

ATC 545L Series UBC™ Ultra-Broadband Capacitor

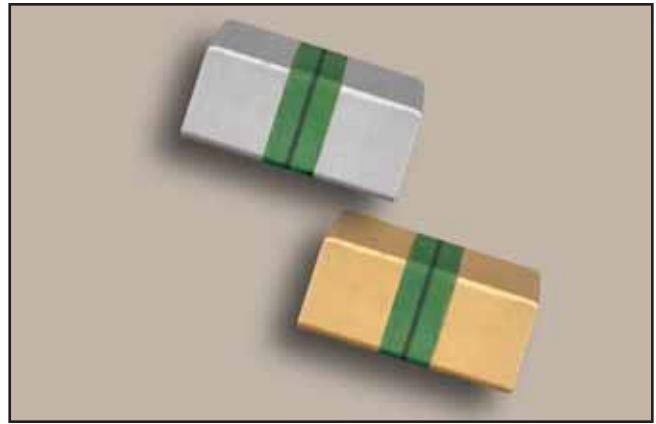
Features:

- EIA 0402 Case Size
- Capacitance: 100 nF
- Operating Frequency:
16 KHz (-3 dB roll-off) to 40+ GHz*
- Insertion Loss: < 0.5 dB typical
- Orientation Insensitive
- One Piece Construction
- Voltage Rating: 16 WVDC
- TCC: ±15% (-55°C to +125°C)
- RoHS Compliant Terminations
- Gold Terminations Available

ATC's 545L Series Ultra-Broadband Capacitor (UBC™) is a unique component that provides ultra-low insertion loss, flat frequency response and an excellent match over multiple octaves of frequency spectrum in a one piece configuration.

The 545L is ideal for ultra-broadband DC blocking, coupling, bypassing, and feedback applications in optical communications systems and equipment using high-speed digital logic.

*25 °C, no bias applied

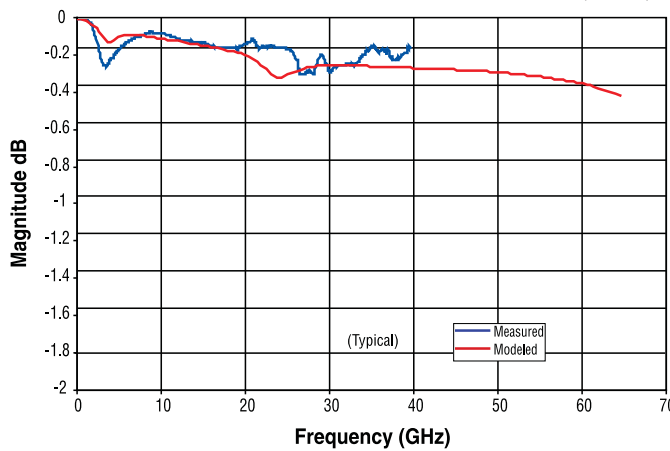


Patented Design

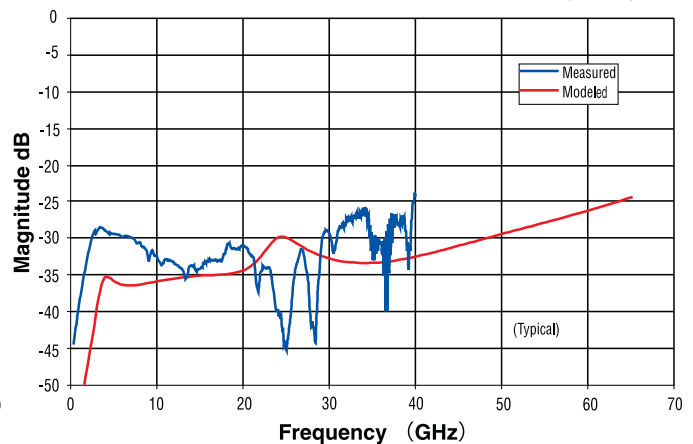
Advantages:

- Ultra-Broadband Performance
- Ultra-Low Insertion Loss
- Flat Frequency Response
- Excellent Return Loss
- Unit-to-Unit Performance Repeatability
- Rugged X7R Ceramic Construction

ATC 545L Series Insertion Loss (S21)



ATC 545L Series Return Loss (S11)



ATC 545L Data Sheet Test Condition Description

ATC testing to 40 GHz performed on 10-mil-thick Rogers RO4350 microstrip board, with the device under test subtending a 24 mil gap in a 22-mil-wide center trace (nominal 50-ohm characteristic impedance). Modelithics model developed through testing on several different substrates, including 5-mil-thick Alumina measured through 65 GHz. The modeled results presented for RO4350 were for a pad width of 20 mils and a gap of 16 mils.



Modeled data by
Modelithics Corp.



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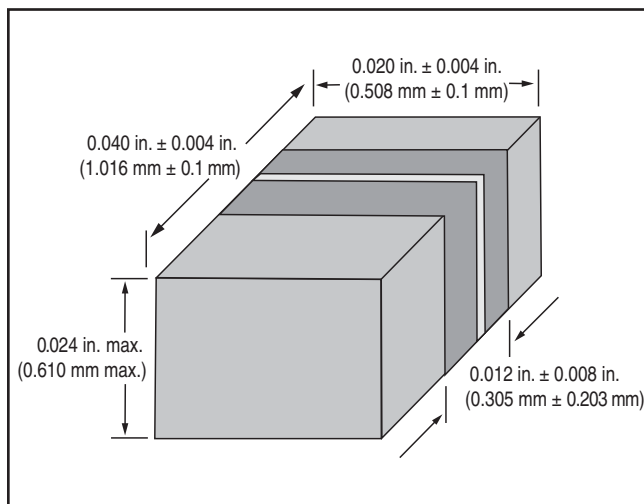
 THE
ENGINEERS'
CHOICE®
ISO 9001 REGISTERED

ATC 545L SERIES UBC™ CAPACITORS

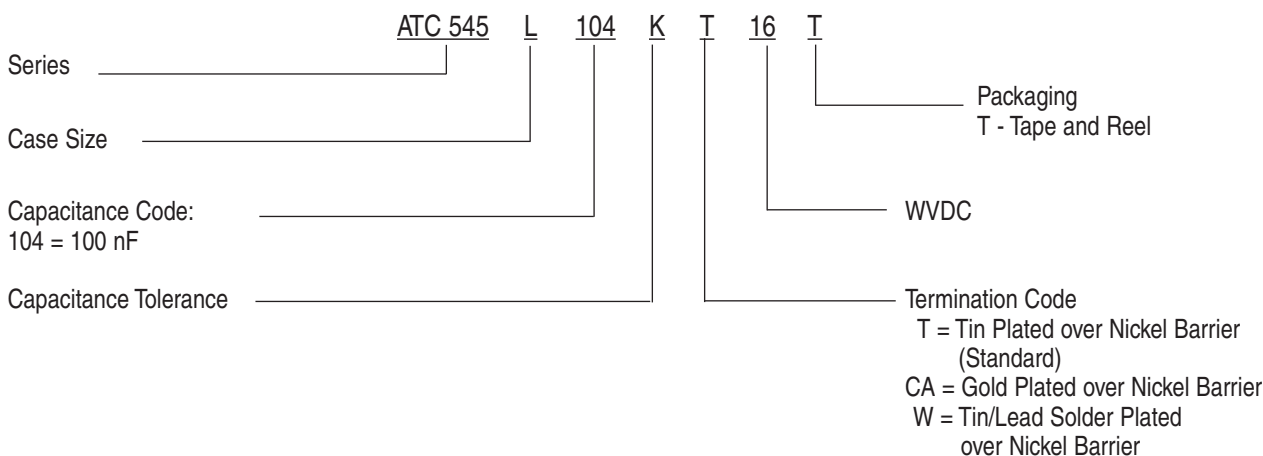
Electrical Specifications:

- Capacitance: 100 nF
- Rated Voltage:
 - 16 WVDC from -55°C to +85°C
 - 10 WVDC from -55°C to +125°C
- 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 +85°C), 16 WVDC
 - ±15% (-55°C to +125°C), 10 WVDC
- Insulation Resistance:
 - 10⁸ Ω min. @ +25°C @ rated WVDC
 - 10⁷ Ω min. @ +125°C @ rated WVDC

Mechanical Dimensions



ATC PART NUMBER CODE



The above part number refers to a 545 Series (case size L) 100 nF capacitor, K tolerance (±10%), with T termination (Tin Plated over Nickel Barrier), 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.

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