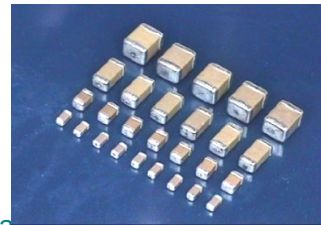


Multilayer Ceramic Chip Capacitors [High Capacitance MLCC – 1.0uF and above]

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

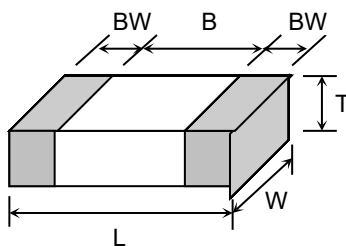
◆ Applications

- 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 & X7S : -55 °C ~ +125 °C , X6S : -55 °C ~ +105 °C ;
Rated Voltage	4.0Vdc to 50Vdc
Temperature Coefficient	X7R : ≤ ± 15% , -55 °C ~ +125 °C (EIA Class II)
	X7S : ≤ ± 22% , -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)
Dissipation Factor	X7R, X5R, X6S, X7S : Max. 0.15
Insulation Resistance	10GΩ or 500/CΩ whichever is smaller (C in Farads)
Aging	X7R/X6S/X5R/X7S : typically 1.0%
Dielectric Strength	250% Rated Voltage

◆ Dimensions



TYPE	L	W	T (max)	B (min)	BW (min)
0402	1.00±0.05	0.50±0.05	0.55 [.022]	0.30 [.012]	0.15 [.006]
0603	1.60±0.10	0.80±0.10	0.1 [.039]	0.40 [.016]	0.15 [.006]
0805	2.00±0.20	1.25±0.20	1.45 [.057]	0.70 [.028]	0.20 [.008]
1206	3.20±0.30	1.60±0.20	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	3.20±0.3	3.00 [.118]	2.50 [.098]	0.30 [.012]
2220	5.7±0.40	5.00±0.40	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, R:X7S	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

◆ Capacitance Range

X7R (X) Series																														
Size	0402						0603					0805					1206					1210					1812		2220	
Code	4V	6.3V	6.3V	10V	16V	25V	50V	6.3V	10V	16V	25V	35V	50V	6.3V	10V	16V	25V	35V	50V	10V	16V	25V	35V	50V	25V	50V	25V	50V		
105	O	O	B	B	B	B	B	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	F	F	F	F		
155																														
225			B	B				D	D	D	D	D	D	E	E	E	E	E	E	E	F	F	F	F	F	F	F	F		
335														E	E	E	E	E	E	E	F	F	F	F	F	F	F	F		
475								D	D	D	D			E	E	E	E	E	E	E	F	F	F	F	F	F	F	F		
106								D	D	D				E	E	E	E	E	E	E	F	F	F	F	F	F	F	F		
226														E	E	E	E	E	E	E	F	F	F	F	F	F	F	F		
476														E	E						G	G	G							

X7S (R) Series										
Size	0402		0603			0805		1206	1210	
Code	6.3V	10V	10V	16V	25V	25V	50V	16V	6.3V	
105		O								
155										
225	O	O		B	B					
335										
475			B	B			D			
106						D				
226								E		
476										
107										G

X6S (S) Series																																		
Size	0201		0402				0603					0805					1206					1210												
Code	4V	6.3V	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	S	S	O	O	O	O		B	B	B	B	B	B				D	D	D	D	D													E
225			O	O	O	O		B	B	B	B	B	B				D	D	D	D	D													F
475			O					B	B	B	B	B	B				D	D	D	D	D													F
106			O					B	B	B	B	B	B				D	D	D	D	D													F
226							B	B									D	D	D	D	D													F
476																	D	D	D	D	D													F
107																																		F
227																																		F

X5R (B) Series																																		
Size	0201		0402				0603					0805					1206					1210												
Code	4V	6.3V	10V	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	D	D										F	
225	S	S		O	O	O	O	O	B	B	B	B	B	B				D	D	D	D	D	D										F	
335									B	B	B	B	B	B				D	D	D	D	D	D											F
475				O	O	O			B	B	B	B	B	B				D	D	D	D	D	D											F
106				O	O				B	B	B	B	B	B				D	D	D	D	D	D											F
226									B	B								D	D	D	D	D	D											F
476									B									D	D	D	D	D	D											F
107																		D	D															F
227																																		F

- The yellow indication denotes values that are under development. Please contact Holy Stone office for further details
- Other dimensions, capacitance values and voltages ratings are available on request. Please contact Holy Stone.

◆ Thickness Specification

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±0.15	1.0+0.1/-0.05	1.25±0.20	1.6±0.2	2.0±0.2	2.4±0.2	2.8±0.2