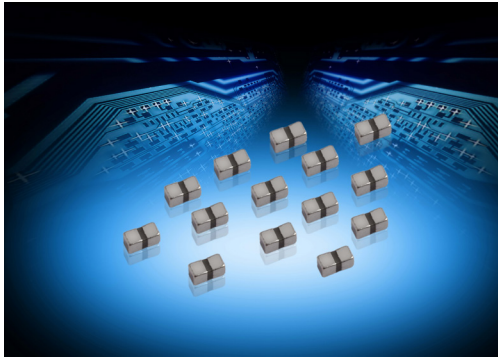


# GX Series

## Ultra Broadband Capacitors



The GX Series of ultra-broadband capacitors are designed for DC blocking in optical communications networks, high frequency test equipment, and high accuracy military systems. GX series capacitors offer industry leading performance with extremely low insertion loss beyond 40GHz in 4 available sizes including: 0201, 0301, and 0402.

### FEATURES

- Ultra-Broadband Performance
- Low Insertion Loss up to 67 GHz
- Excellent Return Loss
- Low Group Delay
- Case Sizes: 0201, 0301, 0402

### APPLICATIONS

- DC Blocking
- Optical Sub-Assemblies
- 40G, 100G, 200G, 400G Optical Modules
- ROSA/TOSA
- Test Equipment
- Transimpedance Amplifiers

### HOW TO ORDER

GX	01	Z	D	103	P	A	T	D
Series	Case Size	Working Voltage	Dielectric	Capacitance	Tolerance	Reliability	Termination	Packaging*
	01 = 0201 0S = 0301 02 = 0402	6 = 6.3VDC Z = 10VDC Y = 16VDC	D = X5R	103 = 10nF 104 = 100nF	K = ±10% M = ±20% P = +100%/-0%	A = Standard	T = Ni-Sn (Standard) 7 = Ni-Au	D = 4000pcs 3" T&R D-500 = 500pcs 3" T&R D-1000 = 1000pcs 3" T&R 2 = 4000pcs 7" T&R 2-500 = 500pcs 7" T&R 2-1000 = 1000pcs 7" T&R

\*3" T&R only available for 0201 and 0301 case sizes.  
7" T&R only available for 0402 case size.

### ELECTRICAL CHARACTERISTICS

Case Size	AVX PN	Capacitance	Capacitance Tolerance	Voltage Rating (VDC)**			Dielectric Withstand Voltage	Insulation Resistance
				X7R	X5R	X7S		
0201	GX01ZD103PA*D	10nF	+100%/-0%	-	10	6.3	250% WVDC	10,000 MΩ @ 25°C 1,000 MΩ @ 125°C
0301	GX0S6D104MA*D	100nF	±20%	-	6.3	4	250% WVDC	10,000 MΩ @ 25°C 1,000 MΩ @ 125°C
0402	GX02YD104KA*2	100nF	±10%	-	16	10	250% WVDC	10,000 MΩ @ 25°C 1,000 MΩ @ 125°C

\*Termination Material: T = Ni-Sn; 7 = Ni-Au.

\*\*Note: The same part number applies to both TCR/Voltage ratings. The AVX PN does not change from what is listed in the "AVX PN" column.

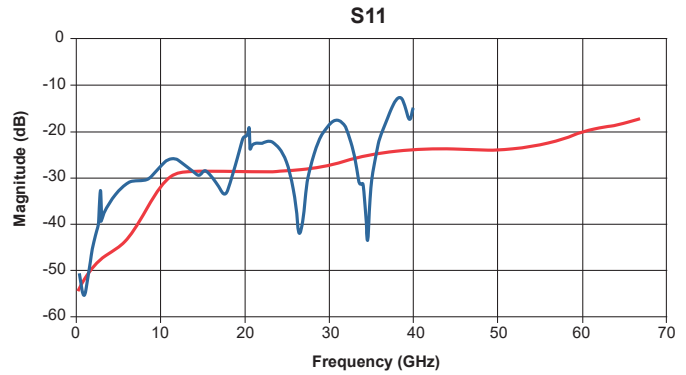
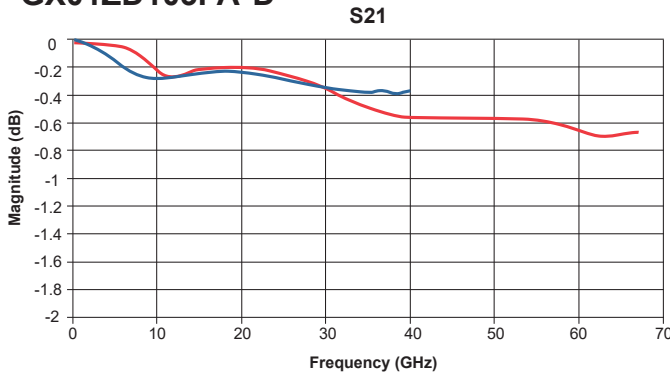
# GX Series

## Ultra Broadband Capacitors



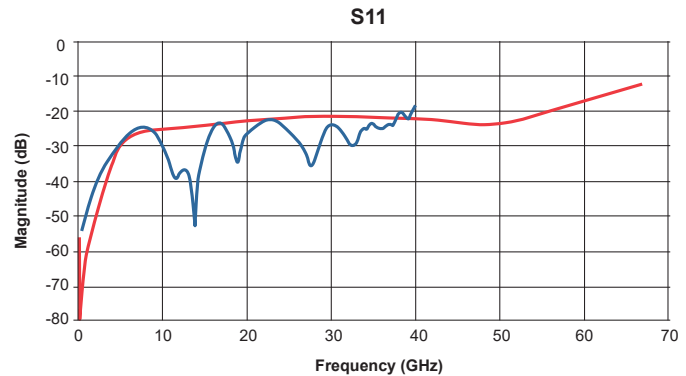
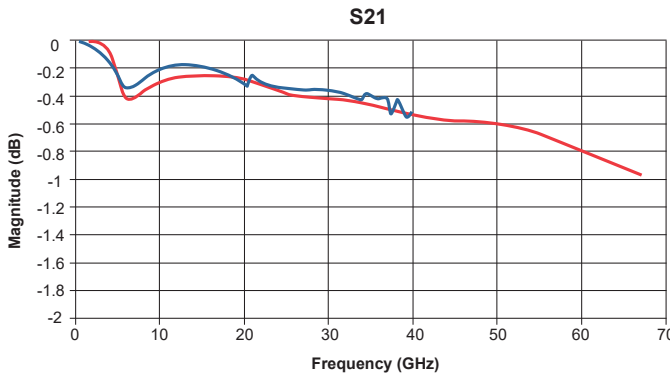
### PERFORMANCE

#### GX01ZD103PA\*D



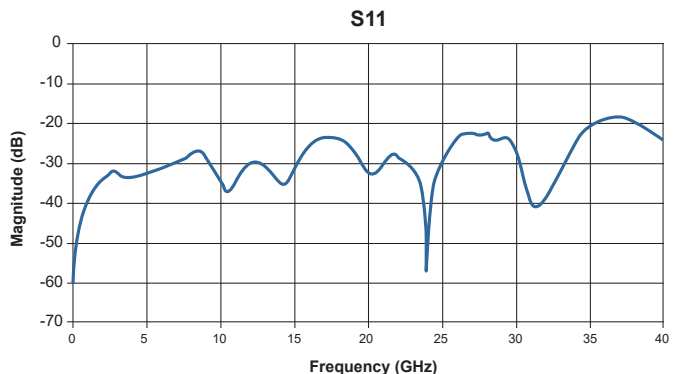
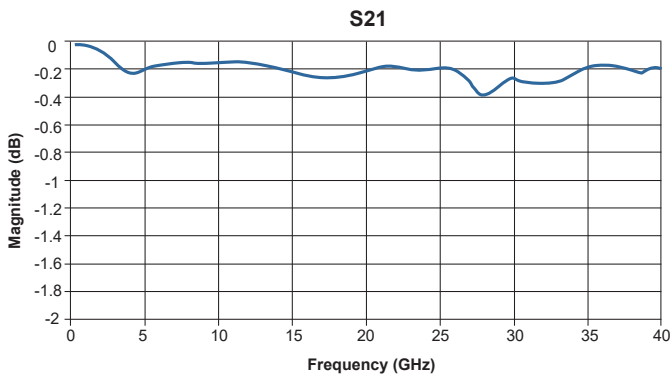
— AVX measurement done on 10-mil thick Rogers RO3006 Microstrip board, with device under test subtending a 10 mil gap in a 13.4 mil wide center trace (nominal 50 Ohm characteristic impedance).  
 — Modeled s-parameters taken by Modelithics on 6.6mil Rogers 4350B board. Mounting pad dimensions: pad length = 10.5 mils (0.267mm), pad width = 14.0 mils (0.356mm), pad gap = 10.0 mils (0.2544mm).

#### GX0S6D104MA\*D



— AVX measurement done on 10-mil thick Rogers RO3006 Microstrip board, with device under test subtending a 10 mil gap in a 13.4 mil wide center trace (nominal 50 Ohm characteristic impedance).  
 — Modeled s-parameters taken by Modelithics on 6.6mil Rogers 4350B board. Mounting pad dimensions: pad length = 15.0 mils (0.381mm), pad width = 14.0 mils (0.356mm), pad gap = 10.0 mils (0.254mm).

#### GX02YD104KA\*2



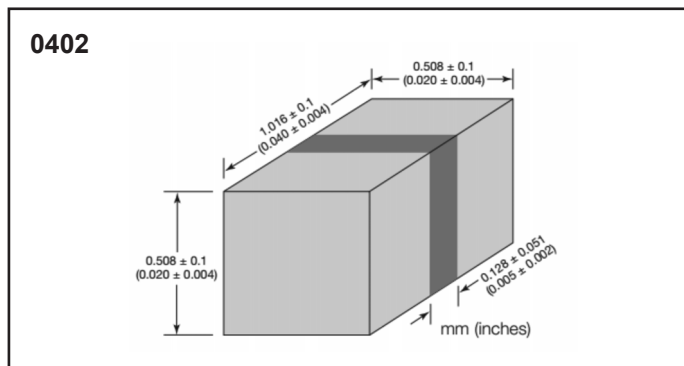
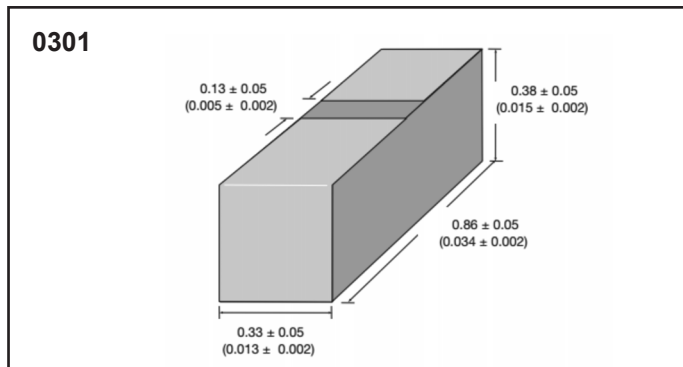
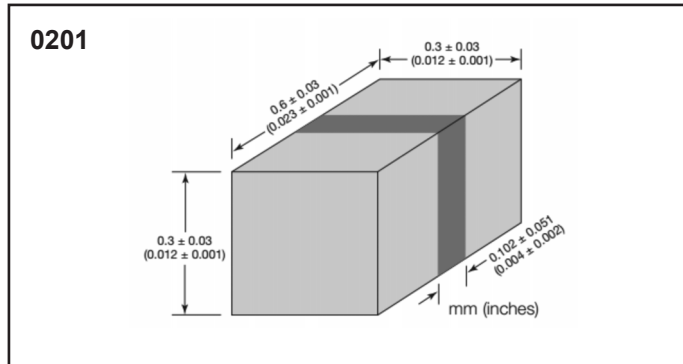
— AVX measurement on 10mil Rogers RO4350 board. Mounting pad dimensions: Trace width = 22 mils; Gap = 24 mils; 50 ohm (nominal) characteristic impedance.

# GX Series

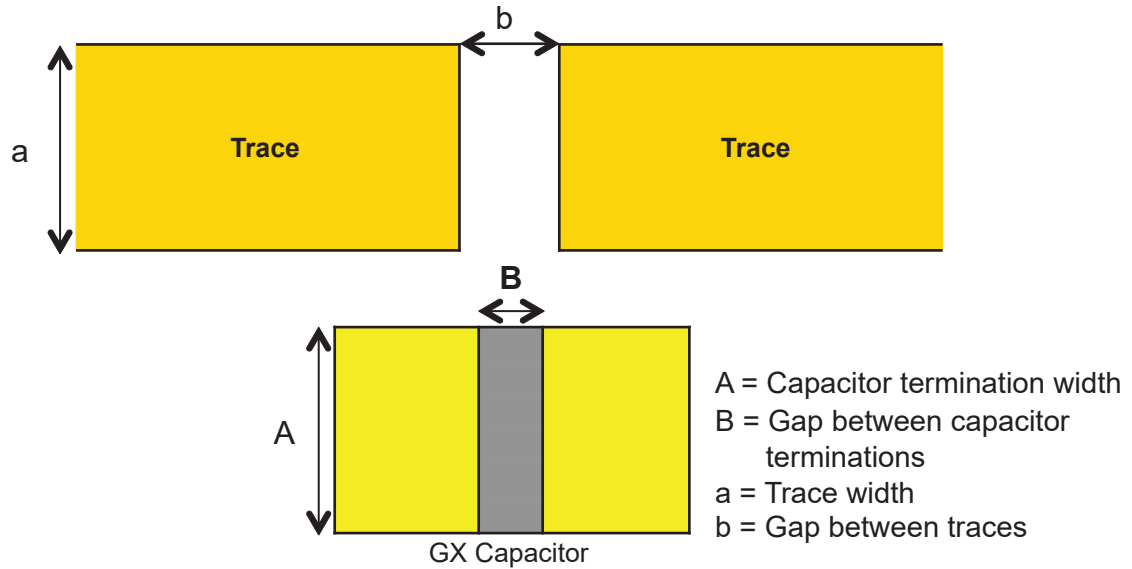
## Ultra Broadband Capacitors



### PART DIMENSIONS mm (inches)



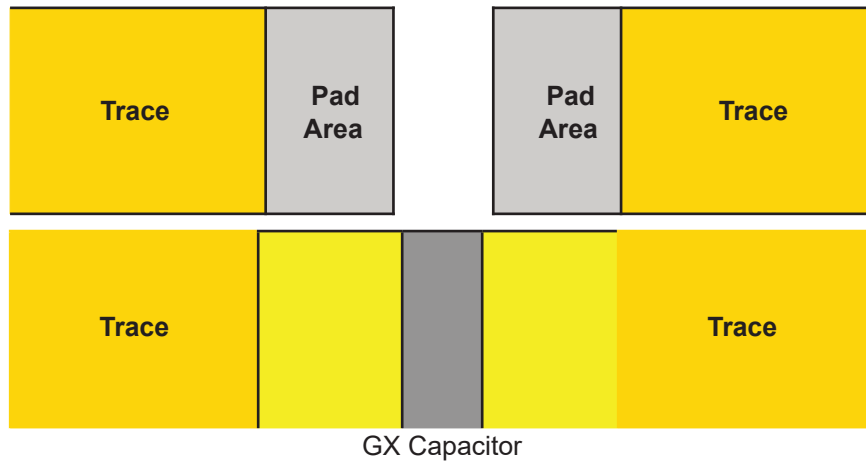
### MOUNTING RECOMMENDATIONS



### DIMENSIONS

inches (mm)

Case Size	A nominal	B max.
0201	0.012 (0.300)	0.006 (0.152)
0301	0.015 (0.38)	0.007 (0.18)
0402	0.020 (0.508)	0.007 (0.178)



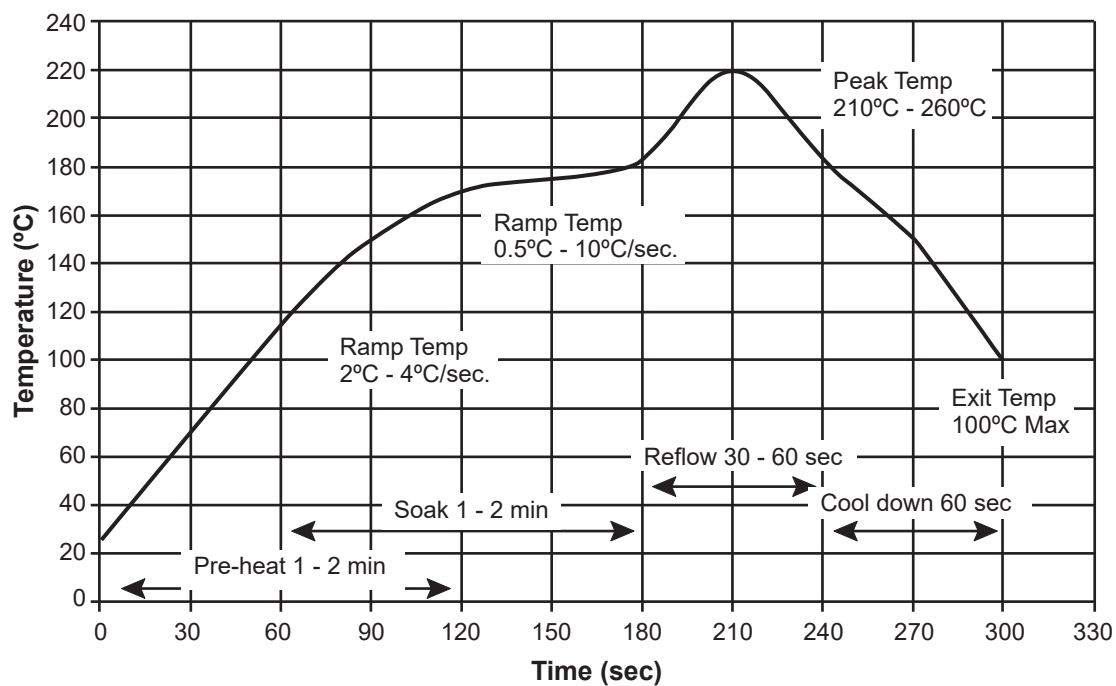
#### Trace Width:

Ideally the trace width is equal to the capacitor's nominal width (dimension A).

#### Trace Gap:

The trace gap is specified by the designer, but should be at least greater than the maximum gap between the capacitor's terminations (dimension B).

### REFLOW SOLDER PROFILE



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[NMC0402X5R105K6.3TRPF](#) [NMC0402X5R224K6.3TRPF](#) [NMC0402X7R103J25TRPF](#) [NMC0402X7R153K16TRPF](#)  
[NMC0402X7R392K50TRPF](#) [NMC0603NPO1R8C50TRPF](#) [NMC0603NPO201J50TRPF](#) [NMC0603NPO330G50TRPF](#)  
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[L0402NPO7R0C50TRPF](#) [NMC-L0603NPO2R2B50TRPF](#) [NMC-P1206X7R103K1KVTRPLPF](#) [NMC-Q0402NPO8R2D200TRPF](#)  
[C1206C101J1GAC](#) [C1608C0G2A221J](#) [C1608X7R1E334K](#) [C2012C0G2A472J](#) [2220J2K00562KXT](#) [KHC201E225M76N0T00](#)  
[1812J2K00332KXT](#) [CCR06CG153FSV](#) [CDR14BP471CJUR](#) [CDR31BX103AKWR](#) [CDR33BX683AKUS](#) [CGA2B2C0G1H010C](#)  
[CGA2B2C0G1H040C](#) [CGA2B2C0G1H050C](#) [CGA2B2C0G1H060D](#) [CGA2B2C0G1H070D](#) [CGA2B2C0G1H120J](#) [CGA2B2C0G1H151J](#)  
[CGA2B2C0G1H1R5C](#) [CGA2B2C0G1H2R2C](#) [CGA2B2C0G1H390J](#) [CGA2B2C0G1H391J](#) [CGA2B2C0G1H3R3C](#) [CGA2B2C0G1H680J](#)  
[CGA2B2C0G1H6R8D](#)