



Pb Free

RoHS Compliant

AVX's low inductance are designed for high speed IC packages and hybrid circuits. Their aspect ratio and size have been optimized to reduce inductance from the 2 nH range found in normal chip capacitors to less than 0.5 nH. Their low profile (<20 mils) is ideal for package or hybrid surface mounting or inside cavity mounting, adjacent to the IC itself.

How to Order

0508 5 C 822 M A T I A
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

① Dimensions (See Table)

② Voltage

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

③ Temperature Coefficient

C	X7R	D	X5R
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④ Capacitance Code

(2 Significant Digits and Number)
ex.)

223	22,000pF	105	1μF
224	220,000pF		

⑤ Capacitance Tolerance

K	±10%	M	±20%
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⑥ Failure Rate

A	Standard
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⑦ Termination

T	Sn Plated
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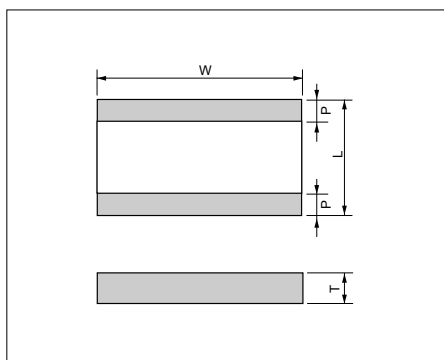
⑧ Packaging

2	7" Reel	4	13" Reel
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⑨ Special Code (mm)

	Max. Thickness (mm)		
Thickness Code	0306	0508	0612
S	—	0.56	0.56
V	—	0.76	0.76
W	—	—	1.02
A	0.60	1.02	1.27

Dimensions



(unit : mm)

Code	L	W	P
0306	0.81±0.15	1.60±0.15	0.13max.
0508	1.27±0.25	2.0±0.25	0.13max.
0612	1.6±0.25	3.2±0.25	0.13max.

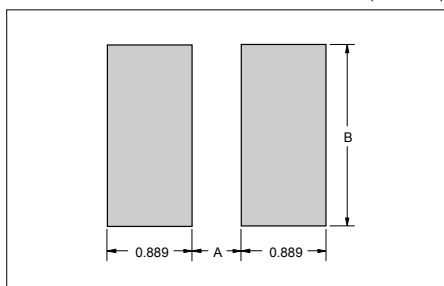
Maximum Capacitance Values for X7R/X5R and Packaging Quantities

(unit: μF)

Max. Thick (mm)	Size Code	X7R Dielectric				X5R Dielectric			Packaging Qty		
		6.3V	10V	16V	25V	6.3V	10V	16V	7" Reel	13" Reel	Carrier
1.27	0612	—	—	—	—	3.30	2.20	1.00	2K	10K	Plastic
1.02	0612	—	—	0.68	0.22	1.50	1.50	—	4K	10K	Plastic
	0508	0.68	0.68	0.22	0.10	1.50	1.00	0.47	4K	10K	Plastic
0.76	0612	1.00	1.00	0.47	0.10	—	—	—	4K	10K	Paper
	0508	0.47	0.47	0.15	0.047	—	—	—	4K	10K	Paper
0.60	0306	0.22	0.22	0.68	—	—	—	0.10	5K	10K	Plastic
	0612	0.47	0.47	0.15	0.047	—	—	—	5K	15K	Paper
0.56	0508	0.22	0.22	0.068	0.047	—	—	—	5K	15K	Paper

Recommended Land Pattern

(unit : mm)



Chip Size	A	B
0306	0.31	1.52
0508	0.51	2.03
0612	0.76	3.05

Typical Inductance

Package Style	Measured Inductance (pH)
1206 MLCC	1200
0612 LICC	170
0508 LICC	130
0306 LICC	105

*Note: See Range Chart for Codes



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Features

- Small size
- Low inductance

Applications

- Micro Processors

How to Order

W 3 L 1 Y C 105 M A T 3 A

① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫

① Series

② Size

2	2012	3	3216
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③ Low Inductance

④ Number of Element

⑤ Rated Voltage

4	4V	Z	10V
6	6.3V	Y	16V

⑥ Dielectric

C	X7R	D	X5R
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⑦ Capacitance

⑧ Capacitance Tolerance

M	±20%
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⑨ Failure Rate

A	Standard
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⑩ Terminations

T	Sn Plated
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⑪ Packaging Code (Reel Size)

1	7" Reel	3	13" Reel
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⑫ Special Code (Thickness)

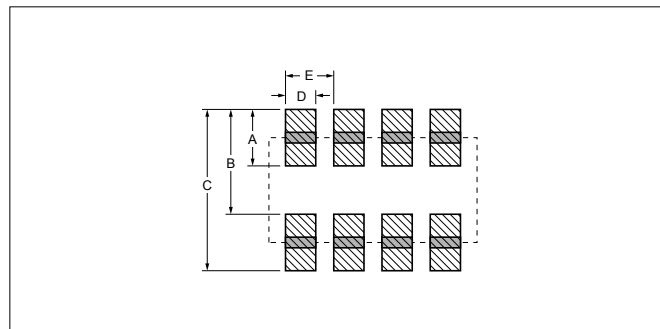
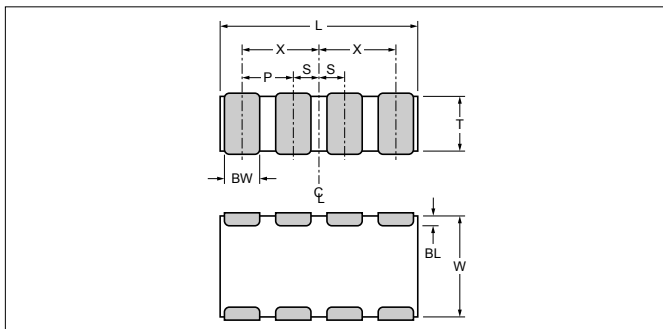
A	0.95max.	S	0.55max.
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Capacitance Range

Size	Thin 2012				2012				Thin 3216				3216			
Length (mm)	2.03±0.20				2.03±0.20				3.20±0.20				3.20±0.20			
Width (mm)	1.27±0.20				1.27±0.20				1.60±0.20				1.60±0.20			
Terminal Pitch (mm)	0.508REF				0.508REF				0.76REF				0.76REF			
Thickness (mm)	0.55max.				0.95max.				0.55max.				0.95max.			
Inductance (pH)	95				95				120				120			
WVDC	4	6.3	10	16	4	6.3	10	16	4	6.3	10	16	4	6.3	10	16
CAP(μF) and Thickness																
0.047																
0.068																
0.10																
0.22																
0.33																
0.47																
0.68																
1.0																
1.5																
2.2																
3.3																

■ X7R □ X5R

Dimensions



Physical Chip Dimensions

(unit : mm)

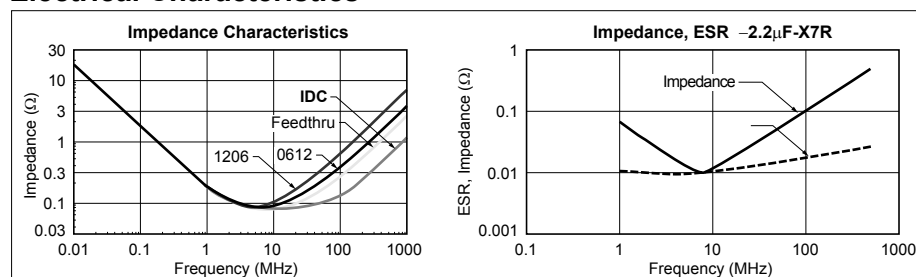
	L	W	BW	BL	P	X	S
3216	3.20±0.20	1.60±0.20	0.41±0.10	0.18±0.08	0.76 REF	1.14±0.10	0.38±0.10
2012	2.03±0.20	1.27±0.20	0.254±0.10	0.18±0.08	0.508 REF	0.76±0.10	0.254±0.10

Pad Layout Dimensions

(unit : mm)

	A	B	C	D	E
3216	0.89	1.65	2.54	0.46	0.76
2012	0.64	1.27	1.91	0.28	0.51

Electrical Characteristics



Typical ESL and Impedance

Package Style	Measured Inductance (pH)
1206 MLCC	1200
0612 LICC	170
0612 IDC	60
0508 IDC	50