

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/CPU's
- Graphics Processors/GPU's
- 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



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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

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



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)