE CB:

inches (millimeters)

| | Cap Value | Pad Size | A min | B min | C min | D min |
|------------------|---------------|--------------|---------------|---------------|---------------|---------------|
| Vertical Mount | 0.1 pF | Normal | 0.065 (1.651) | 0.050 (1.270) | 0.075 (1.905) | 0.175 (4.445) |
| | | High Density | 0.045 (1.143) | 0.030 (0.762) | 0.075 (1.905) | 0.135 (3.429) |
| | 0.2 pF | Normal | 0.090 (2.286) | 0.050 (1.270) | 0.075 (1.905) | 0.175 (4.445) |
| | | High Density | 0.070 (1.778) | 0.030 (0.762) | 0.075 (1.905) | 0.135 (3.429) |
| | 0.3 to 510 pF | Normal | 0.110 (2.794) | 0.050 (1.270) | 0.075 (1.905) | 0.175 (4.445) |
| | | High Density | 0.090 (2.286) | 0.030 (0.762) | 0.075 (1.905) | 0.135 (3.429) |
| | > 510 pF | Normal | 0.120 (3.048) | 0.050 (1.270) | 0.075 (1.905) | 0.175 (4.445) |
| | | High Density | 0.100 (2.540) | 0.030 (0.762) | 0.075 (1.905) | 0.135 (3.429) |
| Horizontal Mount | All Values | Normal | 0.130 (3.302) | 0.050 (1.270) | 0.075 (1.905) | 0.175 (4.445) |
| | | High Density | 0.110 (2.794) | 0.030 (0.762) | 0.075 (1.905) | 0.135 (3.429) |

MOUNTING PAD DIMENSIONS CASE CL, CS & CF:

inches (millimeters)



| Case | A min. | B min. | C min. | D min. |
|-------------|-----------------|-----------------|------------------|-----------------|
| 0402 (1005) | .0275 (0.70) | .0354 (0.90) | .0157 (0.40) | .0866 (2.20) |
| 0603 (1608) | .0393 (1.00) | .0433 (1.10) | .03236 (0.60) | .110 (2.80) |
| 0805 (2012) | .0590 (1.50) | .0512 (1.30) | .0236 (0.60) | .1259 (3.20) |

RF/Microwave Capacitors

RF/Microwave Multilayer Capacitors (MLC)

UQ Series High Q Ultra Low ESR MLC



DESIGN KITS

| Kit # | Compliance | Description | Cap Value | Cap. Values (pF) | Tol. (pF) |
|------------|------------|--|----------------|--|-----------|
| KITUQ800LF | | UQCA 0605 Series Ultra-Low ESR High Q Microwave Capacitors 16 different values, 15 pcs min. per value | 0.1 to 2.0 | 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2, 1.5 | ±0.1 |
| | | | | 1.6, 1.8, 2.0 | ±0.25 |
| KITUQ810LF | | UQCA 0605 Series Ultra-Low ESR High Q Microwave Capacitors 16 different values, 15 pcs min. per value | 1.0 to 10 pF | 1.0, 1.2, 1.5, 1.8, 2.0, 2.2, 2.4, 2.7, 3.0, 3.3 | ±0.1 |
| | | | | 3.9, 4.7, 5.6, 6.8, 8.0 | ±0.25 |
| | | | | 10 | ±5% |
| KITUQ820LF | | UQCA 0605 Series Ultra-Low ESR High Q Microwave Capacitors 16 different values, 15 pcs min. per value | 10 to 100 pF | 10, 12, 15, 18, 20, 22, 24, 27, 30, 33, 39, 47, 56, 68, 82, 100 | ±5% |
| KITUQ830LF | | UQCB 1210 Series Ultra-Low ESR High Q Microwave Capacitors 16 different values, 15 pcs min. per value | 1.0 to 10 pF | 1.0, 1.2, 1.5, 1.8, 2.0, 2.2, 2.4, 2.7, 3.0, 3.3 | ±0.1 |
| | | | | 3.9, 4.7, 5.6, 6.8, 8.0 | ±0.25 |
| | | | | 10 | ±5% |
| KITUQ840LF | | UQCB 1210 Series Ultra-Low ESR High Q Microwave Capacitors 16 different values, 15 pcs min. per value | 10 to 100 pF | 10, 12, 15, 18, 20, 22, 24, 27, 30, 33, 39, 47, 56, 68, 82, 100 | ±5% |
| KITUQ850LF | | UQCB 1210 Series Ultra-Low ESR High Q Microwave Capacitors 16 different values, 15 pcs min. per value | 100 to 1000 pF | 100, 120, 150, 180, 200, 220, 240, 270, 300, 330, 390, 470 | ±5% |
| | | | | 560, 680, 820, 1000 | ±10% |
| KITUQ360LF | | UQCL 0402 Series Ultra-Low ESR High Q Microwave Capacitors 16 different values, 15 pcs min. per value | 0.1 to 2.0 | 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2, 1.5 | ±0.1 |
| | | | | 1.6, 1.8, 2.0 | ±0.25 |
| KITUQ370LF | | UQCL 0402 Series Ultra-Low ESR High Q Microwave Capacitors 16 different values, 15 pcs min. per value | 1.0 to 10 | 1.0, 1.2, 1.5, 1.8, 2.0, 2.2, 2.4, 2.7, 3.0, 3.3 | ±0.1 |
| | | | | 3.9, 4.7, 5.6, 6.8, 8.2 | ±0.25 |
| | | | | 10 | ±5% |
| KITUQ380LF | | UQCL 0402 Series Ultra-Low ESR High Q Microwave Capacitors 8 different values, 15 pcs min. per value | 10 to 27 | 10, 12, 15, 18, 20, 22, 24, 27 | ±5% |
| KITUQ250LF | | UQCS 0603 Series Ultra-Low ESR High Q Microwave Capacitors 16 different values, 15 pcs min. per value | 0.1 to 2.0 | 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2, 1.5 | ±0.1 |
| | | | | 1.6, 1.8, 2.0 | ±0.25 |
| KITUQ260LF | | UQCS 0603 Series Ultra-Low ESR High Q Microwave Capacitors 16 different values, 15 pcs min. per value | 1.0 to 10 | 1.0, 1.2, 1.5, 1.8, 2.0, 2.2, 2.4, 2.7, 3.0, 3.3 | ±0.1 |
| | | | | 3.9, 4.7, 5.6, 6.8, 8.2 | ±0.25 |
| | | | | 10 | ±5% |
| KITUQ270LF | | UQCS 0603 Series Ultra-Low ESR High Q Microwave Capacitors 16 different values, 15 pcs min. per value | 10 to 100 | 10, 12, 15, 18, 20, 22, 24, 27, 30, 33, 39, 47, 56, 68, 82, 100 | ±5% |
| KITUQ320LF | | UQCFS 0805 Series Ultra-Low ESR High Q Microwave Capacitors 16 different values, 15 pcs min. per value | 0.1 to 2.0 | 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9, 1.0, 1.1, 1.2, 1.5 | ±0.1 |
| | | | | 1.6, 1.8, 2.0 | ±0.25 |
| KITUQ330LF | | UQCFS 0805 Series Ultra-Low ESR High Q Microwave Capacitors 16 different values, 15 pcs min. per value | 1.0 to 10 | 1.0, 1.2, 1.5, 1.8, 2.0, 2.2, 2.4, 2.7, 3.0, 3.3 | ±0.1 |
| | | | | 3.9, 4.7, 5.6, 6.8, 8.2 | ±0.25 |
| | | | | 10 | ±5% |
| KITUQ340LF | | UQCFS 0805 Series Ultra-Low ESR High Q Microwave Capacitors 16 different values, 15 pcs min. per value | 10 to 100 | 10, 12, 15, 18, 20, 22, 24, 27, 30, 33, 39, 47, 56, 68, 82, 100 | ±5% |
| KITUQ350LF | | UQCFS 0805 Series Ultra-Low ESR High Q Microwave Capacitors 7 different values, 15 pcs min. per value | 100 to 240 | 100, 120, 150, 180, 200, 220, 250 | ±5% |



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