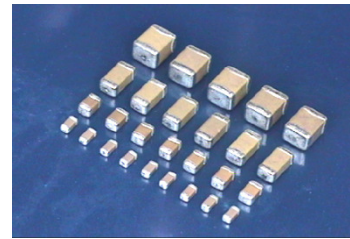


HCC Series - High Capacitance MLCC



Multilayer Ceramic Chip Capacitors [High Capacitance MLCC – 1.0uF and above]

HCC Series



◆ Features

- ❑ Surface mount suitable for wave and reflow soldering
- ❑ High reliability
- ❑ Small size and high capacitance value
- ❑ Excellent high frequency characteristics
- ❑ RoHS compliant

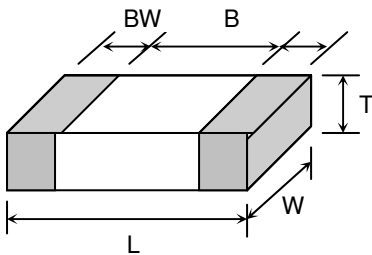
◆ Applications

- ❑ Ideal for smoothing and decoupling circuits
- ❑ Suitable for DC-DC converter, personal computer and peripherals, telecommunication and general electronic equipment

◆ Summary of Specifications

Operation Temperature	NP0 & X7R : -55 °C ~ +125 °C , X6S : -55 °C ~ +105 °C ; X5R : -55 °C ~ +85 °C , Y5V : -30 °C ~ +85 °C
Rated Voltage	4.0Vdc to 50Vdc
Temperature Coefficient	X7R : ≤ ± 15% , -55 °C ~ +125 °C (EIA Class II) X6S : ≤ ± 22% , -55 °C ~ +105 °C (EIA Class II) X5R : ≤ ± 15% , -55 °C ~ +85 °C (EIA Class II) Y5V : +22%/-82% , -30 °C ~ +85 °C (EIA Class II)
Dissipation Factor	X7R, X5R, X6S : Max. 0.15; Y5V: Max 0.2
Insulation Resistance	10GΩ or 500/CΩ whichever is smaller (C in Farads)
Aging	X7R/X6S/X5R : typically 1.0% and Y5V ≤ 7% per decade of time
Dielectric Strength	250% Rated Voltage

◆ Dimensions



TYPE	L	W	T (max)	B (min)	BW (min)
0402	1.00±0.05 [.039±.002]	0.50±0.05 [.020±.002]	0.55 [.022]	0.30 [.012]	0.15 [.006]
0603	1.60±0.10 [.063±.004]	0.80±0.10 [.031±.004]	0.95 [.037]	0.40 [.016]	0.15 [.006]
0805	2.00±0.20 [.079±.012]	1.25±0.20 [.049±.008]	1.45 [.057]	0.70 [.028]	0.20 [.008]
1206	3.20±0.30 [.126±.012]	1.60±0.20 [.126±.012]	1.80 [.071]	1.50 [.059]	0.30 [.012]
1210	3.20±0.30 [.126±.012]	2.50±0.20 [.098±.008]	2.70 [.105]	1.60 [.063]	0.30 [.012]
1812	4.60±0.3 [.181±.012]	3.20±0.3 [.126±.012]	3.00 [.118]	2.50 [.098]	0.30 [.012]
2220	5.7±0.40 [.220±.016]	5.00±0.40 [.197±.016]	3.00 [.118]	3.50 [.137]	0.30 [.012]

◆ How To Order



Product Code	Chip Size	Dielectric	Capacitance Unit : pF	Tolerance	Rated Voltage	Packaging
C: MLCC (Multilayer Ceramic Chip of Capacitor)	Ex. 0402 0603 0805 1206 1210 1812 2220	Ex.: X:X7R S:X6S B:X5R Y:Y5V	Ex.: 105:10×10 ⁵ 106:10×10 ⁶ 226:22×10 ⁶	Ex.: J : +/- 5% K : +/- 10% M : +/- 20% Z : +80/-20%	Ex.: 004: 4Vdc 007: 6.3Vdc 010: 10Vdc 016: 16Vdc 025: 25Vdc 035: 35Vdc 050: 50Vdc	T: T&R 7" R: T&R 13" B: Bulk



HCC Series-High Capacitance MLCC



◆ Capacitance Range

X7R (X) Series																																	
Size	0402						0603						0805						1206						1210						1812		2220
Code	6.3V	6.3V	10V	16V	25V	50V	6.3V	10V	16V	25V	35V	50V	6.3V	10V	16V	25V	35V	50V	6.3V	10V	16V	25V	35V	50V	10V	16V	25V	35V	50V	25V	50V	50V	
105	O	B	B	B	B	B	D	D	D	D	D	D	D	D	D/E	D/E	D/E	D/E	D	D	D	D	E	F	F	F	F	F	F	F	F	F	
155																																	
225		B	B				D	D	D	D	D	D	E	E	E	E	E	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	
335							D	D					E	E	E	E	E	E															
475							D	D	D	D			E	E	E	E	E	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	
106							D	D	D				E	E	E	E	E	E							F	F	F	F	F/G	F/G	F/G	G	
226													E	E											G	G	G						

X6S (S) Series																																								
Size	0402				0603						0805						1206						1210																	
Code	6.3V	10V	16V	25V	4V	6.3V	10V	16V	25V	50V	4V	6.3V	10V	16V	25V	35V	50V	4V	6.3V	10V	16V	25V	35V	50V	6.3V	10V	16V	25V	35V	50V										
105	O	O	O	O		B	B	B	B	B								D	D	D	D									E	E						E			
225	O	O	O			B	B	B	B									D	D	D	D	D								E	E	E	E					F	F	F
475	O					B	B	B	B	B								D	D	D	D	D	D							E	E	E	E					F	F	F
106					B	B	B	B										D	D	D	D	D								E	E	E	E					F	F	F
226					B	B												D	D	D	D									E	E	E	E					G	G	G
476																														E	E	E					G	G	G	
107																														E	E						G			

X5R (B) Series																																							
Size	0201		0402				0603						0805						1206						1210														
Code	6.3V	6.3V	6.3V	10V	16V	25V	35V	6.3V	10V	16V	25V	35V	50V	4V	6.3V	10V	16V	25V	35V	50V	6.3V	10V	16V	25V	50V	6.3V	10V	16V	25V	50V									
105	S	S	O	O	O	O	O	B	B	B	B	B	B								D	D	D	D								E	E	E	F	F	F	F	F
225	S	S	O	O	O	O		B	B	B	B	B	B								D	D	D	D	D							E	E	E	F	F	F	F	F
335																					D	D	D									E	E	E	F	F	F	F	F
475			O	O				B	B	B	B	B									D	D	D	D	D	D						E	E	E	F	F	F	F	F
106			O	O				B	B	B	B										D	D	D	D	D							E	E	E	F	F	F	F	F/G
226								B	B												D	D	D	D								E	E	E	G	G	G	G	
476														D	D	D																E	E	E	G	G	G		
107														D																		E			G	G			

Y5V (Y) Series																			
Size	0402		0603				0805						1206			1210			
Code	6.3V	10V	6.3	10V	16V	25V	6.3V	10V	16V	25V	50V	10V	16V	25V	10V	16V	25V	35V	
105	O	O		B	B	B						B	B	D					
225			B	B	B					D	D	D							
475			B	B			D	D	D										
106							D	D	D					D	D/E	E	F	F	F
226							D	D						D/E	D/E		F	F	

■ Other dimensions, capacitance values and voltages rating are available. Please contact HEC.

Symbol Code	S	O	A	B	C	D	E	F	G	H
Thickness (mm)	0.3±0.03	0.5±0.05	0.6±0.1	0.85±0.1	1.0±0.1	1.25±0.20	1.6±0.2	2.0±0.2	2.4±0.2	2.8±0.2

