

# CC HC series

## High capacitance capacitor series ( $\geq 1\mu\text{F}$ )

### ◆ Features

- » Realize high capacitance in small sizes
- » Capacitor with lead-free termination (pure Tin)
- » RoHS compliant
- » HALOGEM compliant
- » Surface mount suited for wave and reflow soldering
- » High reliability and no polarity
- » Excellent in high frequency characteristic

### ◆ Applications

- » Digital circuit coupling or decoupling applications
- » For high frequency and high-density type power suppliers
- » For bypassing
- » Ideal for smoothing circuits
- » Suitable for DC-DC converter, personal computer and peripherals, telecommunication and general electronic equipment

### ◆ Part Number

CC	1206	B	226	K	100
Series	Size	Dielectric	Capacitance	Tolerance	Rated voltage
	Inch:	X: X7R	Two significant Digits followed	K= $\pm 10\%$	6V3=6.3 VDC
	0201	B: X5R	by no. of Zeros	M= $\pm 20\%$	100=10 VDC
	0402	Y: Y5V	Eg.:	Z=-20/+80%	160=16 VDC
	0603	S: X6S	105 =1.0 $\mu\text{F}$		250=25 VDC
	0805		155 =1.5 $\mu\text{F}$		500=50 VDC
	1206		335 = 3.3 $\mu\text{F}$		101=100 VDC
	1210				251=250 VDC
	1812				501=500 VDC
	1825				631=630 VDC
	2220				
	2225				

◆ **General Electrical Data**

Dielectric	X7R	X5R	Y5V	X6S
Size	0402, 0603, 0805, 1206, 1210, 1808, 1812, 1825, 2220, 2225	0201, 0402, 0603, 0805, 1206, 1210	0402, 0603, 0805 1206, 1210, 1812	0201, 0402, 0603, 0805, 1206, 1210
Capacitance range*	1 $\mu$ F to 10 $\mu$ F	1 $\mu$ F to 100 $\mu$ F	1 $\mu$ F to 100 $\mu$ F	1 $\mu$ F to 100 $\mu$ F
Capacitance tolerance**	K ( $\pm$ 10%), M ( $\pm$ 20%)		Z (-20/+80%)	K ( $\pm$ 10%), M ( $\pm$ 20%)
Rated voltage (WVDC)	6.3V, 10V, 16V, 25V, 50V, 100V 250V, 500V, 630V	6.3V, 10V, 16V, 25V, 50V	6.3V, 10V, 16V, 25V, 35V 50V, 100V	4V, 6.3V, 10V, 16V, 25V, 50V
Tan $\delta$	Please refer to our spec			
Insulation resistance at $U_R$	$\geq 10G \Omega$ or $RxC \geq 100\Omega \cdot F$ whichever is smaller			
Operating temperature	-55 to +125 $^{\circ}$ C	-55 to +85 $^{\circ}$ C	-25 to +85 $^{\circ}$ C	-55 to +105 $^{\circ}$ C
Capacitance characteristic	$\pm$ 15%		+30/-80%	$\pm$ 22%
Termination	Ni/Sn (lead-free termination)			

\* Measured at 1.0 $\pm$ 0.2Vrms, 1.0kHz $\pm$ 10% for C $\leq$ 10 $\mu$ F; 0.5 $\pm$ 0.2Vrms, 120Hz $\pm$ 20% for C $>$ 10 $\mu$ F, 30~70% related humidity, 25 $^{\circ}$ C ambient temperature for X7R, X5R and at 20 $^{\circ}$ C for Y5V

\*\* Preconditioning for Class II MLCC: Perform a heat treatment at 150 $\pm$ 10 $^{\circ}$ C for 1 hour, and then leave in ambient condition for 24 $\pm$ 2 hours before measurement.

◆ Capacitance Range

Dielectric		X7R																										
Size	0402	0603					0805					1206					1210					1808						
Rated Voltage	6.3	6.3	10	16	25	50	6.3	10	16	25	50	6.3	10	16	25	50	100	6.3	10	16	25	35	50	63	100	50	100	
Capacitance	1.0μF (105)																											
	1.2μF (125)																											
	1.5μF (155)																											
	1.8μF (185)																											
	2.2μF (225)																											
	2.7μF (275)																											
	3.3μF (335)																											
	4.7μF (475)																											
	6.8μF (685)																											
	10μF (106)																											
	22μF (226)																											
	47μF (476)																											

Dielectric		X7R																							
Size		1812						1825						2220						2225					
Rated Voltage		10	16	25	50	100	200	250	50	100	200	250	50	100	200	250	500	630	50	100	200	250	500	630	
Capacitance	1.0μF (105)																								
	1.2μF (125)																								
	1.5μF (155)																								
	1.8μF (185)																								
	2.2μF (225)																								
	2.7μF (275)																								
	3.3μF (335)																								
	3.9μF (395)																								
	4.7μF (475)																								
	5.6μF (565)																								
	6.8μF (685)																								
	8.2μF (825)																								
	10μF (106)																								

## ◆ Capacitance Range

Dielectric		X5R																		
Size		0201		0402				0603					0805							
Rated Voltage		6.3	10	6.3	10	16	25	6.3	10	16	25	50	4	6.3	10	16	25	50		
Capacitance	1.0μF (105)																			
	1.2μF (125)																			
	1.5μF (155)																			
	1.8μF (185)																			
	2.2μF (225)																			
	2.7μF (275)																			
	3.3μF (335)																			
	3.9μF (395)																			
	4.7μF (475)																			
	5.6μF (565)																			
	6.8μF (685)																			
	8.2μF (825)																			
	10μF (106)																			
	22μF (226)																			
	47μF (476)																			
	100μF (107)																			
	220μF (227)																			

Dielectric		X5R												
Size		1206					1210							
Rated Voltage		6.3	10	16	25	50	4	6.3	10	16	25	35	50	
Capacitance	1.0μF (105)													
	1.2μF (125)													
	1.5μF (155)													
	1.8μF (185)													
	2.2μF (225)													
	2.7μF (275)													
	3.3μF (335)													
	3.9μF (395)													
	4.7μF (475)													
	5.6μF (565)													
	6.8μF (685)													
	8.2μF (825)													
	10μF (106)													
	22μF (226)													
	47μF (476)													
100μF (107)														
220μF (227)														

## ◆ Capacitance Range

Dielectric		Y5V																												
Size		0402		0603				0805					1206					1210					1812							
Rated Voltage		6.3	10	6.3	10	16	25	6.3	10	16	25	50	6.3	10	16	25	35	50	6.3	10	16	25	35	50	10	16	25	50	100	
Capacitance	1.0μF (105)																													
	1.2μF (125)																													
	1.5μF (155)																													
	1.8μF (185)																													
	2.2μF (225)																													
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	10μF (106)																													
	22μF (226)																													
	47μF (476)																													
100μF (107)																														

Dielectric		X6S																													
Size		0201		0402				0603					0805					1206					1210								
Rated Voltage		4	6.3	10	16	25	4	6.3	10	16	25	50	4	6.3	10	16	25	50	6.3	10	16	25	50	6.3	10	16	25				
Capacitance	1.0μF (105)																														
	1.2μF (125)																														
	1.5μF (155)																														
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