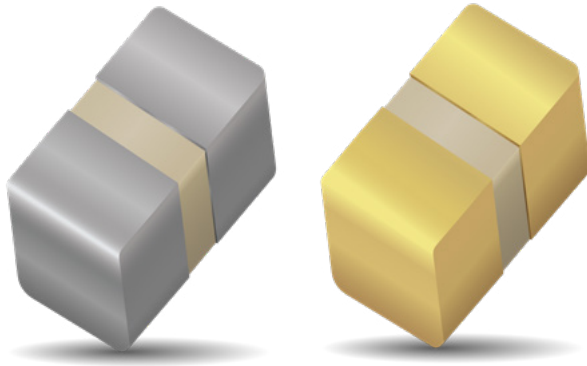


RF/Microwave Capacitors

RF/Microwave Multilayer Capacitors (MLC)

550-560 Series UBC™ Ultra-Broadband Capacitor



GENERAL DESCRIPTION

KYOCERA AVX new 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.

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

ADVANTAGES

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

HOW TO ORDER

550 Series 550	Z Case Size Z = 0201 L = 0402 W = 01005	104 Capacitance Code EIA Capacitance Code in pF. First two digits = significant figures or "R" for decimal place. Third digit = number of zeros or after "R" significant figures	K Capacitance Tolerance Code K = $\pm 10\%$ M = $\pm 20\%$ P = +100%, -0% V = +20%, -10% Y = +25%, -20%	T Termination Style Code T = Tin Plated over Nickel Barrier (Standard) CA = Gold Plated over Nickel Barrier	T Packaging T = 1000 pc qty. T/500 = 500 pc qty. T/4k = 4000 pc qty. Z = 15K pc for 0201, 20kpc for 01005
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ELECTRICAL SPECIFICATIONS

Series	Size (EIA)	Min Frequency	Max Frequency	Cap (nF)	WVDC (85C)	WVDC (105C)	WVDC (125C)	Finish	Packaging
550W103M	01005	160kHz	70GHz	10	35	25	16	Tin	T, Z
560W104M	01005	16kHz	40GHz	100	6.3	4	4	Tin	
560Z104M	0201	16kHz	40GHz	100	16	16	10	Tin	
550Z104M	0201	16kHz	70GHz	100	16	16	10	Tin	
560Z224M	0201	7.2kHz	40GHz	220	10	10	6.3	Tin	
550Z224M	0201	7.2kHz	70GHz	220	10	10	6.3	Tin	
550Z103P	0201	160kHz	70GHz	10	10	10	6.3	Tin/Gold	T T/500 T/4K
560L104Y	0402	16kHz	40GHz	100	16	16	16	Tin	
550L104K	0402	16kHz	70GHz	100	16	16	16	Tin/Gold	

Click on part number to see performance data and download files



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— RF MICROWAVE PRODUCTS —

RF/Microwave Capacitors

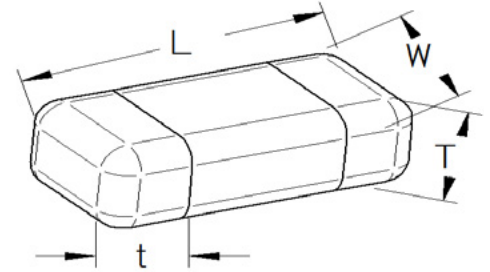
RF/Microwave Multilayer Capacitors (MLC)

550-560 Series UBC™ Ultra-Broadband Capacitor



GENERAL DIMENSIONS

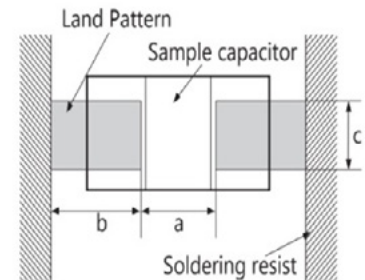
		560W104	560Z104	560Z224	560L104
L (Length)	mm	0.40 ± 0.02	0.60 ± 0.03	0.60 ± 0.03	1.0 ± 0.1
	(in)	(0.016 ± 0.0008)	(0.024 ± 0.001)	(0.024 ± 0.001)	(0.040 ± 0.004)
W (Width)	mm	0.20 ± 0.02	0.30 ± 0.03	0.30 ± 0.03	0.5 ± 0.1
	(in)	(0.008 ± 0.0008)	(0.011 ± 0.001)	(0.011 ± 0.001)	(0.020 ± 0.004)
T (Thickness)	mm	0.22 Max	0.22 Max	0.33 Max	0.6 Max
	(in)	0.009 Max	0.009 Max	0.013 Max	0.024 Max
t (Terminal)	mm	0.135 ± 0.035	0.15 ± 0.05	0.15 ± 0.05	0.36 ± 0.08
	(in)	(0.005 ± 0.0014)	(0.006 ± 0.002)	(0.006 ± 0.002)	(0.014 ± 0.003)



		550W103	550Z103	550Z104	550Z224	550L104
L (Length)	mm	0.40 ± 0.02	0.58 ± 0.03	0.60 ± 0.03	0.60 ± 0.03	1.0 ± 0.1
	(in)	(0.016 ± 0.0008)	(0.023 ± 0.001)	(0.024 ± 0.001)	(0.024 ± 0.001)	(0.040 ± 0.004)
W (Width)	mm	0.20 ± 0.02	0.30 ± 0.03	0.30 ± 0.03	0.30 ± 0.03	0.5 ± 0.1
	(in)	(0.008 ± 0.0008)	(0.011 ± 0.001)	(0.011 ± 0.001)	(0.011 ± 0.001)	(0.020 ± 0.004)
T (Thickness)	mm	0.2 Max	0.33 Max	0.22 Max	0.33 Max	0.6 Max
	(in)	0.008 Max	0.013 Max	0.009 Max	0.013 Max	0.024 Max
t (Terminal)	mm	0.135 ± 0.035	0.20 ± 0.04	0.23 ± 0.05	0.23 ± 0.05	0.42 ± 0.08
	(in)	(0.005 ± 0.0014)	(0.008 ± 0.0015)	(0.009 ± 0.002)	(0.009 ± 0.002)	(0.0165 ± 0.0030)

REFLOW SOLDERING

560		01005	0201	0402
a	mm	0.10 - 0.15	0.20 - 0.25	0.40 - 0.60
	(in)	(0.004 - 0.006)	(0.008 - 0.010)	(0.016 - 0.024)
b	mm	0.13 - 0.19	0.25 - 0.35	0.40 - 0.50
	(in)	(0.005 - 0.007)	(0.010 - 0.014)	(0.016 - 0.020)
c	mm	0.20 - 0.23	0.30 - 0.40	0.50 - 0.75
	(in)	(0.008 - 0.009)	(0.012 - 0.016)	(0.020 - 0.030)
550		01005	0201	0402
a	mm	0.10 - 0.15	0.10 - 0.15	0.15 - 0.20
	(in)	(0.004 - 0.006)	(0.004 - 0.006)	(0.006 - 0.008)
b	mm	0.13 - 0.19	0.30 - 0.40	0.50 - 0.62
	(in)	(0.005 - 0.007)	(0.012 - 0.016)	(0.020 - 0.025)
c	mm	0.20 - 0.23	0.30 - 0.40	0.50 - 0.75
	(in)	(0.008 - 0.009)	(0.012 - 0.016)"	(0.020 - 0.030)



Parts are sensitive to orientation. Maintain packaging orientation for typical performance.

RF/Microwave Capacitors

RF/Microwave Multilayer Capacitors (MLC)

550-560 Series UBC™ Ultra-Broadband Capacitor

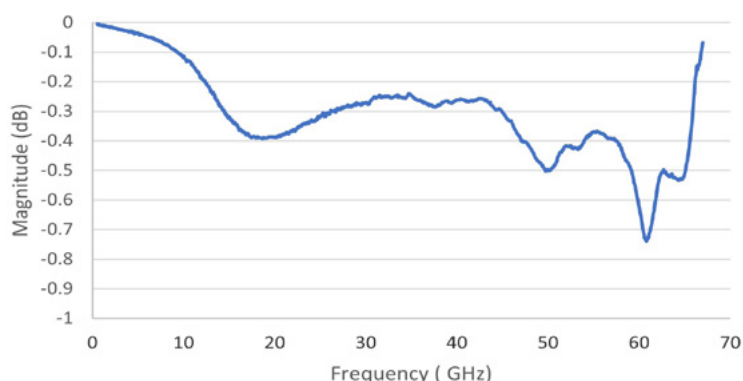


Size (EIA)	Min Frequency	Max Frequency	Cap (nF)	WVDC (85C)	WVDC (105C)	WVDC (125C)	Finish
01005	160kHz	70GHz	10	35	25	16	Tin

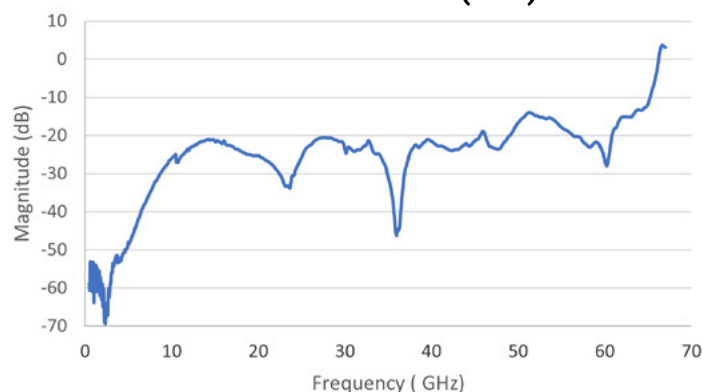
[Click here to return to main table](#)

PERFORMANCE DATA

Series Insertion Loss (S21)



Series Return Loss (S11)



550W Data Sheet Test Condition Description

All testing performed on 10-mil-thick Rogers RO3006 microstrip board, with the device under test subtending a 4 mil gap in a 14.2-mil-wide center trace (nominal 50-ohm characteristic impedance).

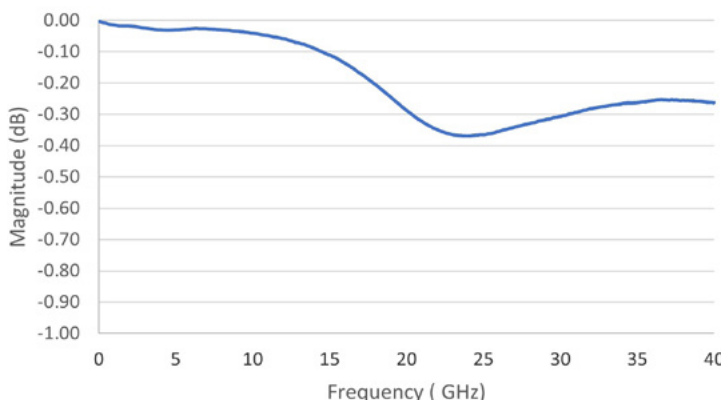
560W104M

Size (EIA)	Min Frequency	Max Frequency	Cap (nF)	WVDC (85C)	WVDC (105C)	WVDC (125C)	Finish
01005	16kHz	40GHz	100	6.3	4	4	Tin

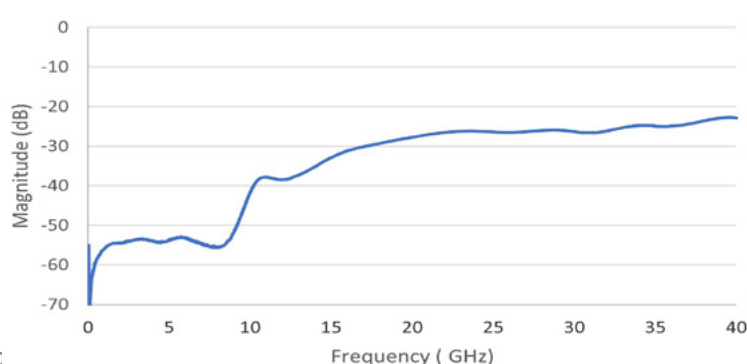
[Click here to return to main table](#)

PERFORMANCE DATA

Series Insertion Loss (S21)



Series Return Loss (S11)



560W Data Sheet Test Condition Description

All testing performed on 10-mil-thick Rogers RO3006 microstrip board, with the device under test subtending a 4 mil gap in a 14.2-mil-wide center trace (nominal 50-ohm characteristic impedance).



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— RF MICROWAVE PRODUCTS —

RF/Microwave Capacitors

RF/Microwave Multilayer Capacitors (MLC)

550-560 Series UBC™ Ultra-Broadband Capacitor

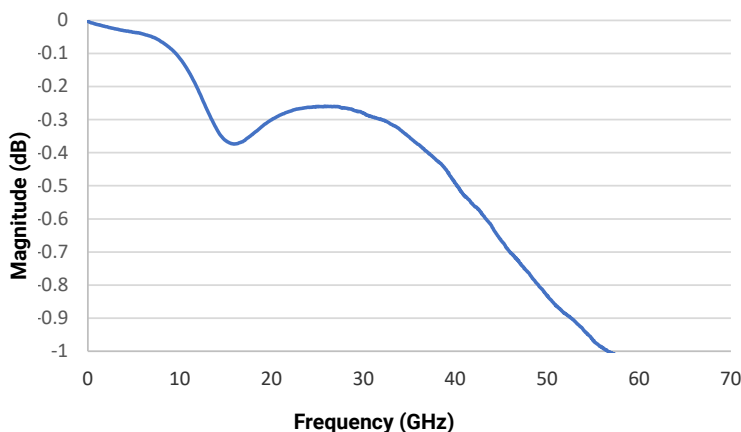


Size (EIA)	Min Frequency	Max Frequency	Cap (nF)	WVDC (85C)	WVDC (105C)	WVDC (125C)	Finish
0201	16kHz	40GHz	100	16	16	10	Tin

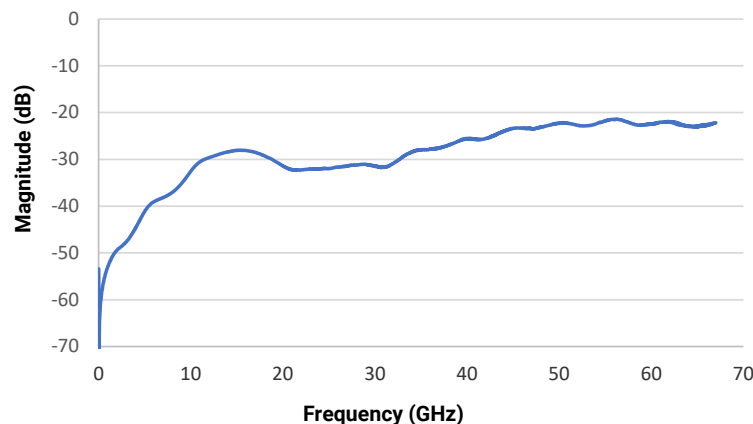
[Click here to return to main table](#)

PERFORMANCE DATA

Insertion Loss (S21)



Return Loss (S11)



560Z Data Sheet Test Condition Description

All testing performed on 10-mil-thick Rogers RO3006 microstrip board, with the device under test subtending a 24 mil gap in a 14.2-mil-wide center trace (nominal 50-ohm characteristic impedance).

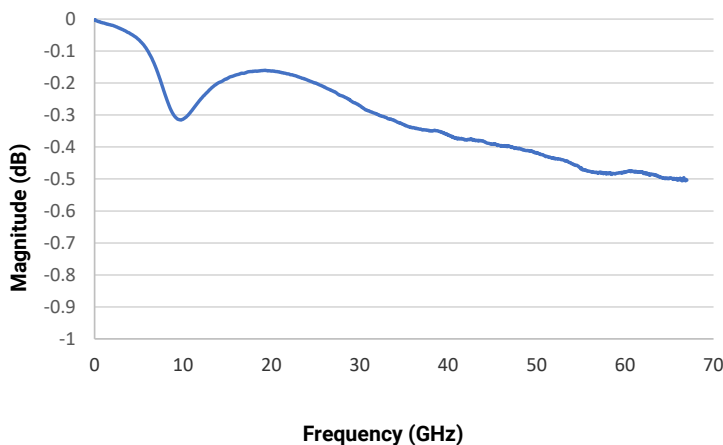
550Z104M

Size (EIA)	Min Frequency	Max Frequency	Cap (nF)	WVDC (85C)	WVDC (105C)	WVDC (125C)	Finish
0201	16kHz	70GHz	100	16	16	10	Tin

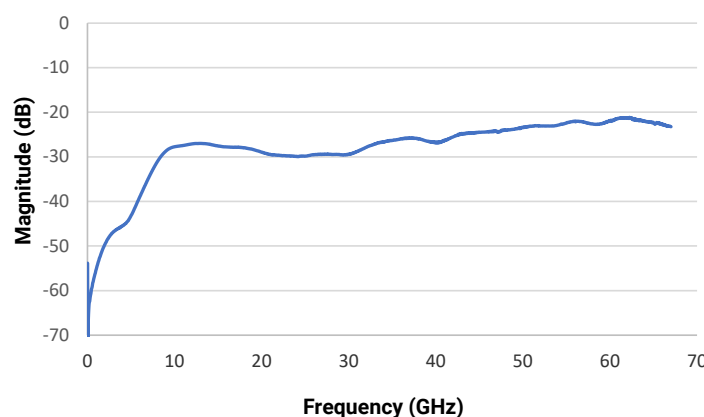
[Click here to return to main table](#)

PERFORMANCE DATA

Series Insertion Loss (S21)



Series Return Loss (S11)



550Z Data Sheet Test Condition Description

All testing performed on 10 mil-thick rogers RO3006 microstrip board, with the device under test subtending a 10 mil gap in a 14.2 mil-wide center trace (nominal 50 ohms characteristic impedance).

RF/Microwave Capacitors

RF/Microwave Multilayer Capacitors (MLC)

550-560 Series UBC™ Ultra-Broadband Capacitor



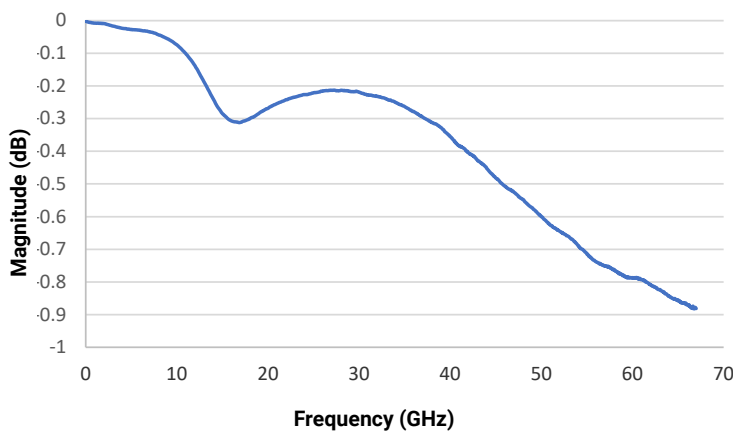
560Z224M

Size (EIA)	Min Frequency	Max Frequency	Cap (nF)	WVDC (85C)	WVDC (105C)	WVDC (125C)	Finish
0201	7.2kHz	40GHz	220	10	10	6.3	Tin

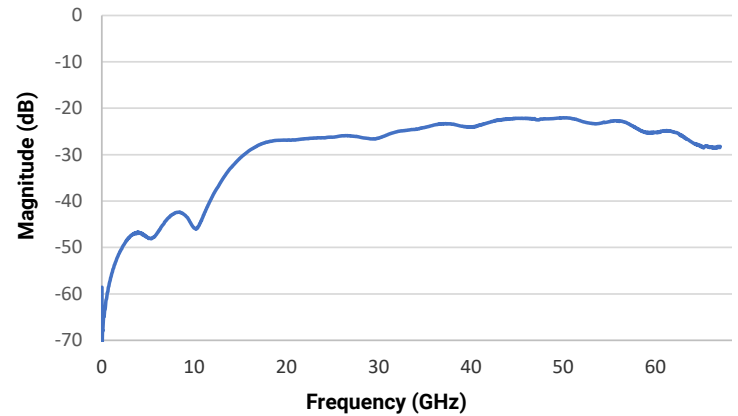
[Click here to return to main table](#)

PERFORMANCE DATA

Insertion Loss (S21)



Return Loss (S11)



560Z Data Sheet Test Condition Description

All testing performed on 10 mil-thick rogers RO3006 microstrip board, with the device under test subtending a 10 mil gap in a 14.2 mil-wide center trace (nominal 50 ohms characteristic impedance).

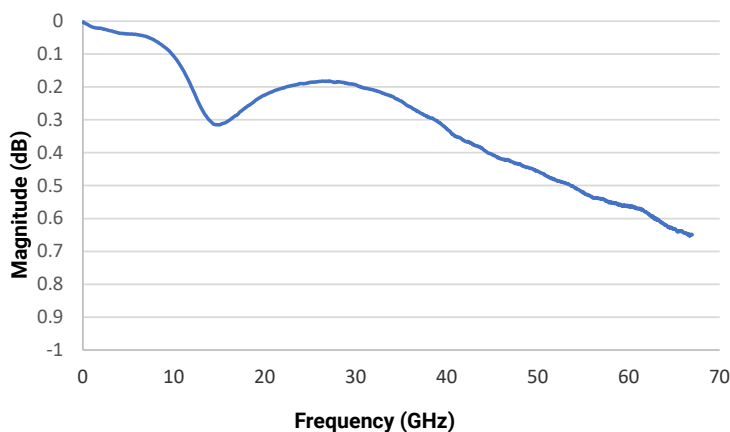
550Z224M

Size (EIA)	Min Frequency	Max Frequency	Cap (nF)	WVDC (85C)	WVDC (105C)	WVDC (125C)	Finish
0201	7.2kHz	70GHz	220	10	10	6.3	Tin

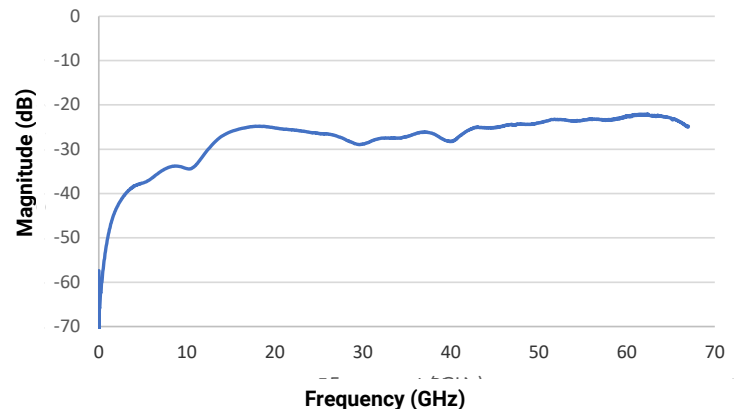
[Click here to return to main table](#)

PERFORMANCE DATA

Series Insertion Loss (S21)



Series Return Loss (S11)



550Z Data Sheet Test Condition Description

All testing performed on 10 mil-thick rogers RO3006 microstrip board, with the device under test subtending a 10 mil gap in a 14.2 mil-wide center trace (nominal 50 ohms characteristic impedance).



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— RF MICROWAVE PRODUCTS —

RF/Microwave Capacitors

RF/Microwave Multilayer Capacitors (MLC)

550-560 Series UBC™ Ultra-Broadband Capacitor



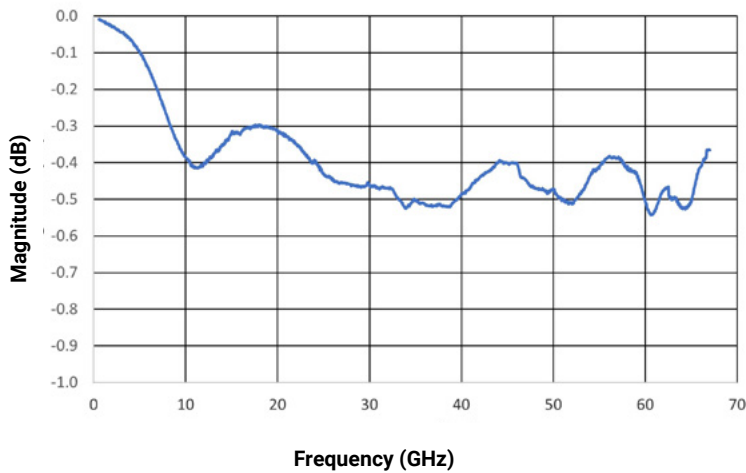
550Z103P

Size (EIA)	Min Frequency	Max Frequency	Cap (nF)	WVDC (85C)	WVDC (105C)	WVDC (125C)	Finish
0201	160kHz	70GHz	10	10	10	6.3	Tin/Gold

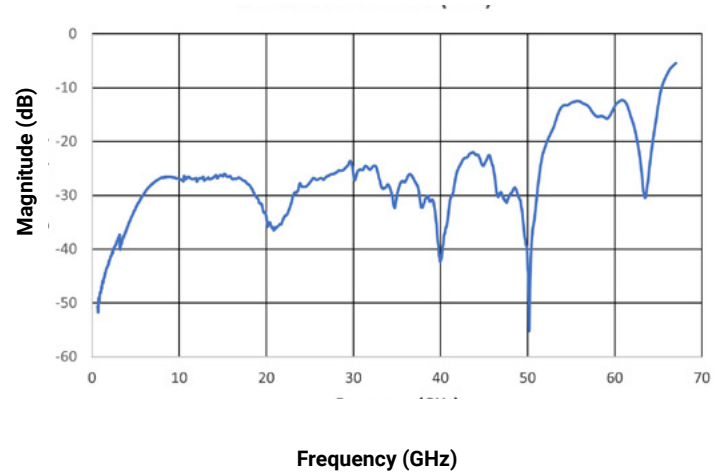
[Click here to return to main table](#)

PERFORMANCE DATA

Series Insertion Loss (S21)



Series Return Loss (S11)



550Z Data Sheet Test Condition Description

All testing performed on 10 mil-thick rogers RO3006 microstrip board, with the device under test subtending a 10 mil gap in a 14.2 mil-wide center trace (nominal 50 ohms characteristic impedance).

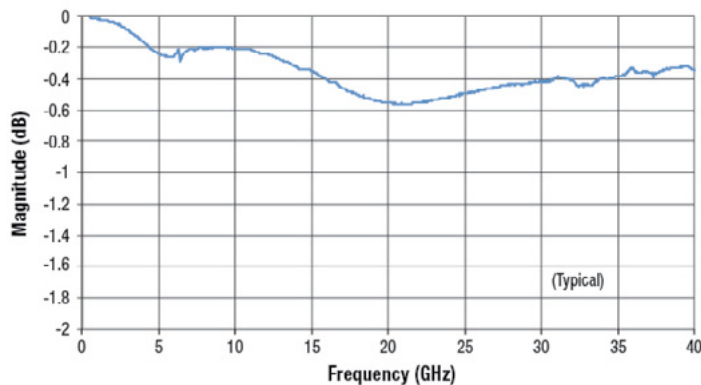
560L104Y

Size (EIA)	Min Frequency	Max Frequency	Cap (nF)	WVDC (85C)	WVDC (105C)	WVDC (125C)	Finish
0402	16kHz	40 GHz	100	16	16	16	Tin/Gold

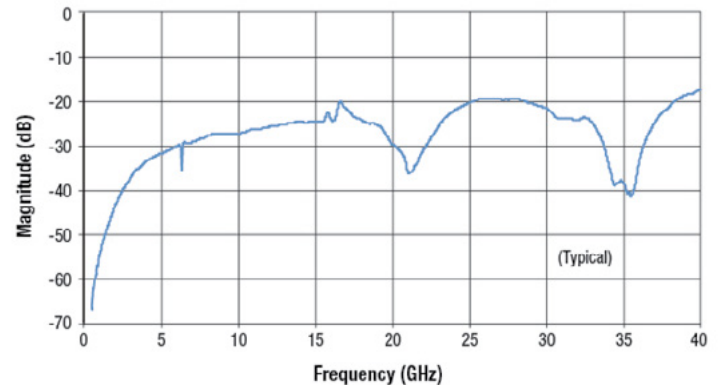
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PERFORMANCE DATA

AVX 560L Series Insertion Loss (S21)



AVX 560L Series Return Loss (S11)



560L Data Sheet Test Condition Description

All testing performed on 10 mil-thick rogers RO4350B microstrip board, with the device under test subtending a 24 mil gap in a 22 mil-wide center trace (nominal 50 ohms characteristic impedance).

RF/Microwave Capacitors

RF/Microwave Multilayer Capacitors (MLC)

550-560 Series UBC™ Ultra-Broadband Capacitor



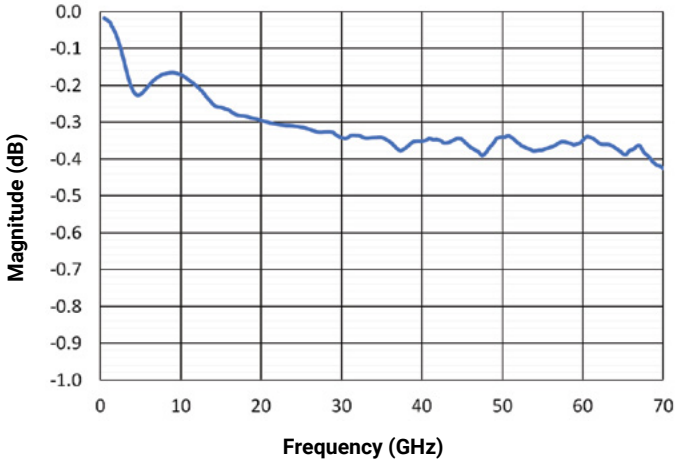
550L104K

Size (EIA)	Min Frequency	Max Frequency	Cap (nF)	WVDC (85C)	WVDC (105C)	WVDC (125C)	Finish
0402	16kHz	70GHz	100	16	16	16	Tin/Gold

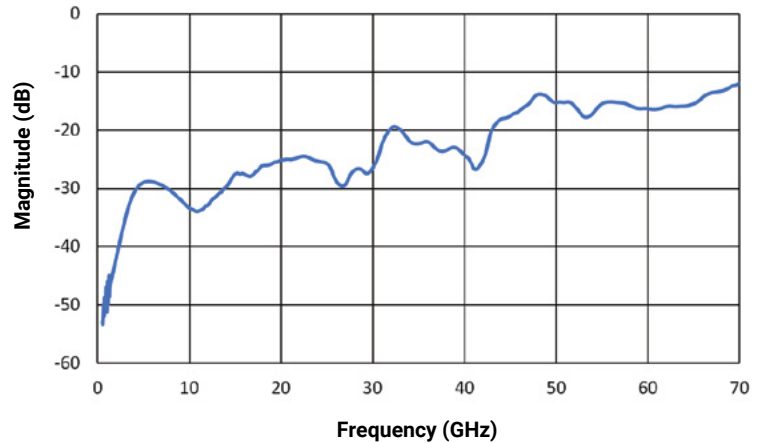
[Click here to return to main table](#)

PERFORMANCE DATA

550L Series Insertion Loss (S21)



550L Series Return Loss (S11)



550L Data Sheet Condition Description

All testing performed on 10 mil-thick rogers RO4350B microstrip board, with the device under test subtending a 24 mil gap in a 22 mil-wide center trace (nominal 50 ohms characteristic impedance).

SIMULATION MODELS



KYOCERA AVX and Modelithics have partnered to offer FREE 90-Day trials of highly accurate, scalable advanced simulation models for various KYOCERA AVX parts including **THIS** part as well as Attenuators, Capacitors, Couplers, Inductors, Diplexers, Resistors.

For More Information, Please Visit: <https://www.modelithics.com/mvp/avx>
Use Promo Code: AVXWP