

# LGA Low Inductance Capacitors

## 0204/0306 Land Grid Array

Land Grid Array (LGA) capacitors are the latest family of low inductance MLCCs from AVX. These new LGA products are the third low inductance family developed by AVX. The innovative LGA technology sets a new standard for low inductance MLCC performance.

Our initial 2 terminal versions of LGA technology deliver the performance of an 8 terminal IDC low inductance MLCC with a number of advantages including:

- Simplified layout of 2 large solder pads compared to 8 small pads for IDCs
- Opportunity to reduce PCB or substrate contribution to system ESL by using multiple parallel vias in solder pads
- Advanced FCT manufacturing process used to create uniformly flat terminations on the capacitor that resist “tombstoning”
- Better solder joint reliability



## APPLICATIONS

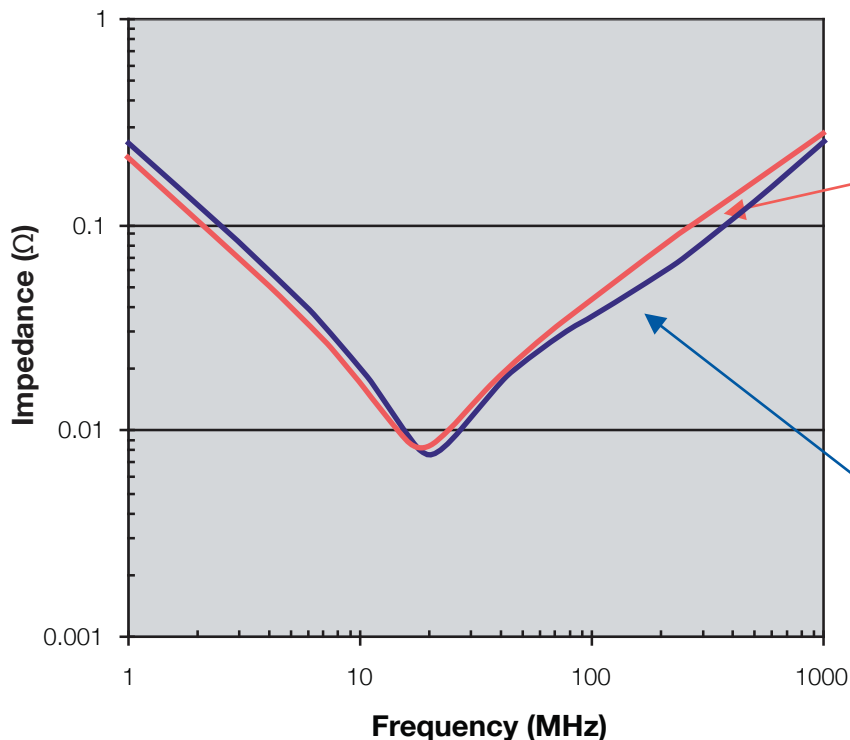
### Semiconductor Packages

- Microprocessors/CPUs
- Graphics Processors/GPUs
- Chipsets
- FPGAs
- ASICs

### Board Level Device Decoupling

- Frequencies of 300 MHz or more
- ICs drawing 15W or more
- Low voltages
- High speed buses

## 0306 2 TERMINAL LGA COMPARISON WITH 0306 8 TERMINAL IDC



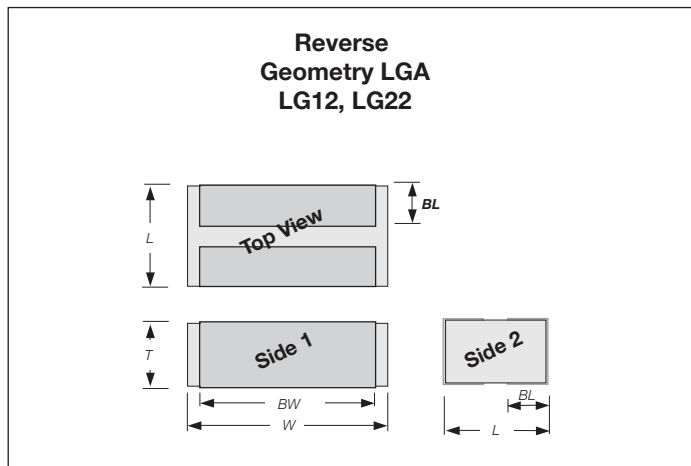
# LGA Low Inductance Capacitors

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SIZE	LG12 (0204)						LG22 (0306)									
Length mm (in.)	0.50 (0.020)						0.76 (0.030)									
Width mm (in.)	1.00 (0.039)						1.60 (0.063)									
Temp. Char.	X5R (D)		X7S (Z)		X6S (W)		X7R (C)		X5R (D)		X7S (Z)		X6S (W)			
Working Voltage	6.3 (6)	4 (4)	6.3 (6)	4 (4)	6.3 (6)	4 (4)	10 (Z)	6.3 (6)	4 (4)	6.3 (6)	4 (4)	6.3 (6)	4 (4)	6.3 (6)	4 (4)	
Cap (µF)	0.010 (103)															
	0.022 (223)															
	0.047 (473)															
	0.100 (104)															
	0.220 (224)															
	0.330 (334)															
	0.470 (474)															
	1.000 (105)															
	2.200 (225)															
	= X7R		= X5R		= X7S		= X6S									

### HOW TO ORDER

<b>LG</b>	<b>1</b>	<b>2</b>	<b>6</b>	<b>Z</b>	<b>104</b>	<b>M</b>	<b>A</b>	<b>T</b>	<b>2</b>	<b>S</b>	<b>1</b>
Style	Case Size 1 = 0204 2 = 0306	Number of Terminals 2	Working Voltage 4=4V 6=6.3V Z=10V	Temperature Characteristic C = X7R D = X5R Z = X7S W = X6S	Coded Cap	Cap Tolerance M = ±20%	Termination Style A = "U" Land	Termination 100% Sn* *Contact factory for other termination finishes	Packaging Tape & Reel 2 = 7" Reel 4 = 13" Reel	Thickness S = 0.55mm max	Number of Capacitors



### PART DIMENSIONS

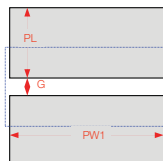
### MM (INCHES)

Series	L	W	T	BW	BL
LG12 (0204)	0.5 ± 0.05 (0.020 ± 0.002)	1.00 ± 0.10 (0.039 ± 0.004)	0.50 ± 0.05 (0.020 ± 0.002)	0.8 ± 0.10 (0.031 ± 0.004)	0.13 ± 0.08 (0.005 ± 0.003)
LG22 (0306)	0.76 ± 0.10 (0.030 ± 0.004)	1.60 ± 0.10 (0.063 ± 0.004)	0.50 ± 0.05 (0.020 ± 0.002)	1.50 ± 0.10 (0.059 ± 0.004)	0.28 ± 0.08 (0.011 ± 0.003)



### RECOMMENDED SOLDER PAD DIMENSIONS

### MM (INCHES)



Series	PL	PW1	G
LG12 (0204)	0.50 (0.020)	1.00 (0.039)	0.20 (0.008)
LG22 (0306)	0.65 (0.026)	1.50 (0.059)	0.20 (0.008)

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