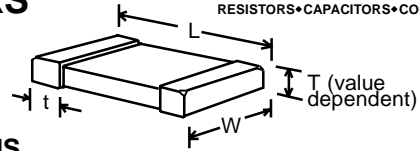




RESISTORS•CAPACITORS•COILS•DELAY LINES

# MULTILAYER CERAMIC CHIP (MLCC) CAPACITORS

## CE SERIES



- Industry's widest range- 0201 to 3035 size, .47pF to 100uF, 6.3V to 2KV!
- New technology X5R high-capacitance dielectric offers increased performance over tantalum, aluminum, and film styles (lower impedance and ESR especially in higher frequencies) at lower cost & smaller size
- Low prices & quick delivery, wide selection avail. from stock!
- Excellent frequency response
- Lead-free Sn-Ni plating is standard (specify Opt.S for PdAg)

### DIMENSIONS

SIZE	L	W	T (Max)	t
0201	.024±.0016 [6±.04]	.012±.001 [3±.03]	.016 [4]	.006±.003 [1.5±.07]
0402	.039±.003 [1±.07]	.020±.002 [5±.05]	.024 [6]	.01±.006 [2.5±.15]
0603	.063±.004 [1.6±.1]	.031±.004 [8±.01]	.036 [9]	.014±.006 [3.5±.15]
0805	.079±.008 [2.0±.2]	.049±.008 [1.25±.2]	.061 [1.55]	.02±.01 [5±.25]
1206	.126±.012 [3.2±.3]	.063±.008 [1.6±.2]	.065 [1.65]	.02±.01 [5±.25]
1210	.126±.012 [3.2±.3]	.098±.012 [2.5±.3]	.098 [2.5]	.024±.012 [6±.3]
1812	.177±.016 [4.5±.4]	.126±.012 [3.2±.3]	.098 [2.5]	.030±.02 [7.5±.5]
2225	.224±.02 [5.7±.5]	.251±.02 [6.4±.5]	.098 [2.5]	.030±.02 [7.5±.5]
3035	.299±.02 [7.6±.5]	.354±.02 [9.0±.5]	.118 [3.0]	.030±.02 [7.5±.5]

### SPECIFICATIONS

RCD Type	Max Voltage	Capacitance Range <sup>1</sup>			
		COG (NPO) <sup>1</sup>	X7R <sup>1</sup>	X5R <sup>1</sup>	Z5U/Y5V <sup>2</sup>
CE0201	6.3			.01uF	
	10	82-100pF		1200pF-.01uF	
	16	47-68pF	560-2200pF	3300-4700pF	.01uF
	25	.47-100pF	180-470pF	100-2200pF	1000pF
	50	.47-22pF	39-150pF		
CE0402	6.3			.1uF-1uF	
	10			.012uF-.1uF	.22uF-.47uF
	16	270-470pF	100pF-.047uF	.012-.047uF	1000pF-.1uF
	25	1-470pF	100pF-.022uF		1000pF-.022uF
	50	.47-330pF	100-4700pF		1000pF-.047uF
CE0603	6.3			.27uF-2.2uF	
	10		.15uF-.22uF	.27uF-1uF	.68uF-2.2uF
	16		.033uF-.22uF	.12-1uF	.12uF-1uF
	25	.47-2200pF	100pF-.15uF	.056-.18uF	2200pF-.47uF
	50	.47-2200pF	100pF-.1uF		2200pF-.22uF
CE0805	6.3			1.5uF-10uF	
	10		.33uF-1uF	1uF-4.7uF	2.2uF-10uF
	16		.047uF-1uF	.33uF-1uF	.47uF-4.7uF
	25	.47-.01uF	330pF-.47uF		.01uF-2.2uF
	50	.47-.01uF	100pF-.33uF		.01uF-1uF
CE1206	6.3			4.7uF-22uF	
	10		1uF-2.2uF	2.2uF-10uF	1uF-22uF
	16		.27uF-1uF	1.2uF-10uF	1uF-10uF
	25	.47-.033uF	1000pF-2.2uF	.56uF-4.7uF	.01uF-4.7uF
	50	.47-.033uF	150pF-.47uF		.01uF-2.2uF
CE1210	6.3			4.7-100uF	
	10			4.7-22uF	
	16			1uF-10uF	
	25	560pF-.01uF	1000pF-.33uF	2.2uF-10uF	.1uF-10uF
	50	100pF-.01uF	1000pF-.22uF	1uF	.1uF-1.5uF
CE1812	6.3			4.7-100uF	
	10			4.7-22uF	
	16			1uF-10uF	
	25	560pF-.01uF	1000pF-.33uF	2.2uF-10uF	.1uF-10uF
	50	100pF-.01uF	1000pF-.22uF	1uF	.1uF-1.5uF
CE2225	6.3			4.7-100uF	
	10			4.7-22uF	
	16			1uF-10uF	
	25	560pF-.01uF	1000pF-.33uF	2.2uF-10uF	.1uF-10uF
	50	100pF-.01uF	1000pF-.22uF	1uF	.1uF-1.5uF
CE3035	6.3			4.7-100uF	
	10			4.7-22uF	
	16			1uF-10uF	
	25	560pF-.01uF	1000pF-.33uF	2.2uF-10uF	.1uF-10uF
	50	100pF-.01uF	1000pF-.22uF	1uF	.1uF-1.5uF

### DIELECTRIC CHARACTERISTICS

ITEM	COG (NPO)	X7R	X5R	Z5U /Y5V*
Available Tolerances	<10pF: ±1pF, .25pF, .5pF(std) ≥10pF: ±1%, 2%, 5%(std), 10%	5%, 10%(std), 20%	5%, 10%(std), 20%	±20%(std), +80/-20%
Operating Temperature	-55° to +125°C	-55° to +125°C	-55°C to +85°C	Z5U: +10 to +85°C Y5V: -30 to +85°C
Temperature Characteristic	±30ppm/°C	±15% max. over Operating Temp. Range	±15% max. over Operating Temp. Range	Z5U: +22/-56% Y5V: +22/-82%
Aging (cap loss/decade hr)	0%	2% Max.	2.5% Max.	7% Max.
Dissipation Factor	0.1% Max.	2.5% Max. 50V & 100V, 3% 25V, 3.5% 16V	3% Max 25V, 3.5% 16V, 5% 10V	Z5U: 4% Max. Y5V: 5% ≥50V, 7% 16-25V
Insul. Resis. 25°C (min)	100GΩ or 1GΩ-μF whichever is less	100GΩ or 1GΩ-μF, whichever is less	100GΩ or 500MΩ-μF, whichever less	10GΩ or 1GΩ-μF, whichever is less
Dielectric Strength	2.5x rated VDC	2.5x rated VDC	2.5x rated VDC	2.5x rated VDC
Test Parameters (25°C)	≤1000pF = 1MHz, 1Vrms >1000pF = 1KHz, 1Vrms	1KHz, 1Vrms	1KHz, 1Vrms	Z5U: 1KHz, .5Vrms Y5V: 1KHz, 1Vrms
Marking	Typically unmarked, marking available (specify Opt. A)			

\* Y5V is standard, Z5U is available

### STANDARD PACKAGING QUANTITY\*

SIZE	T (7" reel, paper tape)	TE (7" reel, plastic tape)	C (Cartridge)	B (Bulk)
0201	15000		**	2000
0402	10000		20000	2000
0603	4000	2500	15000	2000
0805	4000	2500	10000	2000
1206	4000	1000	5000	2000
1210	2500	**	**	500
1812	1000	**	**	500
2225	**	**	**	500
3035	**	**	**	500

\*Typical quantity of chips per reel is listed (varies with chip thickness)

\*\*Consult factory for availability

### P/N DESIGNATION:

CE1206 - 103 - K 201 R T

#### RCD Type

Option Code (leave blank if standard)

Capacitance Code (2 signif. digits & multiplier):

R47=0.47pF, 1R0=1pF, 100=10pF, 102=1000pF, 103=.01uF (10000pF), 104=.1uF(100000pF), 105=1uF, 106=10uF, 107=100uF

Tolerance: F=1%, G=2%, J=5%, K=10%, M=20%, Z=+80%/-20%, B=±0.1pF, C=±0.25pF, D=±0.5pF

Voltage Code: 006=6.3V, 010=10V, 016=16V, 025=25V, 050=50V, 101=100, 201=200V, 501=500V, 102=1000V, 202=2000V

Dielectric: G=COG(NPO), R=X7R, X=X5R, U=Z5U, V=Y5V

Packaging: B=Bulk, T=7" reel with paper tape, TE=7" reel with plastic tape, C=Cartridge

<sup>1</sup> Expanded range available. <sup>2</sup> Range applies to Y5V, consult factory for Z5U range

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