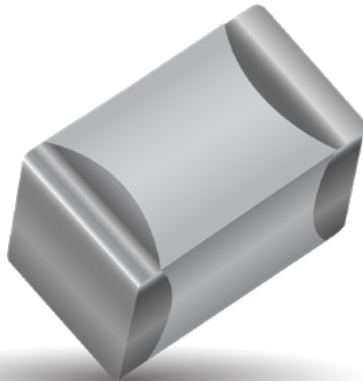


RF/Microwave Capacitors

RF/Microwave Multilayer Capacitors (MLC)

600L Ultra-Low ESR NPO Capacitors



FEATURES

- Lowest ESR in Class
- Highest Working Voltage in Class - 200 V
- Capacitance Range 0.1 pF to 27 pF
- High Q
- High Self-Resonance

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

| | |
|--|---|
| Temperature Coefficient (TCC) | 0 ± 30 PPM/°C |
| Capacitance Range | 0.1 pF to 27 pF |
| Operating Temperature | -55°C to +125°C* |
| Quality Factor | Greater than 2,000 at 1 MHz |
| Insulation Resistance (IR) | 10 ⁵ Megohms min. @ 25°C at rated WVDC 10 ⁴ Megohms min. @ 125°C at rated WVDC |
| Working Voltage (WVDC) | 200 V |
| Dielectric Withstanding Voltage (DWV) | 250% of rated WVDC for 5 seconds |
| Aging Effects | None |
| Piezoelectric Effects | None |

PACKAGING OPTIONS



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 |
| Solderability | Solder Coverage > 90% of end termination |
| Terminal Strength | 2 lbs. typ., 1 lb. min. |
| Military Approval | DSCC Drawing Number 05003 |

RF/Microwave Capacitors

RF/Microwave Multilayer Capacitors (MLC)

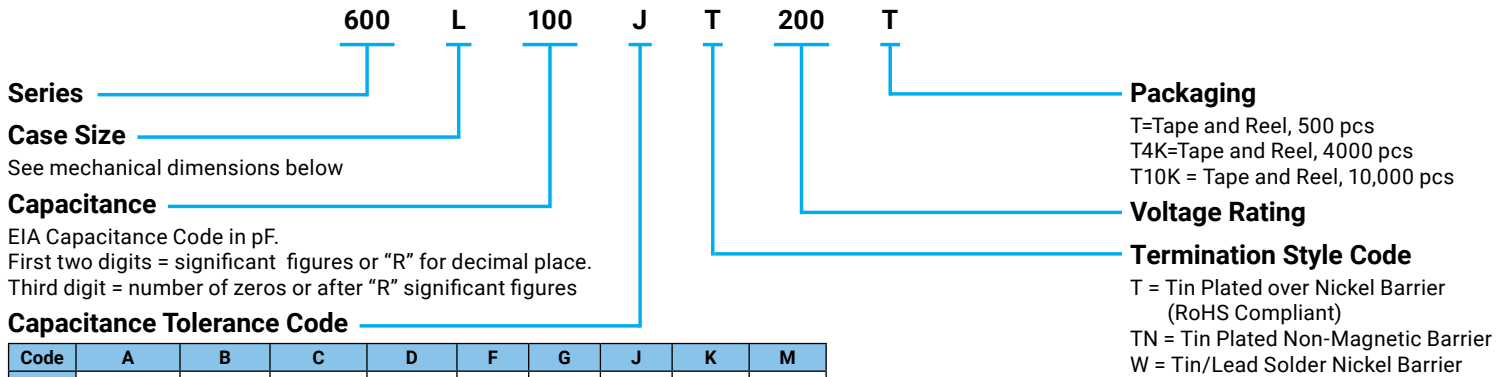
600L Ultra-Low ESR NPO Capacitors



CAPACITANCE VALUES

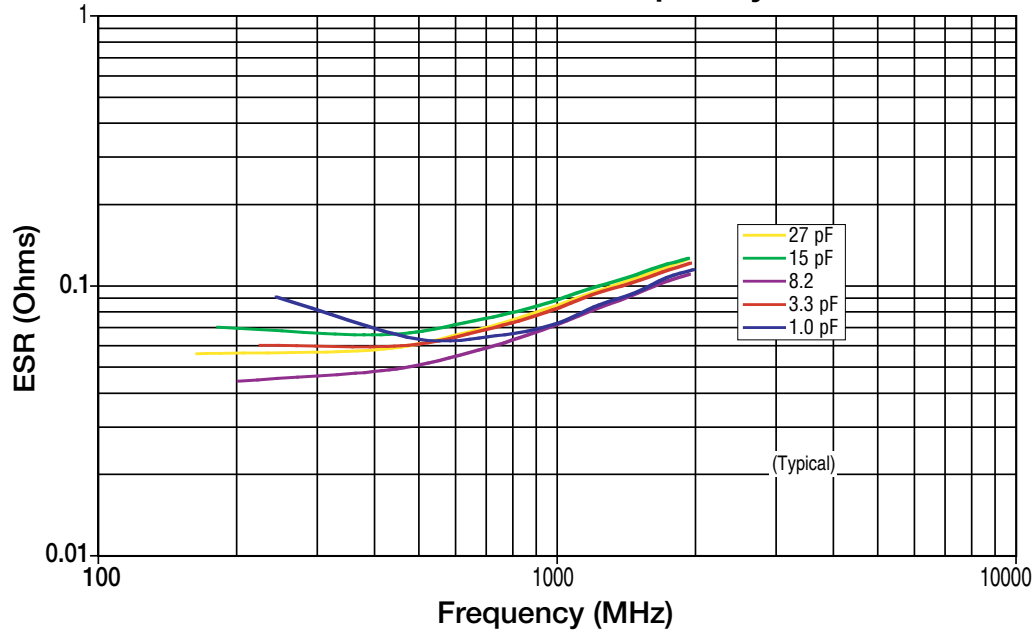
| Value (pF) | Cap Code | Tolerances | Value (pF) | Cap Code | Tolerances | Value (pF) | Cap Code | Tolerances |
|------------|----------|------------|------------|----------|------------|------------|----------|---------------|
| 0.1 | 0R1 | A, B | 1.6 | 1R6 | A, B, C, D | 6.2 | 6R2 | A, B, C, D |
| 0.2 | 0R2 | A, B | 1.8 | 1R8 | A, B, C, D | 6.8 | 6R8 | B, C, J, K |
| 0.3 | 0R3 | A, B, C | 2.0 | 2R0 | A, B, C, D | 7.5 | 7R5 | B, C, J, K |
| 0.4 | 0R4 | A, B, C | 2.2 | 2R2 | A, B, C, D | 8.2 | 8R2 | B, C, J, K |
| 0.5 | 0R5 | A, B, C | 2.4 | 2R4 | A, B, C, D | 9.1 | 9R1 | B, C, J, K |
| 0.6 | 0R6 | A, B, C | 2.7 | 2R7 | A, B, C, D | 10 | 100 | F, G, J, K, M |
| 0.7 | 0R7 | A, B, C | 3.0 | 3R0 | A, B, C, D | 11 | 110 | F, G, J, K, M |
| 0.8 | 0R8 | A, B, C | 3.3 | 3R3 | A, B, C, D | 12 | 120 | F, G, J, K, M |
| 0.9 | 0R9 | A, B, C | 3.6 | 3R6 | A, B, C, D | 15 | 150 | F, G, J, K, M |
| 1.0 | 1R0 | A, B, C, D | 3.9 | 3R9 | A, B, C, D | 18 | 180 | F, G, J, K, M |
| 1.1 | 1R1 | A, B, C, D | 4.3 | 4R3 | A, B, C, D | 20 | 200 | F, G, J, K, M |
| 1.2 | 1R2 | A, B, C, D | 4.7 | 4R7 | A, B, C, D | 22 | 220 | F, G, J, K, M |
| 1.3 | 1R3 | A, B, C, D | 5.1 | 5R1 | A, B, C, D | 24 | 240 | F, G, J, K, M |
| 1.5 | 1R5 | A, B, C, D | 5.6 | 5R6 | A, B, C, D | 27 | 270 | F, G, J, K, M |

HOW TO ORDER

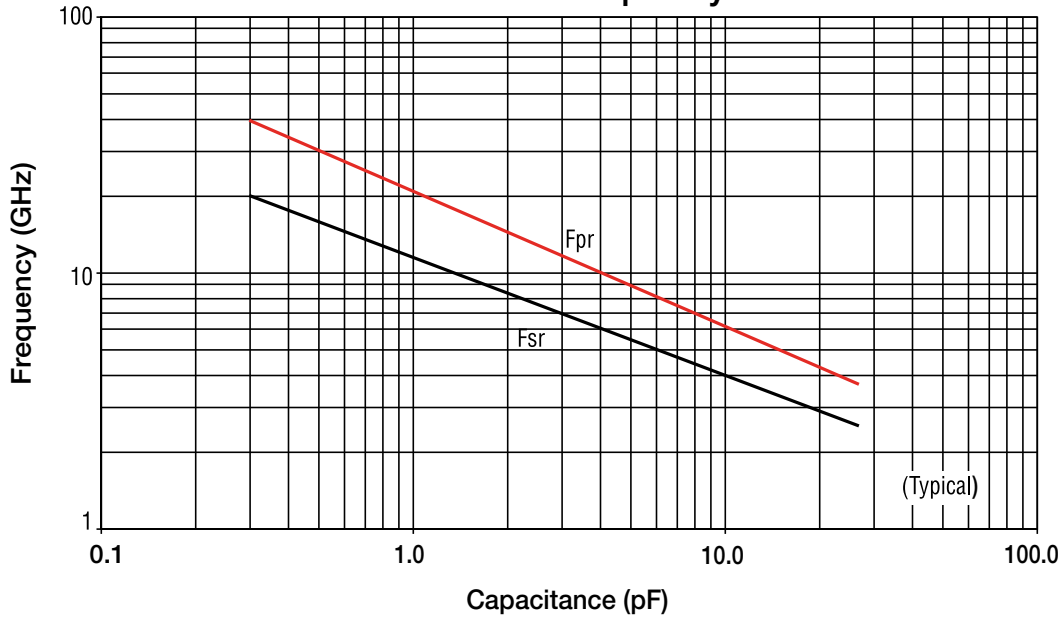


*All Tape and Reel Packaging comes on 7" reels. The above part number refers to a 600L Series (case size L) 11 pF capacitor, J tolerance (±5%), 200 WVDC, with T termination (Tin Plated over Nickel Barrier, RoHS Compliant), Tape and Reel packaging.

600L ESR vs. Frequency



600L Resonant Frequency Data



ATC 600L Series Data Sheet Test Condition Description

Capacitors mounted in series microstrip configuration on 10-mil thick Rogers R04350® softboard, 22-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.