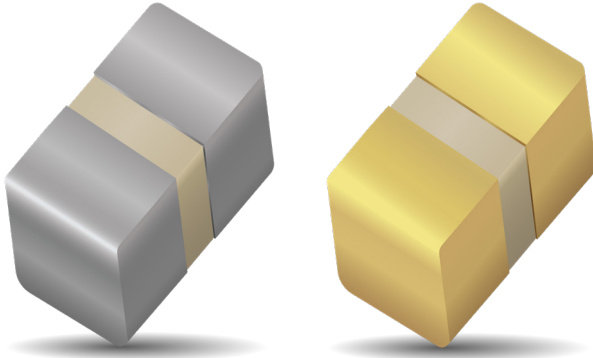


# RF/Microwave Capacitors

## RF/Microwave Multilayer Capacitors (MLC)

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



## GENERAL DESCRIPTION

KYOCERA AVX new 550Z Ultra-Broadband Capacitor is manufactured with highest quality materials to provide reliable and repeatable Ultra-Broadband performance from 160 KHz 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 550Z is a one-piece orientation-insensitive 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 & Transmit Optical Sub Assembly (ROSA/TOSA)
- Synchronous Optical Network (SONET)
- Broadband test equipment
- Broadband Microwave/Millimeter Wave

## FEATURES

- 0201 Case Size
- Capacitance: 10 nF
- Operating Frequency: 160 KHz (-3 dB roll-off) to 70+ GHz\*
- Insertion Loss: <0.4 dB typical
- Orientation-insensitive
- One Piece Construction
- Voltage Rating: 10 WVDC\*\*
- RoHS Compliant Terminations
- Gold Termination Available

\* 25°C, no bias applied

\*\* Operating temperature dependent

## ELECTRICAL SPECIFICATIONS

<b>Capacitance</b>	10 nF min.
<b>Rated Voltage</b>	6.3 WVDC from -55°C to +125°C 10 WVDC from -55°C to +85°C
<b>Dielectric Withstanding Voltage</b>	250% of rated WVDC for 5 secs.
<b>Operating Temperature Range</b>	-55°C to +125°C
<b>Temperature Coefficient of Capacitance</b>	±22% (-55°C to +125°C) ±15% (-55°C to +85°C)
<b>Insulation Resistance</b>	10 <sup>8</sup> Ω min. @ +25°C @ rated WVDC 10 <sup>7</sup> Ω min. @ +125°C @ rated WVDC

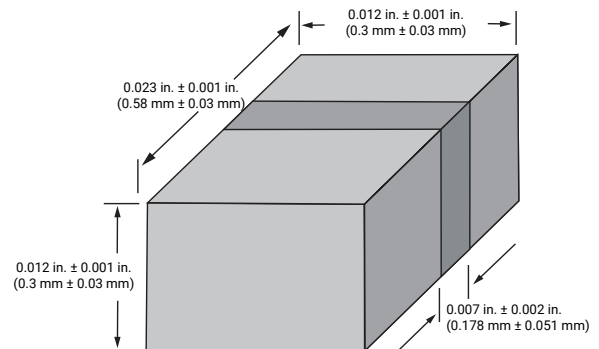
## PACKAGING OPTIONS



Tape & Reel



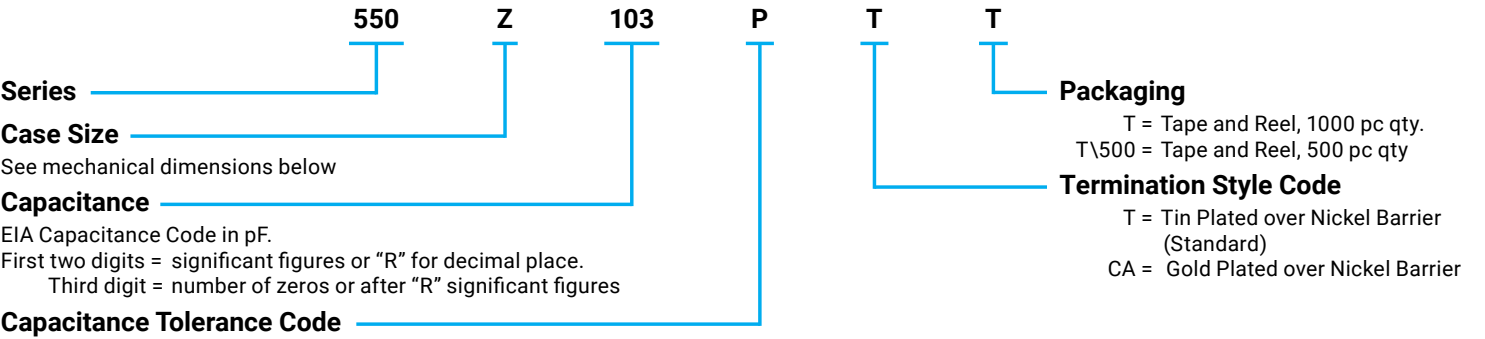
## MECHANICAL DIMENSIONS



RF/Microwave Capacitors  
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550Z Series UBC™ Ultra-Broadband Capacitor



HOW TO ORDER

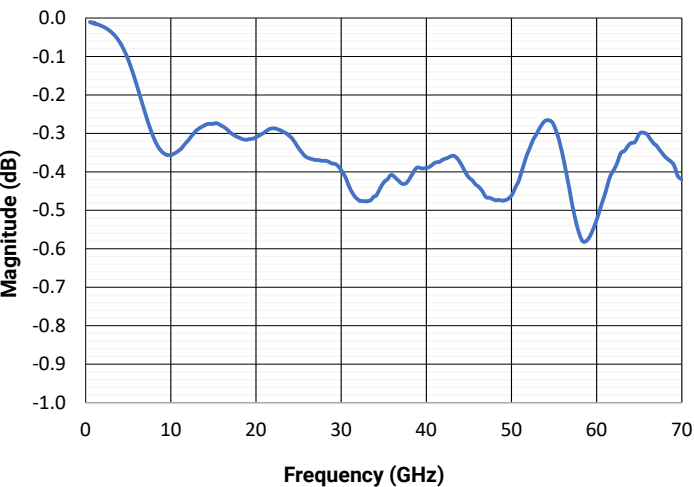


Code	P
Tol.	+100%, -0%

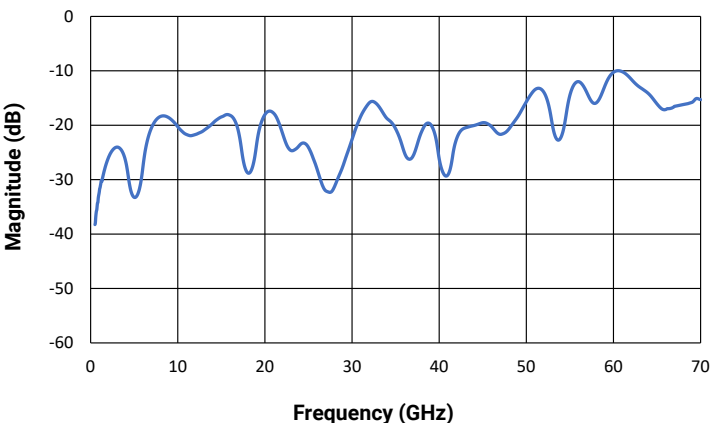
The above part number refers to a 550 Series (case size z) 10 nF capacitor, P tolerance, with T termination (Tin Plated over Nickel Barrier), tape and reel packaging.

PERFORMANCE DATA

550Z Series Insertion Loss (S21)



550Z Series Return Loss (S11)



550Z Data Sheet Test Condition Description  
All testing performed on 10-mil-thick Rogers R03006 microstrip board, with the device under test subtending a 10 mil gap in a 13.4-mil-wide center trace (nominal 50-ohm characteristic impedance).