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

520L Return Loss (S11)

Rugged Ceramic Construction

0 0 -0.2 -10 -0.4 -0.6 -20 뜅 뗭 -0.8 Magnitude Aagnitude -1 -30 -1.2-40 -14 (Typical) -1.6 (Typical) -50 -1.8 -2 -60 0 2 4 6 8 10 12 14 16 2 6 8 10 12 ۵ 14 16 Frequency (GHz) Frequency (GHz)

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.



ATC 001-988 Rev. B; 10/06

520L Insertion Loss (S21)

ATC 520L BROADBAND MULTILAYER CAPACITORS

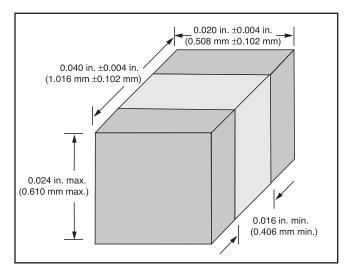
Electrical Specifications:

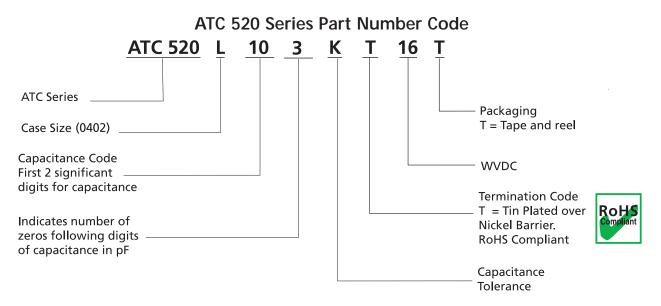
- Capacitance: 10 nF
- Rated Voltage: 16 WVDC
- Dielectric Withstanding Voltage (DWV): 250% of rated WVDC for 5 secs.
- Operating Temperature Range: -55°C to +125°C
- Temperature Coefficient of Capacitance (TCC): ±15% (-55°C to +125°C)
- Maximum DF: 3% @ 1KHz
- Insulation Resistance: $10^{11} \Omega$ min. @ +25°C @ rated WVDC 10¹⁰ Ω min. @ +125°C @ rated WVDC

Life Test:

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

Mechanical Dimensions





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 (+1-631) 622-4700. Consult factory for additional performance data.

Sales of ATC products are subject to the terms and conditions contained in American Technical Ceramics Corp. Terms and Conditions of Sale (ATC document #001-992 Rev. B 12/05). Copies of these terms and conditions will be provided upon request. They may also be viewed on ATC's website at www.atceramics.com/productfinder/default.asp. Click on the link for Terms and Conditions of Sale.

ATC has made every effort to have this information as accurate as possible. However, no responsibility is assumed by ATC for its use, nor for any infringements of rights of third parties which may result from its use. ATC reserves the right to revise the content or modify its product line without prior notice. © 2003 American Technical Ceramics. All Rights Reserved. ATC 001-988 Rev. B; 10/06

TECHNICAL CERAMICS

ATC North America +1-631-622-4700 sales@atceramics.com

AMERICAN

ATC Europe +46 8 6800410

ATC Asia +86-755-2386-8759 sales@atceramics-europe.com sales@atceramics-asia.com ISO 9001 REGISTERED



www.atceramics.com

Mouser Electronics

Authorized Distributor

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

American Technical Ceramics (ATC): 520L103KT16T 520L103KT16T5