

# MULTILAYER CERAMIC CHIP (MLCC) CAPACITORS



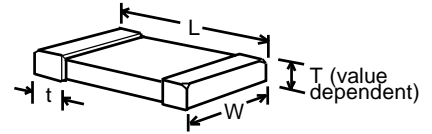
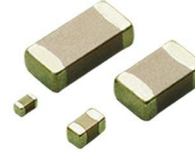
RESISTORS • CAPACITORS • COILS • DELAY LINES

## CE SERIES



Term.W is RoHS compliant & 260°C process compatible

- Industry's widest range and lowest prices: 0201 to 3035 size, .47pF to 100uF, 6.3V to 4KV (up to 20KV custom available)
- New X5R high-capacitance dielectric offers lower impedance and ESR (especially at higher frequencies), at lower cost & smaller size than tantalum, aluminum, and film styles
- Quick delivery, wide selection available from stock!
- Lead-free tin plating is standard
- Precision matching to 0.1% available



RCD Type	Max Voltage	Capacitance Range (E-12 Values) <sup>1,3</sup>			
		COG (NPO) <sup>1</sup>	X7R <sup>1</sup>	X5R <sup>1</sup>	Y5V (Z5U) <sup>2</sup>
CE0201 <b>NEW!</b>	6.3			.01uF	.01uF -.047uF
	10	82pF-100pF		1200pF-.01uF	
	16	43pF-100pF	560pF-3300pF	3300pF-4700pF	1000pF-.01uF
	25	.47pF-100pF	180pF-1000pF	100pF-2200pF	1000pF
	50	.47pF-22pF	39pF-470pF		
CE0402	6.3			.1uF-1uF	
	10		.039uF - 0.1uF	.012uF-.1uF	.10uF- 1uF
	16	270pF-470pF	100pF-.047uF	.012uF-.047uF	1000pF-.1uF
	25	1pF-470pF	100pF-.022uF		1000pF-.047uF
	50	.47pF-330pF	100pF-470pF		1000pF-.022uF
CE0603	6.3			.27uF-4.7uF	
	10		.15uF- 1uF	.27uF-2.2uF	.68uF-2.2uF
	16	1800-3300pF	.033uF-.22uF	.12uF-1uF	.12uF-1uF
	25	.47pF-2200pF	100pF-.15uF	.056uF-.18uF	2200pF-.47uF
	50	.47pF-2200pF	100pF-.1uF		2200pF-.22uF
	100	.47pF-820pF	100pF-470pF		
	200	.47pF-330pF			
CE0805	6.3			1.5uF-22uF	
	10		.33uF-2.2uF	1uF-10uF	2.2uF-10uF
	16		.047uF-1uF	.33uF-4.7uF	.47uF-4.7uF
	25	.47pF-.01uF	330pF-.47uF	1uF-4.7uF	.01uF-2.2uF
	50	.47pF-.01uF	100pF-.33uF	.22uF	.01uF-1uF
	100	.47pF-1500pF	100pF-.039uF		.01uF-.22uF
	200	.47pF-820pF	180pF-.015uF		
CE1206	500	.47pF-470pF	2200pF-.012uF		
	6.3		10uF	4.7uF-47uF	
	10		1uF-4.7uF	2.2uF-10uF	1uF-22uF
	16		.27uF-3.3uF	1.2uF-10uF	1uF-10uF
	25	.47pF-.033uF	1000pF-2.2uF	.56uF-10uF	.01uF-10uF
	50	.47pF-.033uF	150pF-.47uF		.01uF-2.2uF
	100	.47pF-6800pF	150pF-.15uF		
CE1210	200	.47pF-1500pF	220pF-.033uF		
	500	.47pF-820pF	220pF-.022uF		
	1000	.47pF-680pF	220pF-4700pF		
	2000	.47pF-470pF	68pF-1000pF		
	6.3			4.7uF-100uF	47uF-100uF
	10		2.2uF-10uF	4.7uF-22uF	22uF
	16		.68uF-4.7uF	1uF-10uF	10uF-22uF
	25	560pF-.01uF	1000pF-3.3uF	2.2uF-10uF	.1uF-10uF
	50	100pF-.01uF	1000pF-1uF	1uF	.1uF-4.7uF
	100	100pF-6800pF	1000pF-.15uF		.1uF-1uF
CE1812	200	100pF-4700pF	1000pF-.068uF		
	500	100pF-2200pF	2200pF-.047uF		
	1000	100pF-1000pF	1000pF-.015uF		
	2000	100pF-560pF	180pF-1500pF		
	25	1000pF-.018uF	.01uF- 1uF	10uF	.15uF-3.3uF
	50	100pF-.018uF	.01uF- 1uF		.15uF-2.2uF
	100	100pF-.01uF	.01uF-.47uF		.1uF-1uF
	200	100pF-6800pF	6800pF-.1uF		
	500	150pF-5600pF	4700pF-.12uF		
	1000	150pF-4700pF	2200pF-.027uF		
CE2225	2000	150pF-2200pF	330pF-3300pF		
	3000	100pF-1000pF			
	4000	100pF-330pF			
	25	1500pF-6800pF	.01uF-5.6uF		.68uF-4.7uF
	50	100pF-.056uF	.01uF-3.3uF		.68uF-3.3uF
	100	100pF-.047uF	.01uF-1.5uF		
	200	1000pF-8200pF	.015uF-.42uF		
	500	1000pF-5600pF	.018uF-.39uF		
	1000	1000pF-3300pF	8200pF-.1uF		
	2000	1000pF-2200pF	1200pF-.01uF		
CE3035	3000	220pF-2200pF			
	4000	220pF-1500pF			
	25	1000pF-.1uF	.01uF-2.2uF		1uF-10uF
	50	1000pF-.047uF	.01uF-2.2uF		1uF-6.8uF
	100	1000pF-.033uF	.01uF-1uF		
	200	1000pF-.022uF	.01uF-1uF		
CE3035	500	1000pF-.018uF	6800pF-1uF		
	1000	1000pF-8200pF			
	2000	1000pF-3300pF			
	2000	1000pF-3300pF			

SIZE	L	W	T (Max)	t
0201	.024±.0016 [6±.04]	.012±.001 [3±.03]	.016 [4]	.006±.003 [.15±.07]
0402	.039±.003 [1±.07]	.020±.002 [5±.05]	.024 [6]	.01±.006 [.25±.15]
0603	.063±.004 [1.6±.1]	.031±.004 [8±.0.1]	.036 [9]	.014±.006 [.35±.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 [.75±.5]
2225	.224±.02 [5.7±.5]	.251±.02 [6.4±.5]	.098 [2.5]	.030±.02 [.75±.5]
3035	.299±.02 [7.6±.5]	.354±.02 [9.0±.5]	.118 [3.0]	.030±.02 [.75±.5]

### DIELECTRIC CHARACTERISTICS

ITEM	COG (NPO)	X7R	X5R	Z5U /Y5V*
Available Tolerances	<10pF: ±1pF, .25pF, ±5pF; ≥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	-30 to +85°C
Temperature Characteristic	±30ppm/°C	±15% max. over Oper. Temp.Range	±15% max. over Oper. Temp.Range	Z5U: +22/-56% Y5V: +22/-82%
Aging (cap loss/decade hr)	0%	2% Max.	2.5% Max.	7% Max.
Voltage Coef (ΔC@ max V)	negligible	-50% to +10% typ	-50% to +10% typ	-80% to +20% typ
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, 1Vrms)	≤1000pF=1MHz >1000pF=1KHz	1KHz	1KHz	Z5U:1KHz .5Vrms Y5V: 1KHz 1Vrms
Marking	Typically unmarked, marking available (specify Opt. A)			

\* Y5V is standard, Z5U is available (Y5V & Z5U are considered interchangeable)

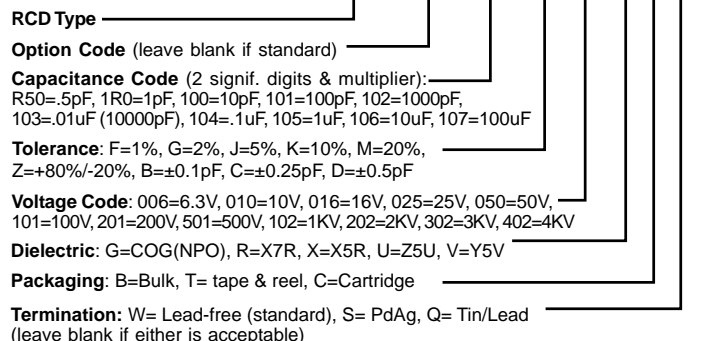
### STANDARD PACKAGING QUANTITY\*

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

\*Typical quantity, varies with chip thickness (13" reels avail.)

\*\*Consult factory for availability

### P/N DESIGNATION: CE1206 - 103 - K 201 R T W



<sup>1</sup> Expanded range available. <sup>2</sup> Range applies to Y5V, consult factory for Z5U range  
<sup>3</sup> Not all combinations of voltage & dielectric are available in all E-12 values