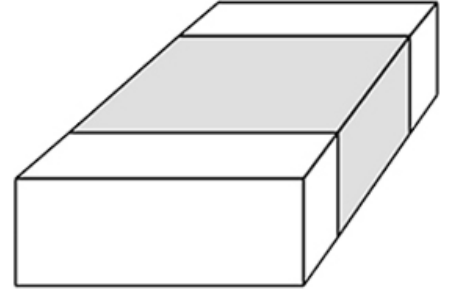


FEATURES

- Surface Mount
- Suitable for Reflow Soldering
- Excellent Frequency Characteristics
- RoHS Compliant
- Available with Flexible Termination

APPLICATIONS

- Telecommunications
- Industrial
- Lighting/LED
- Automation
- Meters/Controls
- Audio



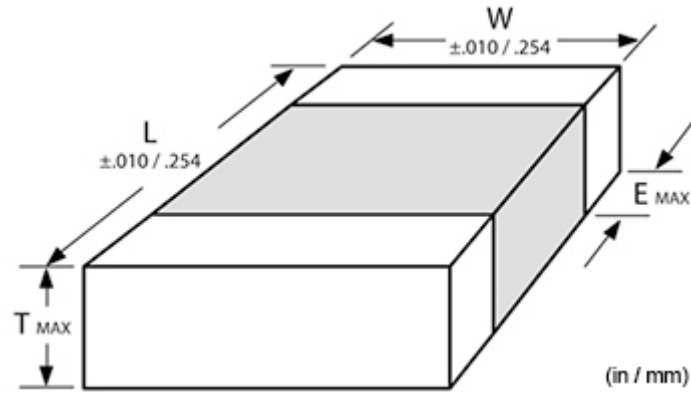
PART NUMBER EXAMPLE

CMC	-	050	/	104	K	X	0805	T	F	F
Type		Rated voltage		Capacitance code (pF)	Tolerance code	Dielectric material	Case size	Package code	Option	RoHS compliant
Capacitance Code: First two digits represent significant figures, third digit represents multiplier (number of zeros).										
Rated Voltage: 4R0 = 4V; 6R3 = 6.3V; 010 = 10V; 016 = 16V; 025 = 25V; 035 = 35V; 050 = 50V; 100 = 100V; 200 = 200V										
Dielectric Material: N = NP0, X5 = X5R, X = X7R, Y = Y5V										
Package Code: T = 7" Tape & Reel, T13 = 13" Tape & Reel, W = Waffle.										
Option: Blank=Standard, F=Flex term.										

GENERAL SPECIFICATIONS

Item	Performance
Operating temperature	NP0: -55°C to +125°C X5R: -55°C to +85°C X7R: -55°C to +125°C Y5V: -30°C to +85°C
Capacitance range	0.5pF to 330μF
Capacitance tolerance	NP0: C<10pf - ±0.5pF (D), ±0.25pF (C), ±0.1pF (B), C≥10pf - ±1% (F), ±2% (G), ±5% (J), ±10% (K) X5R: ±10% (K), ±20% (M) X7R: ±5% (J), ±10% (K), ±20% (M) Y5V: +80/-20% (Z)
Rated voltage range	4 VDC to 200 VDC
Temperature coefficient	NP0: 0ppm/°C ± 30ppm/°C from -55°C ~ +125°C X5R: ±15% Δ°C maximum from -55°C ~ +85°C X7R: ±15% Δ°C maximum from -55°C ~ +125°C Y5V: +22% ~ 82% Δ°C maximum from -30°C ~ +85°C
Withstanding voltage (between leads)	2.5 times rated voltage, 50mA maximum for 1 second
Minimum insulation resistance	10G Ω or 500meg Ω x Farads, whichever is less, measured @ rated voltage.
Dissipation factor	NP0: 0.1% Maximum X5R: 5% @ 0.5Vrms (Values > 10μf) X7R: 2.5% @ 1.0Vrms, except 16 & 25 VDC 3.5% @ 16 & 25 VDC Y5V: 5%
Testing Conditions	NP0: 1MHz ± 50Hz @ 1.0 Vrms ± 0.20 Vrms (Values ≤ 100pF) 1KHz ± 50Hz @ 1.0 Vrms ±0.20 Vrms (Values > 100pF) X5R: 1KHz ± 50Hz @ 1.0 Vrms ± 0.20 Vrms (Values ≤ 10μF) 120Hz ± 50Hz @ 0.5 Vrms ±0.20 Vrms (Values > 10μF) X7R: 1KHz ± 50Hz @ 1.0 Vrms ± 0.20 Vrms (Values ≤ 10μF) 120Hz ± 50Hz @ 0.5 Vrms ±0.20 Vrms (Values > 10μF) Y5V: 1KHz ± 50Hz @ 1.0 Vrms ± 0.20 Vrms (Values ≤ 10μF) 120Hz ± 50Hz @ 0.5 Vrms ±0.20 Vrms (Values > 10μF)

DIMENSIONS



SIZE mm (in)

Size	Length	Width	Thickness	Endband
0201	0.61 (0.024)	0.31 (0.012)	0.36 (0.014)	0.15 (0.006)
0402	1.02 (0.040)	0.51 (0.020)	0.56 (0.022)	0.25 (0.010)
0603	1.60 (0.063)	0.81 (0.032)	0.94 (0.037)	0.41 (0.016)
0805	2.01 (0.079)	1.25 (0.049)	1.45 (0.057)	0.71 (0.028)
1206	3.20 (0.126)	1.60 (0.063)	1.80 (0.071)	1.50 (0.059)
1210	3.20 (0.126)	2.49 (0.098)	2.79 (0.110)	1.50 (0.059)
1812	4.60 (0.181)	3.20 (0.126)	3.20 (0.126)	0.31 (0.012)
1825	4.60 (0.181)	6.35 (0.250)	3.20 (0.126)	0.31 (0.012)
2220	5.59 (0.220)	5.00 (0.197)	3.20 (0.126)	0.31 (0.012)
2225	5.59 (0.220)	6.35 (0.250)	3.20 (0.126)	0.31 (0.012)

MINIMUM/MAXIMUM CAPACITANCE VS. SIZE

TC	VDC	Size									
		0201	0402	0603	0805	1206	1210	1812	1825	2220	2225
NP0	16		1,000pF to 2,200pF	100pF to 0.015µF	120pF to 0.047µF						
NP0	25	0.5pF to 220pF	0.5pF to 2,200pF	120pF to 0.01µF	120pF to 0.047µF	120pF to 0.1µF	2,200pF to 0.22µF	0.12µF to 0.22µF			
NP0	50	10pF to 220pF	0.5pF to 1,500pF	0.5pF to 0.01µF	0.5pF to 0.033µF	0.5pF to 0.1µF	12pF to 0.15µF	1,000pF to 0.22µF	0.01µF to 0.047µF	0.01µF to 0.47µF	0.01µF to 0.15µF
NP0	100		0.5pF to 1,000pF	0.5pF to 0.01µF	0.5pF to 0.033µF	0.5pF to 0.1µF	27pF to 0.1µF	1,000pF to 0.15µF	0.01µF to 0.033µF	0.01µF to 0.33µF	0.01µF to 0.068µF
NP0	200			2pF to 680pF	1pF to 3,900pF	2pF to 0.01µF	100pF to 5,600pF	150pF to 0.1µF	0.01µF to 0.1µF	0.01µF to 0.047µF	0.01µF to 0.056µF
X5R	4	0.01µF to 1µF	0.47µF to 10µF	2.2µF to 22µF	47µF to 100µF	47µF to 220µF	22µF to 330µF				
X5R	6.3	4,700pF to 1µF	0.015µF to 10µF	0.82µF to 22µF	1µF to 47µF	2.2µF to 100µF	10µF to 220µF	33µF to 100µF		100µF to 100µF	
X5R	10	1,000pF to 1µF	0.01µF to 10µF	0.22µF to 22µF	0.22µF to 47µF	1µF to 100µF	3.3µF to 100µF	22µF to 100µF		68µF to 100µF	
X5R	16	100pF to 0.22µF	0.01µF to 2.2µF	0.068µF to 10µF	0.33µF to 22µF	1µF to 47µF	2.2µF to 100µF	22µF to 33µF		33µF to 47µF	
X5R	25	100pF to 0.22µF	0.01µF to 2.2µF	0.033µF to 10µF	0.22µF to 22µF	1µF to 47µF	1µF to 47µF	10µF to 22µF		22µF to 22µF	
X5R	35		0.068µF to 2.2µF	0.015µF to 4.7µF	0.47µF to 22µF	1µF to 22µF	1µF to 10µF				
X5R	50	100pF to 0.01µF	0.01µF to 0.47µF	0.047µF to 2.2µF	0.22µF to 4.7µF	1µF to 10µF	1µF to 10µF			10µF to 10µF	
X7R	6.3	1,000pF to 0.01µF	0.01µF to 1µF	0.033µF to 10µF	1µF to 10µF	2.2µF to 22µF	4.7µF to 47µF				
X7R	10	100pF to 0.01µF	0.01µF to 0.47µF	0.1µF to 2.2µF	0.22µF to 10µF	1µF to 22µF	2.2µF to 47µF	22µF to 22µF			
X7R	16	100pF to 0.01µF	1,000pF to 0.22µF	0.01µF to 2.2µF	0.1µF to 10µF	0.47µF to 22µF	0.47µF to 22µF	10µF to 33µF		22µF to 47µF	
X7R	25	100pF to 0.01µF	100pF to 0.22µF	100pF to 1µF	1,000pF to 4.7µF	0.1µF to 10µF	0.1µF to 22µF	3.3µF to 22µF		10µF to 33µF	
X7R	35					1µF to 10µF	10µF to 10µF				
X7R	50	100pF to 1,500pF	100pF to 0.1µF	100pF to 1µF	100pF to 2.2µF	1,000pF to 4.7µF	1,000pF to 10µF	0.1µF to 6.8µF	0.33µF to 2.2µF	0.33µF to 15µF	0.33µF to 4.7µF
X7R	100		220pF to 4,700pF	100pF to 0.1µF	100pF to 0.47µF	1,000pF to 2.2µF	1,000pF to 2.2µF	0.01µF to 2.2µF	0.1µF to 10µF	0.1µF to 10µF	0.1µF to 10µF
X7R	200			100pF to 0.01µF	100pF to 0.056µF	1,000pF to 0.22µF	1,000pF to 0.68µF	0.01µF to 1µF	0.01µF to 3.3µF	0.01µF to 3.3µF	0.01µF to 4.7µF
Y5V	4	0.1µF to 0.1µF									
Y5V	6.3	0.01µF to 0.1µF	0.01µF to 1µF	0.47µF to 10µF	1µF to 22µF	10µF to 100µF	22µF to 100µF	100µF to 100µF			
Y5V	10	2,200pF to 0.01µF	0.022µF to 1µF	0.15µF to 4.7µF	0.68µF to 10µF	1µF to 22µF	1.5µF to 47µF	47µF to 100µF		100µF to 100µF	
Y5V	16	0.01µF to 0.01µF	0.01µF to 0.47µF	0.022µF to 2.2µF	0.1µF to 10µF	0.1µF to 22µF	0.33µF to 47µF	22µF to 47µF		100µF to 100µF	
Y5V	25		0.01µF to 0.22µF	0.01µF to 1µF	0.047µF to 4.7µF	0.1µF to 10µF	0.33µF to 22µF	4.7µF to 22µF		47µF to 47µF	
Y5V	35					2.2µF to 10µF	10µF to 10µF				
Y5V	50		4,700pF to 0.022µF	1,000pF to 0.47µF	0.01µF to 2.2µF	0.1µF to 4.7µF	0.22µF to 10µF	10µF to 10µF		3.3µF to 22µF	
Y5V	100									0.47µF to 0.68µF	