ATC 520L Broadband Multilayer Capacitors



Features:

- EIA 0402 Case Size
- Operating Frequency 160 KHz to 16 GHz
- Insertion Loss: 1 dB max.
- Low Loss X7R Dielectric
- Solderable SMT Terminations

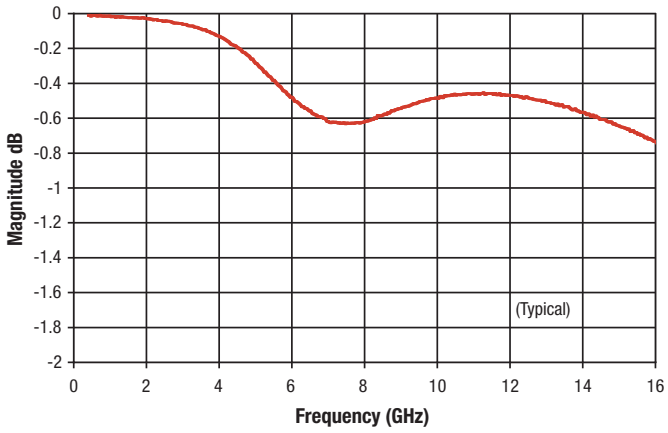
ATC, the industry leader, is introducting the new 520L Series Multilayer Broadband Capacitor. This device provides low insertion loss performance over multiple octaves of frequency spectrum. The 520L capacitor is compatible with high speed automated pick and place SMT manufacturing.

The 520L is ideal for broadband DC blocking, coupling, bypassing, and feedback applications in optical communications systems and equipment using high-speed digital logic.

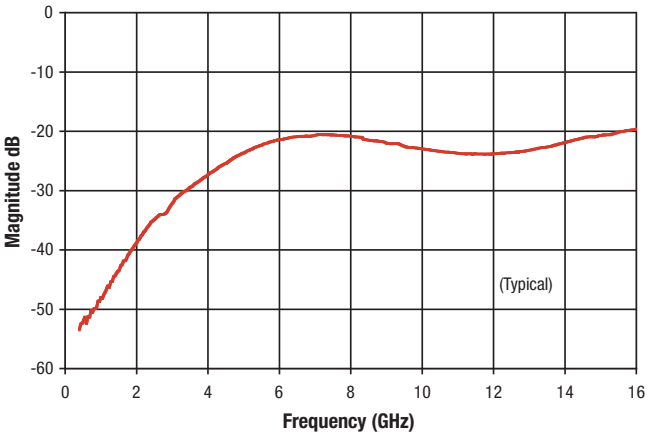
Advantages:

- Broadband Performance
- Low Insertion Loss
- Flat Frequency Response
- Excellent Return Loss through 16 GHz
- Unit-to-Unit Performance Repeatability
- Rugged Ceramic Construction

520L Insertion Loss (S21)



520L Return Loss (S11)



ATC 520L Data Sheet Test Condition Description

All testing performed on 10-mil-thick Rogers RO4350 microstrip board, with the UUT subtending a 24 mil gap in a 22-mil-wide center trace (nominal 50-ohm characteristic impedance). Measurements were made using an Anritsu 3680K Universal Test Fixture and an HP8722D Vector Network Analyzer having a four-receiver architecture. Measurements have been de-embedded to the edges of the UUT using a standard TRL calibration procedure.

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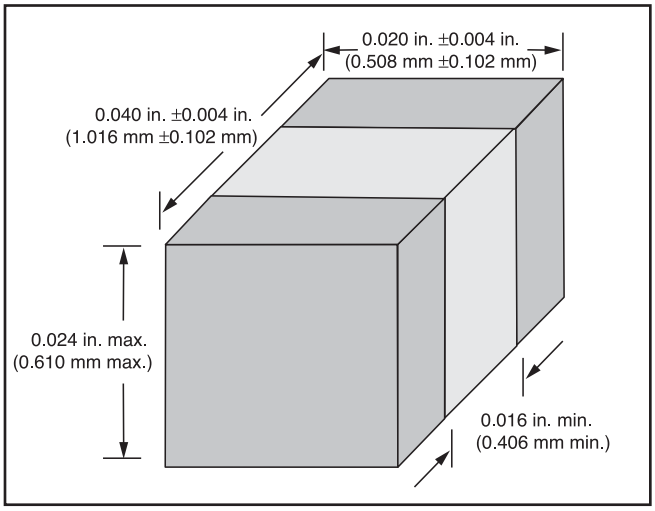
Electrical Specifications:

- Capacitance: 10 nF
- Rated Voltage: 16 WVDC
- Dielectric Withstanding Voltage (DWV): 250% of rated WVDC for 5 secs.
- Operating Temperature Range: -55°C to +125°C
- Temperature Coefficient of Capacitance (TCC): ±15% (-55°C to +125°C)
- Maximum DF: 3% @ 1KHz
- Insulation Resistance:
  10^{11} Ω min. @ +25°C @ rated WVDC
  10^{10} Ω min. @ +125°C @ rated WVDC

Life Test:

- MIL-STD-202, Method 108, for 2000 hours, @ 125 °C with 200% WVDC applied

Mechanical Dimensions



ATC 520 Series Part Number Code

ATC 520 L 10 3 K T 16 T

- ATC 520 — ATC Series
- L — Case Size (0402)
- 10 — Capacitance Code First 2 significant digits for capacitance
- 3 — Indicates number of zeros following digits of capacitance in pF
- K — Capacitance Tolerance
- T — Termination Code T = Tin Plated over Nickel Barrier. RoHS Compliant
- 16 — WVDC
- T — Packaging T = Tape and reel

RoHS Compliant

The above part number refers to a 520 Series (case size L) 10 nF capacitor, K tolerance (±10%), with T termination (tin plated over nickel barrier, RoHS compliant), 16 WVDC, tape and reel packaging.

ATC accepts orders for our parts using designations ***with*** or ***without*** the "ATC" prefix. Both methods of defining the part number are equivalent, i.e., part numbers referenced with the "ATC" prefix are interchangeable to parts referenced without the "ATC" prefix. Customers are free to use either in specifying or procuring parts from American Technical Ceramics.

For additional information and catalogs contact your ATC representative or call direct at (631) 622-4700. Consult factory for additional performance data.

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