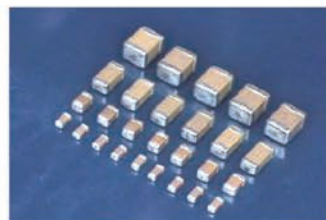


Multilayer Ceramic Chip Capacitors

[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

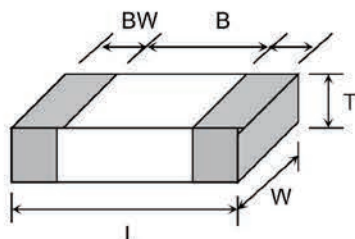
- ☐ Ideal for smoothing and decoupling circuits
- ☐ Suitable for DC-DC converter, personal computer and peripherals, telecommunication and general electronic equipment

◆ Summary of Specifications

Operation Temperature	NP0 / X7R / X7S : -55° C ~ +125° C ; X6S : -55° C ~ +105° C ; X5R : -55° C ~ +85° C
Rated Voltage	4.0Vdc ~ 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	X7S/X7R/X6S/X5R : typically 1.0%
Dielectric Strength	250% Rated Voltage

Unit : mm [inches]

◆ Dimension



TYPE	L	W	T (max)	B (min)	BW (min)
0201	0.60±0.03 [.024±.001]	0.30±0.05 [.011±.001]	0.33 [.013]	0.20 [.008]	0.10 [.004]
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

C	1206	N	103	J	025	T	F	Y
Product Code C: MLCC (Multilayer Ceramic Capacitor)	Chip Size Ex.: 0201 0402 0603 0805 1206	Dielectric N: NP0 X: X7R B: X5R	Capacitance Unit : pF Ex.: 102 : 10×10 ² 103 : 10×10 ³	Tolerance Ex.: F : +/- 1% G : +/- 2% J : +/- 5% K : +/- 10% M : +/- 20%	Rated Voltage Ex.: 016:16Vdc 025:25Vdc 050:50Vdc	Packaging T: T&R 7" R: T&R 13" B: Bulk	Thickness (mm) (Optional) Ex: E:1.6±0.20 F:2.0±0.20	Suffix Code Y

◆ 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/E	D/E	D/E	D/E	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	F	F	F	F	F	F	F	F	F
335														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
106								D	D	D				E	E	E	E	E		F	F	F	F	F	F/G	F/G	F/G	G
226														E	E					G	G	G						G
476																				G								G

X7S (R) Series									
Size	0402		0603				0805		1206
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				D	D	D	D	D						E	E					E
225			O	O	O	O		B	B	B	B	B				D	D	D	D	D					E	E	E	E	F	F	F	F
475			O	O	O	O		B	B	B	B	B				D	D	D	D	D					E	E	E	E	F	F	F	F
106			O				B	B	B	B	B					D	D	D	D	D					E	E	E	E	F	F	F	F
226							B	B								D	D	D	D						E	E	E		G	G	G	
476													D	D	D	D	D				E	E						G	G	G		
107																											G	G				
227																											G	G				

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				E	E	E	F	F	F	F	F
225	S	S		O	O	O	O	O	B	B	B	B	B	B		D	D	D	D	D	D			E	E	E	E	F	F	F	F	F
335																	D	D	D	D						E	E	E	E	F	F	
475				O	O	O			B	B	B	B	B	B		D	D	D	D	D	D			E	E	E	E	F	F	F	F	F
106				O	O				B	B	B	B	B			D	D	D	D	D	D			E	E	E	E	F	F	F	F	F/G
226									B	B						D	D	D	D	D			E	E	E	E		G	G	G	G	
476									B						D	D	D	D	D				E	E	E	E		G	G	G	G	
107															D	D							E					F/G	F/G	G		
227																												G				

- 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

■ Specifications & Test Conditions please see P53~P56

Symbol Code	O	A	B	C	D	E	F	G	H	I
Thickness(mm)	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	3.2±0.2