

UL Series: Ultra Low ESR Ceramic Capacitors

| Description | Functional Applications | Benefits |
|---|--|---|
| Ceramic Capacitors NPO Low ESR, High Q Capacitance Range 0.2 - 2200 pF High Working Voltage Low Noise | DC Blocking Amplifier Matching Networks VCO Frequency Stabilization Filtering, Diplexers & Antenna High RF Power Circuits Bypass Coupling Tuning & Feedback Broadcast Power Amps | High Q Stable TC, -55° to +125°C Operating Range EIA 0603 & 0805 Case Size SMD Compatibility Oscillators Timing Circuits Filters RF Power Amplifiers & Delay Lines Ultra Low ESR |



Dielectric Characteristics

| Dielectric Material Code | Temperature Coefficient (ppm/°C Maximum) | Dissipation Factor (% @ 1MHz Maximum) | Dielectric Withstanding Voltage | | Insulation Resistance (MΩ Minimum) | | Aging | Piezoelectric Effects | Dielectric Absorption |
|--------------------------|--|---------------------------------------|---------------------------------|---|------------------------------------|-----------------|-------|-----------------------|-----------------------|
| | | | Voltage Rating (Volts) | DWV (Volts) | @ +25°C | @ +125°C | | | |
| UL | 0 ± 30 | 0.05 | Please see chart (pg. 25) | 250% of WVDC for 5 sec unless specified in chart (pg. 25) | 10 ⁵ | 10 ⁴ | None | None | None |

Part Number Breakdown*

| | | | | | | | | | | |
|-------------|-----------|-----------------|------------------|-----------------|--------------|------------------|--------------|------------|--------------|-----------|
| C | 17 | UL | 620 | J - | 7 | U | N - X | 0 | T | |
| Multi Layer | Case Size | Material System | Capacitance Code | Tolerance Level | Voltage Code | Termination Code | Leading Code | Test Level | Marking Code | Packaging |

Available Termination Types

| | |
|-----|---------|
| C04 | S |
| C06 | U, S, Z |
| C07 | U, S, Z |
| C08 | U, S, Z |
| C11 | U, S, Z |
| C17 | U, S, Z |

Code Termination System

| | |
|---|--|
| U | Ag Termination, Ni Barrier Layer, SnPb Plated Solder |
| S | Ag Termination, Ni Barrier Layer, Gold Flash, RoHS |
| Z | Ag Term., Ni Barrier Layer, Sn Plated Solder, RoHS |

Available Lead Types

| | |
|-----|------------------|
| C04 | N |
| C06 | N |
| C07 | N |
| C08 | N |
| C11 | A, B, D |
| C17 | A, B, C, D, E, F |

Test Level – All Case Sizes

| | |
|---|-----------------------|
| X | Standard |
| Y | Reduced Visual |
| A | MIL-PRF-55681 Group A |
| C | MIL-PRF-55681 Group C |
| D | Customer Specified |

Available Laser Marking

| | |
|-----|---------|
| C04 | 0 |
| C06 | 0, 1, 2 |
| C07 | 0, 1 |
| C08 | 0, 1, 2 |
| C11 | 0, 1, 2 |
| C17 | 0, 1, 2 |

Code Laser Marking

| | |
|---|--------------------|
| 0 | No marking |
| 1 | Single-side marked |
| 2 | Double-side marked |
| 9 | Customer Specified |

Available Packaging

| | |
|-----|------------------|
| C04 | T, W, B, P, S |
| C06 | T, W, B, P, S |
| C07 | W, B, P, S |
| C08 | T, V, W, B, P, S |
| C11 | T, V, W, B, P, S |
| C17 | T, V, W, B, P, S |

Code Packaging

| | |
|---|--------------------------|
| T | Tape & Reel – Horizontal |
| V | Tape & Reel – Vertical |
| W | Waffle Pack |
| B | Bulk |
| P | Plastic Box |
| S | Customer Specified |

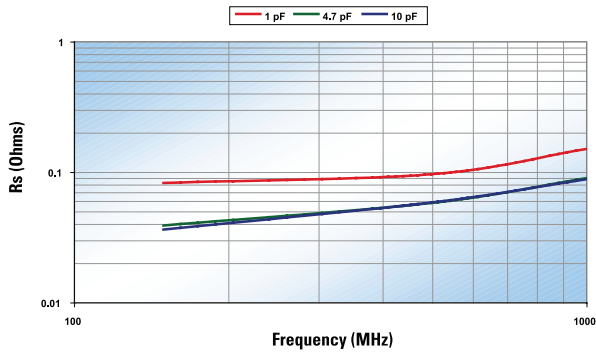
*See page 6 for complete part number system.

Capacitance and Voltage Table

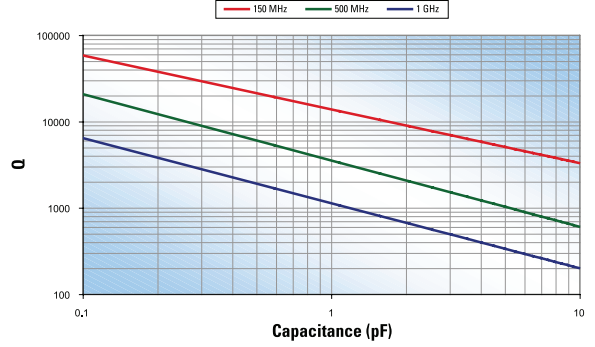
| CAP CODE | CAP (pF) | CASE SIZE C04 0402 | CASE SIZE C06 0603 | CASE SIZE C07 0711 | CASE SIZE C08 0805 | CASE SIZE C11 0505 | CASE SIZE C17 1111 |
|---------------------|----------|------------------------------|------------------------------|-------------------------------|------------------------------|------------------------------|--------------------------------|
| 0R1 | 0.1 | 200V Code 6 DWV = 500V | 250V Code 9 DWV = 625V | 500V Code 4 DWV = 1250V | 250V Code 9 DWV = 625V | 250V Code 9 DWV = 625V | 1000V Code 7 DWV = 2500V |
| 0R2 | 0.2 | | | | | | |
| 0R3 | 0.3 | | | | | | |
| 0R4 | 0.4 | | | | | | |
| 0R5 | 0.5 | | | | | | |
| 0R6 | 0.6 | | | | | | |
| 0R7 | 0.7 | | | | | | |
| 0R8 | 0.8 | | | | | | |
| 0R9 | 0.9 | | | | | | |
| 1R0 | 1.0 | | | | | | |
| 1R1 | 1.1 | | | | | | |
| 1R2 | 1.2 | | | | | | |
| 1R3 | 1.3 | | | | | | |
| 1R4 | 1.4 | | | | | | |
| 1R5 | 1.5 | | | | | | |
| 1R6 | 1.6 | | | | | | |
| 1R7 | 1.7 | | | | | | |
| 1R8 | 1.8 | | | | | | |
| 1R9 | 1.9 | | | | | | |
| 2R0 | 2.0 | | | | | | |
| 2R1 | 2.1 | | | | | | |
| 2R2 | 2.2 | | | | | | |
| 2R4 | 2.4 | | | | | | |
| 2R7 | 2.7 | | | | | | |
| 3R0 | 3.0 | | | | | | |
| 3R3 | 3.3 | | | | | | |
| 3R6 | 3.6 | | | | | | |
| 3R9 | 3.9 | | | | | | |
| 4R3 | 4.3 | | | | | | |
| 4R7 | 4.7 | | | | | | |
| 5R1 | 5.1 | | | | | | |
| 5R6 | 5.6 | | | | | | |
| 6R2 | 6.2 | | | | | | |
| 6R8 | 6.8 | | | | | | |
| 7R5 | 7.5 | | | | | | |
| 8R2 | 8.2 | | | | | | |
| 9R1 | 9.1 | | | | | | |
| 100 | 10 | | | | | | |
| 110 | 11 | | | | | | |
| 120 | 12 | | | | | | |
| 130 | 13 | | | | | | |
| 150 | 15 | | | | | | |
| 160 | 16 | | | | | | |
| 180 | 18 | | | | | | |
| 200 | 20 | | | | | | |
| 220 | 22 | | | | | | |
| 240 | 24 | | | | | | |
| 270 | 27 | | | | | | |
| 300 | 30 | | | | | | |
| 330 | 33 | | | | | | |
| 360 | 36 | | | | | | |
| 390 | 39 | | | | | | |
| 430 | 43 | | | | | | |
| 470 | 47 | | | | | | |
| 510 | 51 | | | | | | |
| 560 | 56 | | | | | | |
| 620 | 62 | | | | | | |
| 680 | 68 | | | | | | |
| 750 | 75 | | | | | | |
| 820 | 82 | | | | | | |
| 910 | 91 | | | | | | |
| 101 | 100 | | | | | | |
| 111 | 110 | | | | | | |
| 121 | 120 | | | | | | |
| 151 | 150 | | | | | | |
| 181 | 180 | | | | | | |
| 221 | 220 | | | | | | |
| 271 | 270 | | | | | | |
| 331 | 330 | | | | | | |
| 391 | 390 | | | | | | |
| 471 | 470 | | | | | | |
| 511 | 510 | | | | | | |
| 561 | 560 | | | | | | |
| 621 | 620 | | | | | | |
| 681 | 680 | | | | | | |
| 821 | 820 | | | | | | |
| 911 | 910 | | | | | | |
| 102 | 1000 | | | | | | |
| Reel QTY Horizontal | | 5000 | 4000 | 2350 | 5000 | 3500 | 2350 |

Special capacitance values available upon request.

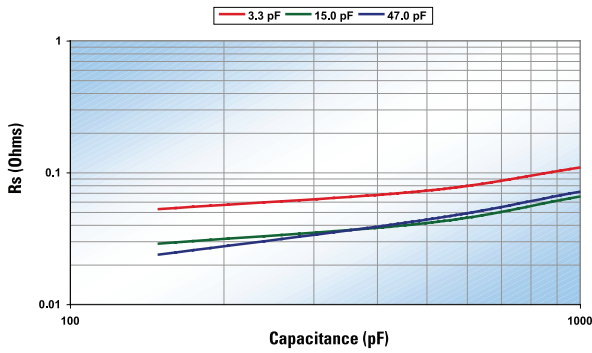
ESR vs Frequency
DLI C04 UL Series



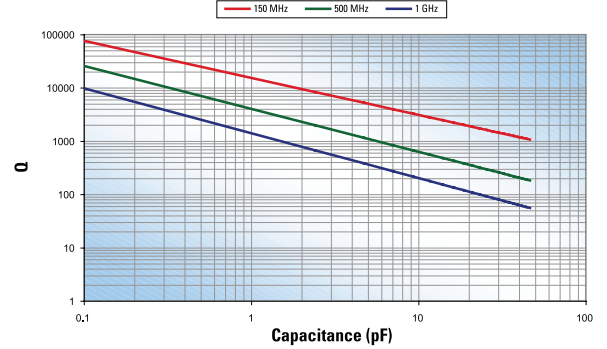
Q vs Capacitance
DLI C04 UL Series



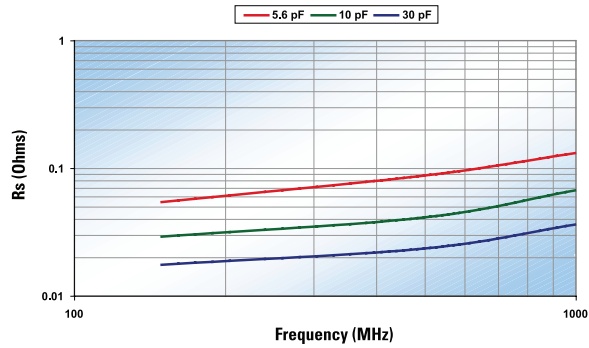
ESR vs Frequency
DLI C06 UL Series



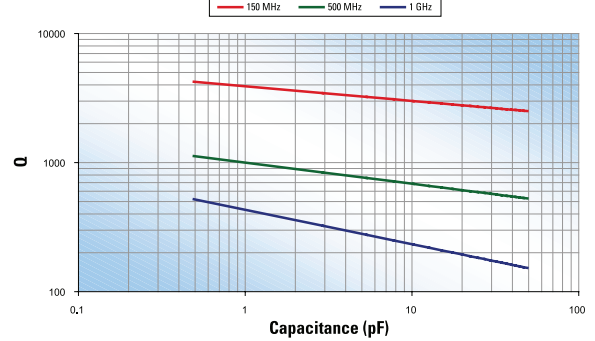
Q vs Capacitance
DLI C06 UL Series



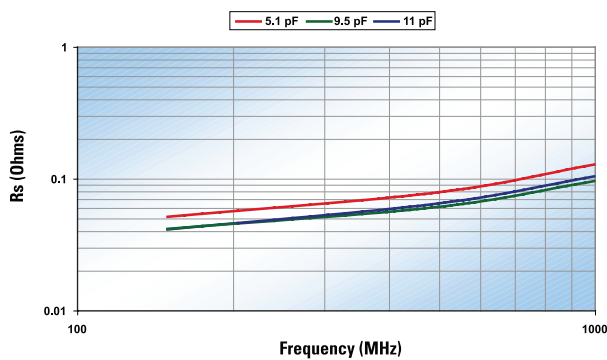
ESR vs Frequency
DLI C07 UL Series



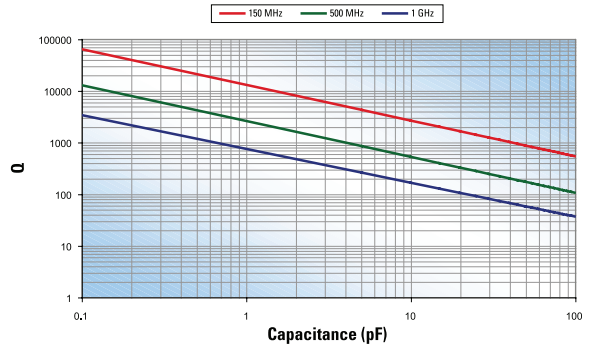
Q vs Capacitance
DLI C07 UL Series



ESR vs Frequency
DLI C08 UL Series

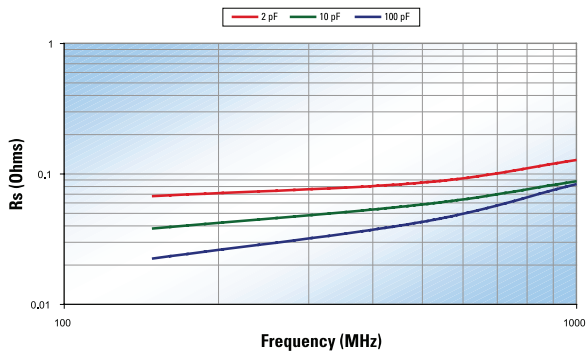


Q vs Capacitance
DLI C08 UL Series

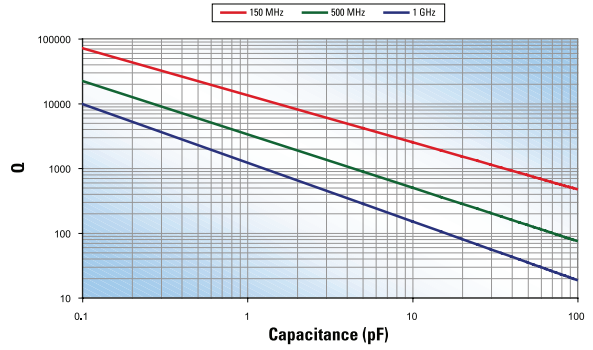


The information above represents typical device performance.

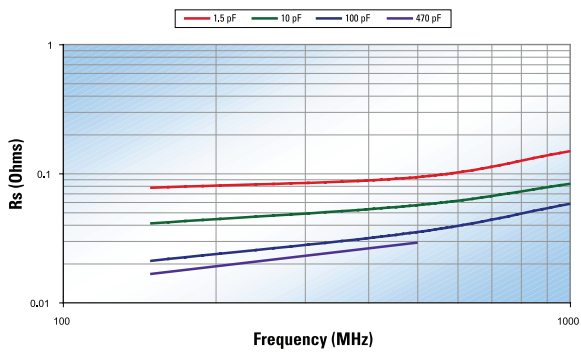
ESR vs Frequency
DLI C11 UL Series



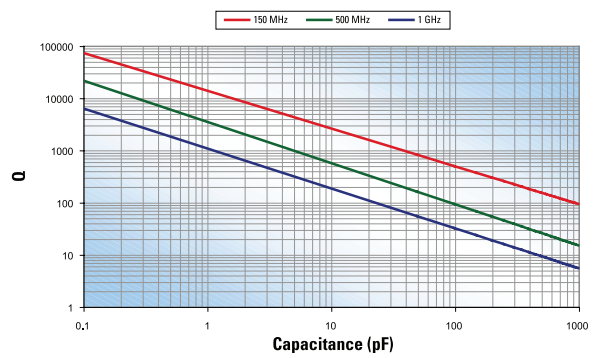
Q vs Capacitance
DLI C11 UL Series



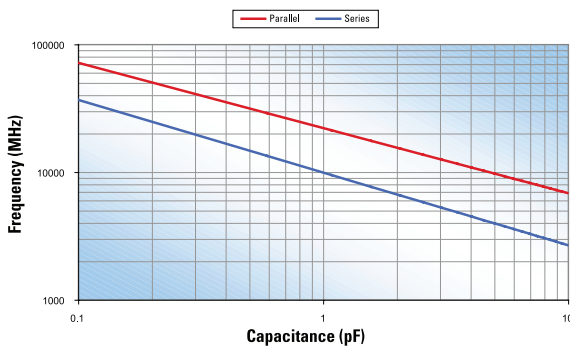
ESR vs Frequency
DLI C17 UL Series



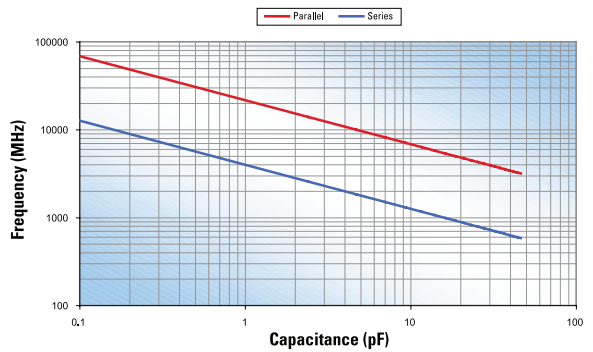
Q vs Capacitance
DLI C17 UL Series



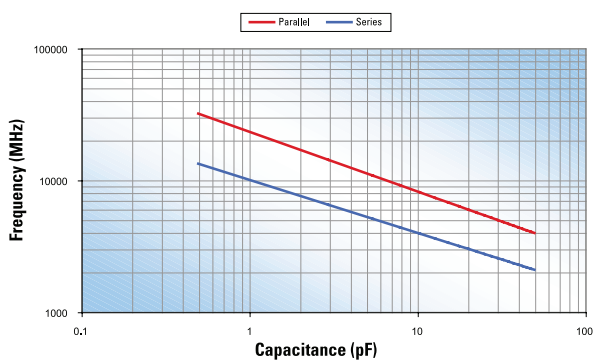
Resonant Frequency vs Capacitance
DLI C04 UL Series



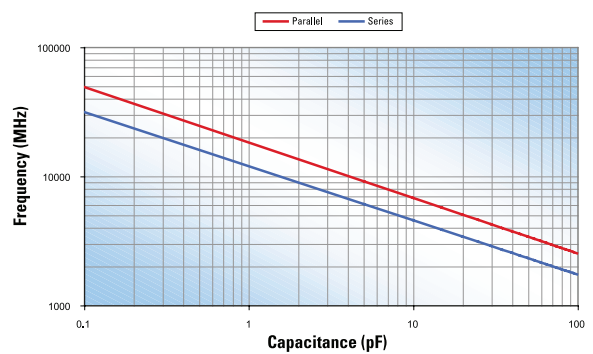
Resonant Frequency vs Capacitance
DLI C06 UL Series



Resonant Frequency vs Capacitance
DLI C07 UL Series



Resonant Frequency vs Capacitance
DLI C08 UL Series



The information above represents typical device performance.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Dielectric Laboratories:

[C06UL0R8B-9ZN-X1T](#) [C06UL300J-9ZN-X1T](#) [C06UL330J-9ZN-X1T](#) [C06UL2R7B-9ZN-X1T](#) [C06UL5R6B-9ZN-X1T](#)
[C06UL1R5B-9ZN-X1T](#) [C06UL2R0B-9ZN-X1T](#) [C06UL0R3B-9ZN-X1T](#) [C06UL1R0B-9ZN-X1T](#) [C06UL9R1B-9ZN-X1T](#)
[C06UL0R6B-9ZN-X1T](#) [C06UL0R5B-9ZN-X1T](#) [C06UL3R3B-9ZN-X1T](#) [C06UL0R7B-9ZN-X1T](#) [C06UL4R7B-9ZN-X1T](#)
[C06UL0R9B-9ZN-X1T](#) [C06UL1R2B-9ZN-X1T](#) [C06UL3R9B-9ZN-X1T](#) [C06UL0R4B-9ZN-X1T](#) [C06UL6R8B-9ZN-X1T](#)
[C06UL120J-9ZN-X1T](#) [C06UL0R2B-9ZN-X1T](#) [C08UL4R3B-9ZN-X0T](#) [C08UL1R4B-9ZN-X0T](#) [C08UL220J-9ZN-X0T](#)
[C08UL3R6B-9ZN-X0T](#) [C08UL0R3B-9ZN-X0T](#) [C08UL180J-9ZN-X0T](#) [C08UL2R0B-9ZN-X0T](#) [C08UL101J-9ZN-X0T](#)
[C08UL240J-9ZN-X0T](#) [C08UL2R4B-9ZN-X0T](#) [C08UL510J-9ZN-X0T](#) [C08UL5R6B-9ZN-X0T](#) [C08UL3R3B-9ZN-X0T](#)
[C08UL1R6B-9ZN-X0T](#) [C08UL1R7B-9ZN-X0T](#) [C08UL330J-9ZN-X0T](#) [C08UL1R9B-9ZN-X0T](#) [C08UL680J-9ZN-X0T](#)
[C08UL910J-9ZN-X0T](#) [C08UL390J-9ZN-X0T](#) [C08UL0R4B-9ZN-X0T](#) [C08UL0R6B-9ZN-X0T](#) [C08UL120J-9ZN-X0T](#)
[C08UL300J-9ZN-X0T](#) [C08UL150J-9ZN-X0T](#) [C08UL2R2B-9ZN-X0T](#) [C08UL560J-9ZN-X0T](#) [C08UL1R0B-9ZN-X0T](#)
[C08UL7R5B-9ZN-X0T](#) [C08UL5R1B-9ZN-X0T](#) [C08UL3R9B-9ZN-X0T](#) [C08UL0R5B-9ZN-X0T](#) [C08UL1R5B-9ZN-X0T](#)
[C08UL270J-9ZN-X0T](#) [C08UL0R9B-9ZN-X0T](#) [C08UL0R7B-9ZN-X0T](#) [C08UL750J-9ZN-X0T](#) [C08UL2R1B-9ZN-X0T](#)
[C08UL3R0B-9ZN-X0T](#) [C08UL820J-9ZN-X0T](#) [C08UL200J-9ZN-X0T](#) [C08UL4R7B-9ZN-X0T](#) [C08UL9R1B-9ZN-X0T](#)
[C08UL110J-9ZN-X0T](#) [C08UL6R8B-9ZN-X0T](#) [C08ULR45B-9ZN-X0T](#) [C08UL1R3B-9ZN-X0T](#) [C08ULR35B-9ZN-X0T](#)
[C08UL0R8B-9ZN-X0T](#) [C08UL160J-9ZN-X0T](#) [C08UL1R8B-9ZN-X0T](#) [C08UL8R2B-9ZN-X0T](#) [C08UL430J-9ZN-X0T](#)
[C08UL1R2B-9ZN-X0T](#) [C08UL620J-9ZN-X0T](#) [C08UL2R7B-9ZN-X0T](#) [C08UL360J-9ZN-X0T](#) [C08UL100J-9ZN-X0T](#)
[C08UL470J-9ZN-X0T](#) [C08UL130J-9ZN-X0T](#) [C04ULENG-S](#) [C04ULR25A-6SN-X0T](#) [C08UL910J-8UN-X0T](#)