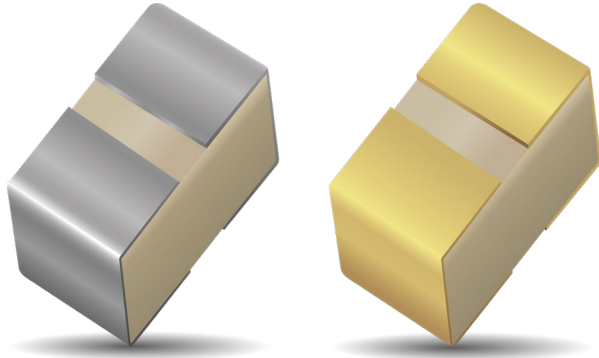


# RF/Microwave Capacitors

## RF/Microwave Multilayer Capacitors (MLC)

### 550U Series UBC™ Ultra-Broadband Capacitor



## GENERAL DESCRIPTION

AVX's new 550U Ultra-Broadband Capacitor is manufactured with highest quality materials to provide reliable and repeatable Ultra-Broadband performance from 16KHz through 70+ GHz. It exhibits ultra-low insertion loss, flat frequency response and excellent return loss, and is ideal for D.C. Blocking, Coupling, Bypassing and Feedback applications requiring Ultra-Broadband performance.

The 550U is a one-piece 0201\* SMT package, fully compatible with high speed automated pick-and-place manufacturing. It is designed to meet the most stringent requirements of Ultra-Broadband applications.

## ADVANTAGES

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

## TYPICAL CIRCUIT APPLICATIONS

- Optoelectronics/High Speed Data
- Transimpedance amplifiers
- Receive and Transmit Optical Sub-Assembly (ROSA/TOSA)
- Synchronous Optical Network (SONET)
- Broadband test equipment
- Broadband Microwave/Millimeter Wave

## FEATURES

- 0201\* Case Size
- Capacitance: 100 nF
- Operating Frequency: 16 KHz (-3 dB roll-off) to 70+ GHz\*\*
- Insertion Loss: 0.4 dB typical
- One Piece Construction
- Voltage Rating: 6.3 WVDC
- RoHS Compliant Terminations
- Gold Termination Available

\* Please see Mechanical Dimensions section for exact dimensions  
 \*\* 25°C, no bias applied

## ELECTRICAL SPECIFICATIONS

<b>Capacitance</b>	100 nF
<b>Rated Voltage</b>	6.3 WVDC
<b>Dielectric Withstanding Voltage</b>	250% of rated WVDC for 5 secs.
<b>Operating Temperature Range</b>	-55°C to +85°C
<b>Temperature Coefficient of Capacitance</b>	±15%
<b>Insulation Resistance</b>	10 <sup>10</sup> Ω min. @ +25°C @ rated WVDC 10 <sup>9</sup> Ω min. @ +85°C @ rated WVDC

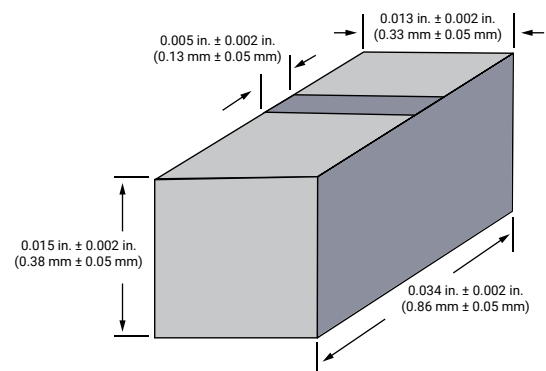
## PACKAGING OPTIONS



Tape & Reel



## MECHANICAL DIMENSIONS



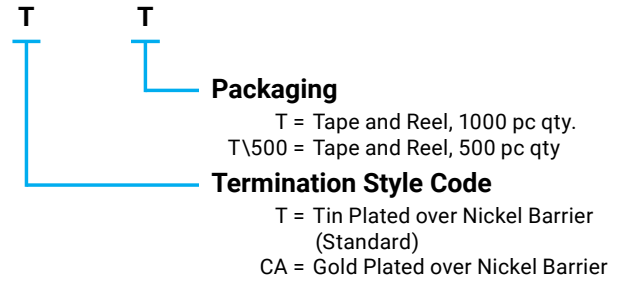
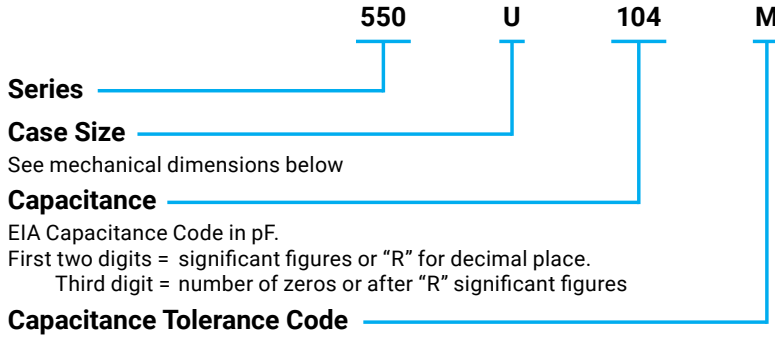
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#### HOW TO ORDER

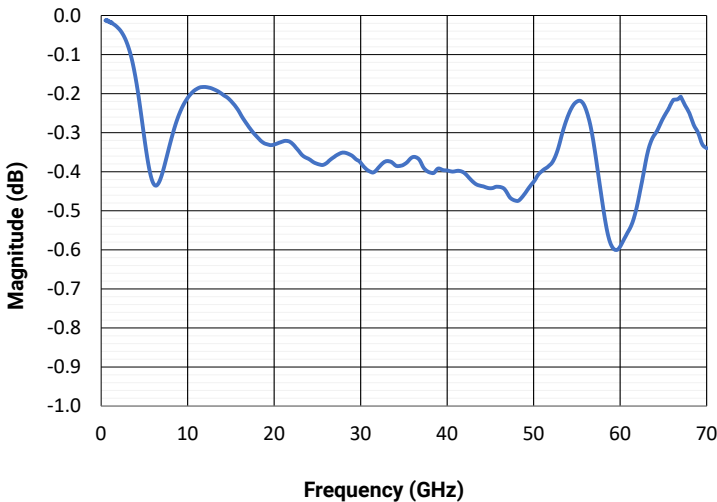


Code	M
Tol.	±20%

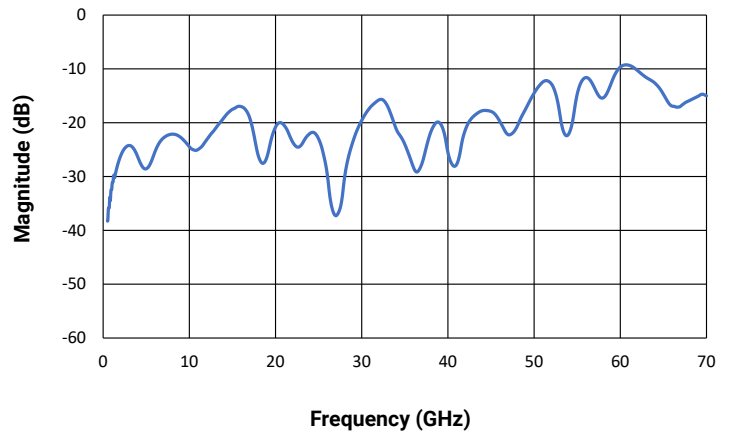
The above part number refers to a 550 Series (case size U) 100 nF capacitor, M tolerance (±20%), with T termination (Tin Plated over Nickel Barrier), tape and reel packaging, 4000 pc qty.

#### PERFORMANCE DATA

550U Series Insertion Loss (S21)



550U Series Return Loss (S11)



#### 550U DATA SHEET TEST CONDITION DESCRIPTION

AVX testing to 70 GHz performed on 10-mil-thick Rogers RO3006 microstrip broad, with the device under test substending a 10 mil gap in a 13.4-mil-wide center trace (nominal 50-ohm characteristic impedance).

