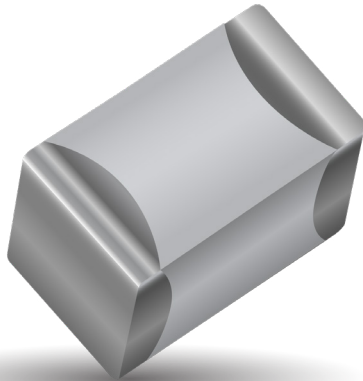


RF/Microwave Capacitors

RF/Microwave Multilayer Capacitors (MLC)

600S Ultra-Low ESR, High Q, NPO Capacitors



FEATURES

- Lowest ESR in Class
- Highest Working Voltage in Class - 250 V
- Standard EIA Size: 0603
- Laser Marking (Optional)
- High Self-Resonance Frequencies

600 SERIES OVERVIEW

| Series | Case Size | EIA Case Size |
|--------|-----------|---------------|
| 600 | L | 0402 |
| 600 | S | 0603 |
| 600 | F | 0805 |

APPLICATIONS

- Cellular Base Stations
- Broadband Wireless Services
- Satellite Communications
- Subscriber-based Wireless Devices
- WiFi (802.11)
- Public Safety Radio

CIRCUIT APPLICATIONS

- Filter Networks
- High Q Frequency Sources
- Matching Networks
- Tuning, Coupling, Bypass and DC Blocking

ELECTRICAL SPECIFICATIONS

| | |
|---|---|
| Capacitance | 0.1 to 100 pF |
| Tolerances | See Cap Value Chart |
| Working Voltage (WVDC) | 250 V |
| Quality Factor (Q) | > 2000 @ 1 MHz |
| Operating Temperature Range | -55°C to +125°C (no derating of working voltage) |
| Temperature Coefficient of Capacitance (TCC) | 0 ± 30 ppm/°C, -55°C to +125°C 10 ⁵ MΩ min. at +25°C at rated WVDC 10 ⁴ MΩ min. at +125°C at rated WVDC |
| Dielectric Withstanding Voltage (DWV) | 2.5 x WVDC for 5 seconds |
| Aging | None |
| Piezo Effects | None |

PACKAGING OPTIONS



Tape & Reel



Vertical Orientation Tape & Reel



ENVIRONMENTAL CHARACTERISTICS

| | |
|----------------------------|--|
| Thermal Shock | 5 Cycles, -55°C to 125°C |
| Moisture Resistance | Mil-STD-202, Method 106 |
| Life Test | 2000 hours at 125°C at 2X WVDC |
| Solderability | Solder Coverage > 90% of end termination |
| Terminal Strength | 4 lbs. typ., 2 lb. min. |
| Military Approval | DSCC Drawing Number 05002 |

RF/Microwave Capacitors

RF/Microwave Multilayer Capacitors (MLC)

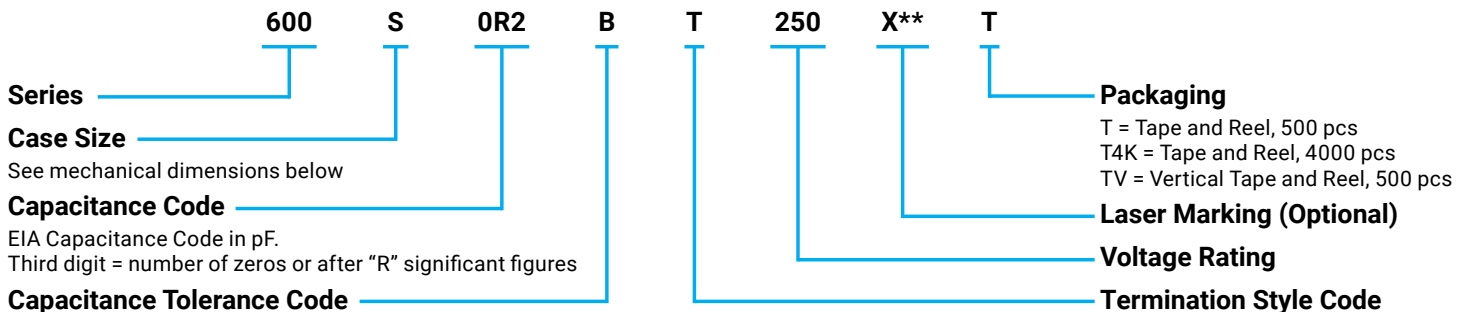
600S Ultra-Low ESR, High Q, NPO Capacitors



CAPACITANCE VALUES

| Value (pF) | Cap Code | Marking | Tolerances | Value (pF) | Cap Code | Marking | Tolerances | Value (pF) | Cap Code | Marking | Tolerances |
|------------|----------|---------|------------|------------|----------|---------|---------------|------------|----------|---------|---------------|
| 0.1 | 0R1 | A9 | A, B | 2.7 | 2R7 | L0 | A, B, C, D | 20 | 200 | H1 | F, G, J, K, M |
| 0.2 | 0R2 | H9 | A, B | 3.0 | 3R0 | M0 | A, B, C, D | 22 | 220 | J1 | F, G, J, K, M |
| 0.3 | 0R3 | M9 | A, B, C | 3.3 | 3R3 | N0 | A, B, C, D | 24 | 240 | K1 | F, G, J, K, M |
| 0.4 | 0R4 | d9 | A, B, C | 3.6 | 3R6 | P0 | A, B, C, D | 27 | 270 | L1 | F, G, J, K, M |
| 0.5 | 0R5 | f9 | A, B, C | 3.9 | 3R9 | Q0 | A, B, C, D | 30 | 300 | M1 | F, G, J, K, M |
| 0.6 | 0R6 | m9 | A, B, C | 4.3 | 4R3 | R0 | A, B, C, D | 33 | 330 | N1 | F, G, J, K, M |
| 0.7 | 0R7 | n9 | A, B, C | 4.7 | 4R7 | S0 | A, B, C, D | 36 | 360 | P1 | F, G, J, K, M |
| 0.8 | 0R8 | t9 | A, B, C | 5.1 | 5R1 | T0 | A, B, C, D | 39 | 390 | Q1 | F, G, J, K, M |
| 0.9 | 0R9 | y9 | A, B, C | 5.6 | 5R6 | U0 | A, B, C, D | 43 | 430 | R1 | F, G, J, K, M |
| 1.0 | 1R0 | A0 | A, B, C, D | 6.2 | 6R2 | V0 | A, B, C, D | 47 | 470 | S1 | F, G, J, K, M |
| 1.1 | 1R1 | B0 | A, B, C, D | 6.8 | 6R8 | W0 | B, C, J, K | 51 | 510 | T1 | F, G, J, K, M |
| 1.2 | 1R2 | C0 | A, B, C, D | 7.5 | 7R5 | X0 | B, C, J, K | 56 | 560 | U1 | F, G, J, K, M |
| 1.3 | 1R3 | D0 | A, B, C, D | 8.2 | 8R2 | Y0 | B, C, J, K | 62 | 620 | V1 | F, G, J, K, M |
| 1.5 | 1R5 | E0 | A, B, C, D | 9.1 | 9R1 | Z0 | B, C, J, K | 68 | 680 | W1 | F, G, J, K, M |
| 1.6 | 1R6 | F0 | A, B, C, D | 10 | 100 | A1 | F, G, J, K, M | 75 | 750 | X1 | F, G, J, K, M |
| 1.8 | 1R8 | G0 | A, B, C, D | 11 | 110 | B1 | F, G, J, K, M | 82 | 820 | Y1 | F, G, J, K, M |
| 2.0 | 2R0 | H0 | A, B, C, D | 12 | 120 | C1 | F, G, J, K, M | 91 | 910 | Z1 | F, G, J, K, M |
| 2.2 | 2R2 | J0 | A, B, C, D | 15 | 150 | E1 | F, G, J, K, M | 100 | 101 | A2 | F, G, J, K, M |
| 2.4 | 2R4 | K0 | A, B, C, D | 18 | 180 | G1 | F, G, J, K, M | | | | |

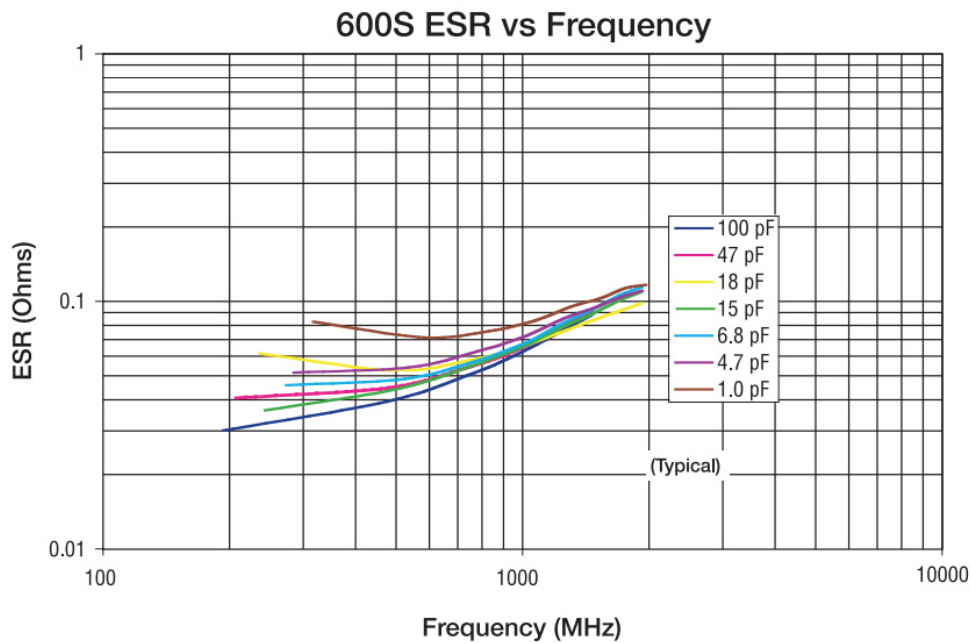
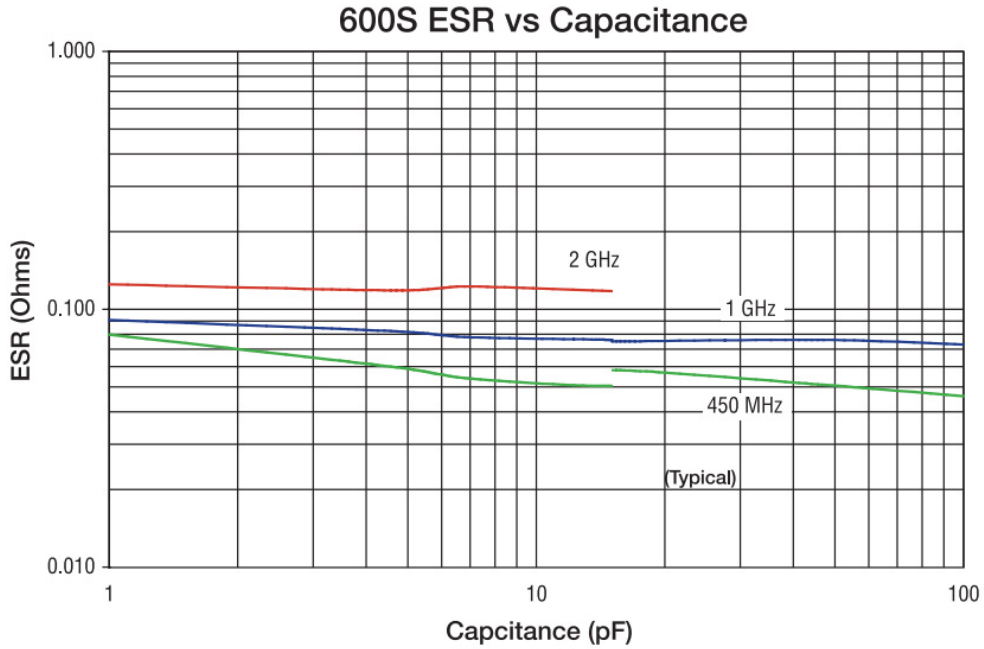
HOW TO ORDER

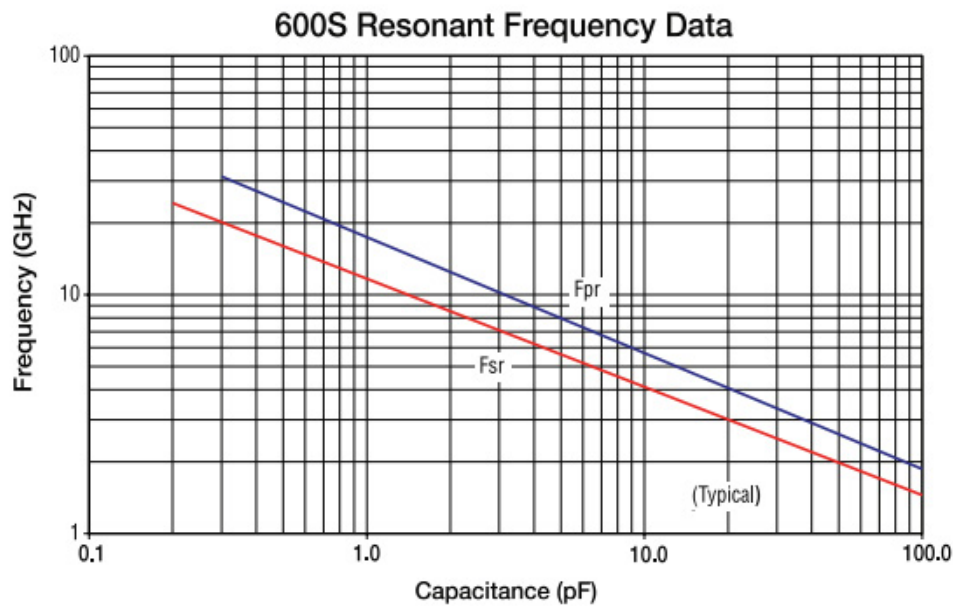
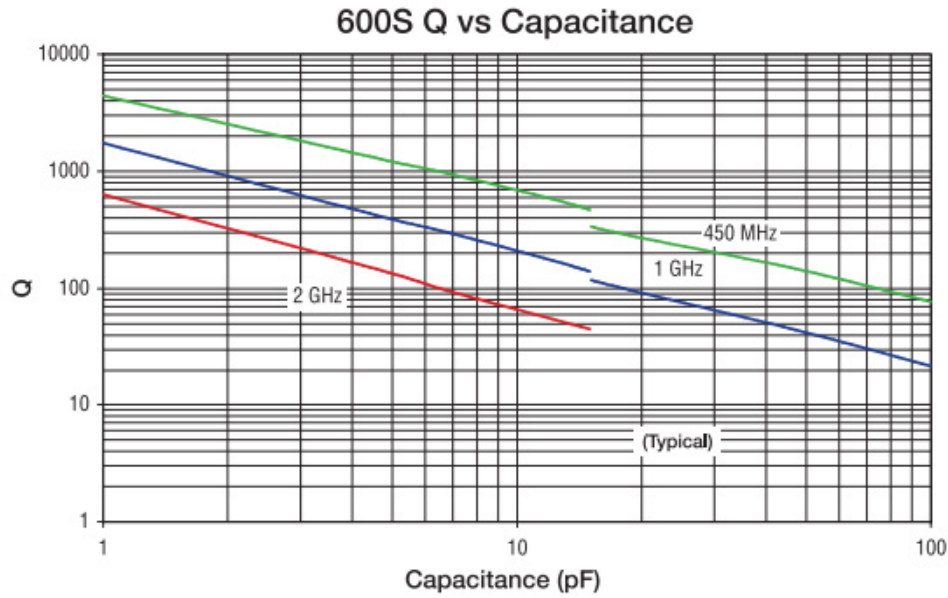


| Code | A | B | C | D | F | G | J | K | M |
|-------------|----------|---------|----------|---------|-----|-----|-----|------|------|
| Tol. | ±0.05 pF | ±0.1 pF | ±0.25 pF | ±0.5 pF | ±1% | ±2% | ±5% | ±10% | ±20% |

The above part number refers to a 600F Series (case size F) 10 pF capacitor, J tolerance (±5%), 250 WVDC, with T termination (Tin Plated over Nickel Barrier, RoHS Compliant), Laser Marking and Tape and Reel packaging.

**Laser Marking is optional





600F Series Data Sheet Condition Description

Capacitors horizontally mounted on 13.3-mil thick Rogers R0435® softboard 29-mils wide 1/2 oz. Cu traces
FSR = lowest frequency at which S11 response, referenced at capacitor edge, crosses real axis on Smith Chart.
FPR = lowest frequency at which there is a notch in S21 magnitude response.