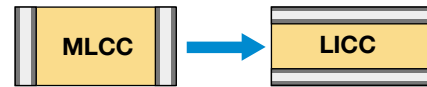
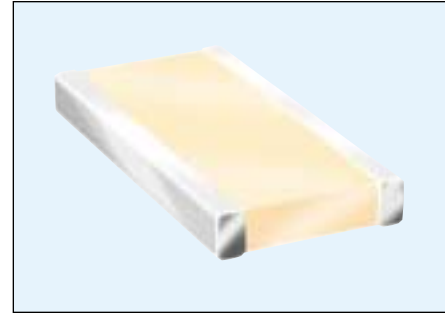


Low Inductance Chip Capacitors

GENERAL DESCRIPTION

The total inductance of chip capacitor is determined both by its length to width ratio and by the mutual inductance coupling between its electrodes.

Thus a 1210 chip size has a lower inductance than a 1206 chip. This design improvement is the basis of AVX's Low Inductance Chip Capacitors (LICC), where the electrodes are terminated on the long side of the chip instead of the short side. The 1206 becomes an 0612, in the same manner, an 0805 becomes an 0508, an 0603 becomes an 0306. This results in a reduction in inductance from the 1nH range found in normal chip capacitors to less than 0.4nH for LICCs. Their low profile is also ideal for surface mounting (both on the PCB and on IC package) or inside cavity mounting on the IC itself.



HOW TO ORDER

0612

Size
0306
0508
0612

Z

Voltage
6 = 6.3V
Z = 10V
Y = 16V
3 = 25V

D

Dielectric
C = X7R
D = X5R

105

Capacitance Code
2 Sig Digits +
Number of Zeros

M

Capacitance Tolerance
K = $\pm 10\%$
M = $\pm 20\%$

A

Failure Rate
A = N/A

T

Terminations
T = Ni/Sn

2

Packaging Available
2 = 7" Reel
4 = 13" Reel

A*

Thickness
Thickness
mm (in)
0.56 (0.022)
0.61 (0.024)
0.76 (0.030)
1.02 (0.040)
1.27 (0.050)

PERFORMANCE CHARACTERISTICS

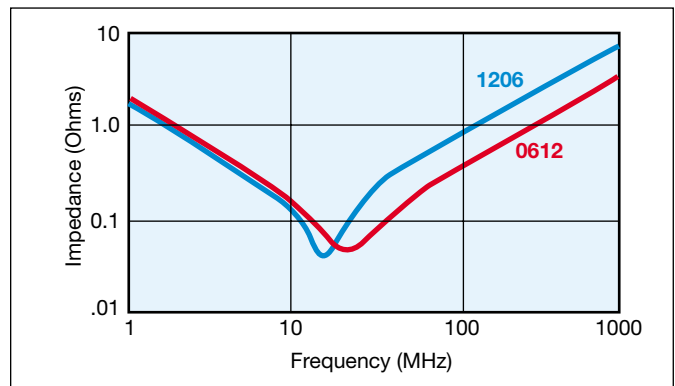
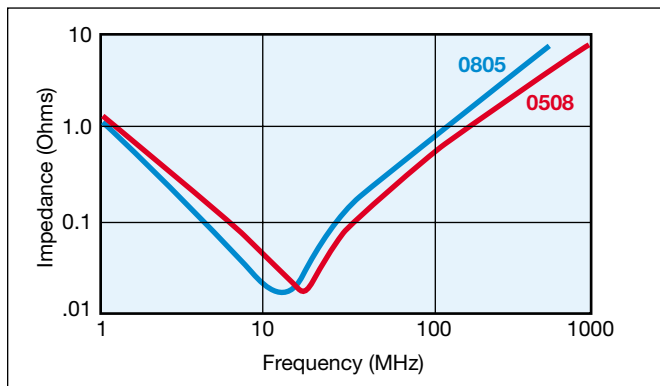
Capacitance Tolerances	K = $\pm 10\%$; M = $\pm 20\%$
Operation Temperature Range	X7R = -55°C to +125°C; X5R = -55°C to +85°C
Temperature Coefficient	$\pm 15\%$ (0VDC)
Voltage Ratings	10, 16, 25 VDC
Dissipation Factor	6.3V = 6.5% max; 10V = 5.0% max; 16V = 3.5% max; 25V = 3.0% max
Insulation Resistance (@+25°C, RVDC)	100,000 M Ω min, or 1,000 M Ω per μ F min., whichever is less

TYPICAL INDUCTANCE

Package Style	Measured Inductance (pH)
1206 MLCC	1200
0612 LICC	550
0508 LICC	510
0306 LICC	375

*Note: See Range Chart for Codes

TYPICAL IMPEDANCE CHARACTERISTICS





0612/0508/0306 LICC

Low Inductance Chip Capacitors



SIZE	0306		0508			0612		
Length	MM (in.)	0.81 ± 0.15 (0.032 ± 0.006)	1.27 ± 0.25 (0.050 ± 0.010)			1.60 ± 0.25 (0.063 ± 0.010)		
Width	MM (in.)	1.60 ± 0.15 (0.063 ± 0.006)	2.00 ± 0.25 (0.080 ± 0.010)			3.20 ± 0.25 (0.126 ± 0.010)		
Terminal Pitch	MM (in.)	0.38 max./0.13 min. (0.015 max./0.005 min.)	0.50 max./0.13 min. (0.020 max./0.005 min.)			0.46 max./0.13 min. (0.018 max./0.005 min.)		
Separation	MM (in.)	0.23 min. (0.009 min.)	0.38 min. (0.015 min.)			0.50 min. (0.020 min.)		
WVDC		10 16	6.3 10 16 25	6.3 10 16 25				
CAP (uF) and Thickness								
0.010								
0.015								
0.022								
0.047								
0.068								
0.10								
0.15								
0.22								
0.47								
0.68								
1.0								
1.5								
2.2								
3.3								

Consult factory for additional requirements

	mm (in.)		mm (in.)		mm (in.)	
	0306		0508		0612	
	Code	Thickness	Code	Thickness	Code	Thickness
 = X7R	A	0.61 (0.024)	S	0.56 (0.022)	S	0.56 (0.022)
 = X5R			V	0.76 (0.030)	V	0.76 (0.030)
			A	1.02 (0.040)	W	1.02 (0.040)
					A	1.27 (0.050)

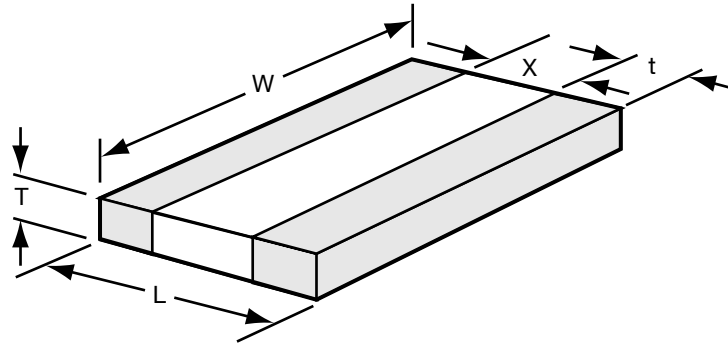


0612/0508/0306 LICC



Low Inductance Chip Capacitors

PHYSICAL DIMENSIONS AND PAD LAYOUT



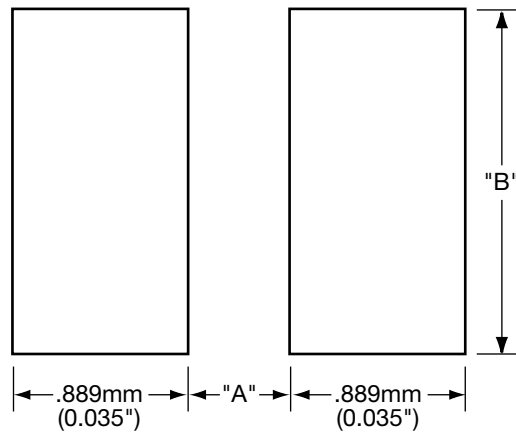
PHYSICAL CHIP DIMENSIONS millimeters (inches)

	L	W	X (min.)	t
0612	1.60±0.25 (0.063±0.010)	3.20±0.25 (0.126±0.010)	0.50 (0.020)	0.46 max./0.13 min. (0.018 max./0.005 min.)
0508	1.27±0.25 (0.050±0.010)	2.00±0.25 (0.080±0.010)	0.38 (0.015)	0.50 max./0.13 min. (0.020 max./0.005 min.)
0306	0.81±0.15 (0.032±0.006)	1.60±0.15 (0.063±0.006)	0.23 (0.009)	0.38 max./0.13 min. (0.015 max./0.005 min.)

T - See Range Chart for Thickness and Codes

PAD LAYOUT DIMENSIONS

	A	B
0612	0.76 (0.030)	3.05 (0.120)
0508	0.51 (0.020)	2.03 (0.080)
0306	0.31 (0.012)	1.52 (0.060)



NOTICE: Specifications are subject to change without notice. Contact your nearest AVX Sales Office for the latest specifications. All statements, information and data given herein are believed to be accurate and reliable, but are presented without guarantee, warranty, or responsibility of any kind, expressed or implied. Statements or suggestions concerning possible use of our products are made without representation or warranty that any such use is free of patent infringement and are not recommendations to infringe any patent. The user should not assume that all safety measures are indicated or that other measures may not be required. Specifications are typical and may not apply to all applications.

USA

AVX Myrtle Beach, SC Corporate Offices

Tel: 843-448-9411
FAX: 843-626-5292

AVX Northwest, WA

Tel: 360-669-8746
FAX: 360-699-8751

AVX North Central, IN

Tel: 317-848-7153
FAX: 317-844-9314

AVX Mid/Pacific, MN

Tel: 952-974-9155
FAX: 952-974-9179

AVX Southwest, AZ

Tel: 480-539-1496
FAX: 480-539-1501

AVX South Central, TX

Tel: 972-669-1223
FAX: 972-669-2090

AVX Southeast, NC

Tel: 919-878-6357
FAX: 919-878-6462

AVX Canada

Tel: 905-564-8959
FAX: 905-564-9728

AVX Limited, England European Headquarters

Tel: ++44 (0)1252 770000
FAX: ++44 (0)1252 770001

AVX S.A., France

Tel: ++33 (1) 69.18.46.00
FAX: ++33 (1) 69.28.73.87

AVX GmbH, Germany - AVX

Tel: ++49 (0) 8131 9004-0
FAX: ++49 (0) 8131 9004-44

EUROPE

AVX GmbH, Germany - Elco

Tel: ++49 (0) 2741 2990
FAX: ++49 (0) 2741 299133

AVX srl, Italy

Tel: ++390 (0)2 614571
FAX: ++390 (0)2 614 2576

AVX Czech Republic, s.r.o.

Tel: ++420 (0)467 558340
FAX: ++420 (0)467 558345

ASIA-PACIFIC

AVX/Kyocera, Singapore Asia-Pacific Headquarters

Tel: (65) 258-2833
FAX: (65) 350-4880

AVX/Kyocera, Hong Kong

Tel: (852) 2-363-3303
FAX: (852) 2-765-8185

AVX/Kyocera, Korea

Tel: (82) 2-785-6504
FAX: (82) 2-784-5411

AVX/Kyocera, Taiwan

Tel: (886) 2-2696-4636
FAX: (886) 2-2696-4237

AVX/Kyocera, China

Tel: (86) 21-6249-0314-16
FAX: (86) 21-6249-0313

AVX/Kyocera, Malaysia

Tel: (60) 4-228-1190
FAX: (60) 4-228-1196

Elco, Japan

Tel: 045-943-2906/7
FAX: 045-943-2910

Kyocera, Japan - AVX

Tel: (81) 75-604-3426
FAX: (81) 75-604-3425

Kyocera, Japan - KDP

Tel: (81) 75-604-3424
FAX: (81) 75-604-3425

