

Multilayer Ceramic Chip Capacitors

HVC Series – High Voltage NP0 and X7R Capacitors [General Purpose – 1KVdc to 5KVdc]



Holy Stone high voltage products are designed and manufactured to meet the general requirements of international standards. The product offering is well suited for commercial and industrial applications and includes NP0 (C0G) and X7R characteristics in sizes 0805 to 2225 and with working voltages from 1KV up to 5KV.

♦ Features

- □ Special internal electrode design offers the highest voltage rating
- □ Surface mount suitable for wave and reflow soldering
- ☐ High reliability
- RoHS compliant

◆ Applications

☐ Suitable for LAN/WLAN interface, Back-Lighting Inverter, DC-DC Converters, Ballast, Modems and Power Supplies.

Summary of Specifications

Operation Temperature	-55 °C ~ +125 °C
Rated Voltage	1KVdc to 5KVdc
Temperature Coefficient	NP0 : \leq ± 30ppm/ °C , -55 °C ~ +125 °C (EIA Class I)
	X7R : \leq ± 15% , -55 °C ~ +125 °C (EIA Class II)
Dissipation Factor	NP0: Q≧1000 , X7R : D.F.≦2.5%
Insulation Resistance	10G Ω or 500/C Ω whichever is smaller
Aging	NP0: 0% , X7R : Typically 1.0% per decade of time
Dielectric Strength	1000V≦ V : 120% Rated Voltage

♦ How To Order

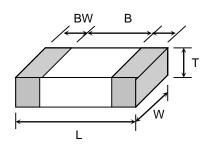
С	1206	X	102	K	202	T	E	X	Υ
Product Code C: MLCC (Multilayer Ceramic Capacitor)	Chip Size Ex.: 0805 1206 1210 1808 1812 1825 2220 2225	Dielectric Ex.: N: NP0 X: X7R	Capacitance Unit: pF Ex.: 2R0:2.0pF 100:10×10 ⁰ 471:47×10 ¹ 102:10×10 ²	Tolerance Ex.: C:+/-0.25pF D:+/-0.50pF J:+/-5% K:+/-10% M:+/-20%	Rated Voltage Ex.: 102: 1000Vdc 202: 2000Vdc 302: 3000Vdc 402: 4000Vdc 502: 5000Vdc	Packaging Ex. T: T/R 7" R: T/R 13" B: Bulk	Thickness (mm) (Optional) Ex: E:1.60±0.20 F:2.0±0.20	Special Requirement (Optional) Ex.: O: Arc Prevention Coating X: Polymer Termination (Super Term) Z: Arc Prevention and Polymer Termination	Suffix Code Y



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♦ Dimensions



				Uni	t : mm [inches]
TYPE	L	W	T (max)	B (min)	BW (min)
0805	2.00±0.20	1.25±0.20	1.45	0.70	0.20
	[.079±.012]	[.049±.012]	[.057]	[.028]	[.008]
1206	3.20±0.30	1.60±0.20	1.80	1.50	0.30
	[.126±.012]	[.063±.012]	[.071]	[.059]	[.012]
1210	3.20±0.30	2.50±0.20	2.60	1.60	0.30
	[.126±.012]	[.098±.012]	[.102]	[.059]	[.012]
1808	4.60±0.30	2.00±0.20	2.20	2.50	0.30
	[.181±.012]	[.079±.008]	[.087]	[.098]	[.012]
1812	4.60±0.30	3.20±0.30	3.00	2.50	0.30
	[.181±.012]	[.126±.012]	[.118]	[.098]	[.012]
1825	4.60±0.30	6.35±0.40	3.40	2.50	0.30
	[.181±.012]	[.250±.016]	[.118]	[.098]	[.012]
2220	5.70±0.40	5.00±0.40	3.40	3.50	0.30
	[.220±.016]	[.197±.016]	[.118]	[.137]	[.012]
2225	5.70±0.40	6.35±0.40	3.40	3.50	0.30
	[.220±.016]	[.250±.016]	[.118]	[.137]	[.012]

◆ Capacitance Range - NP0 / 1KVdc to 2KVdc

Temperature Characteristic	Size	Rated Voltage	Capacitance Range Capacitance Range
	1206	1KV	CCCBBBBBBBBBBBBBCDDDDEEE
	1206	2KV	
	1210	1KV	DDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDDD
	1808	1KV	DDDDDDDDDDDDDDDDDDDDDDDEEEEEEEE
NP0	1000	2KV	DDDDDDDDDDDDDDDDDDDDDDDEEFGH
INFO	1812	1KV	DDDDDDDDDDDDDDEFFFFFFF
	1012	2KV	DD DDDDDDDDDDEEE EEG
	2220	1KV	DDDDDDDDEEFGI
	1825	1KV	
	2225	1KV	FFF.

◆ Capacitance Range – NP0 / 3KVdc to 5KVdc

Temperature		Rated															Ca	pac	cita	ınc	e F	Ran	ge														
Characteristic	Size	Voltage	2R0	3R3	3R9	5R0	8R0	8R2	100	120	150	180	220	270	330	390	470	260	680	820	101	121	151	181	221	271	331	391	471	561	189	821	102	122	152	182	222
	1206	3KV	D	D	D	D	D	D	D	D	D	D	D	B	E	Е																					
	1808	3KV	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	О	Е	Е	F	F	F	F	F	F	F	F	F	F				
	1000	5KV	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F																				
NP0	1812	3KV	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	Ε	Е	Е	Е	Е	Е	Е	E	E	Е	F	F	G	Н			
	2208	5KV	F	F	F	F	F	F	F	F	F	E	F	F	F	F																					
	2211	5KV	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F																		
	2220	5KV	D	D	D	D	D	D	D	D	D	D	D	D	E	Ε	Ε	E	E	Ε	E	E															

- 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	0	Α	В	С	D	Е	F	G	Н	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



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◆ Capacitance Range – X7R / 1KVdc

Temperature		Rated	Capacitance Range
Temperature Characteristic	Size		101 1121 1122 1122 1122 1122 1122 1122
	0805	1KV	BBBBBBBCCCC
	1206	1KV	BBBBBBBBBBBBBBBBBBBCCDEEE
	1210	1KV	CCCD DDDDDEFFG
X7R	1808	1KV	DDDDDDDDDDDDDDD
X/IX	1812	1KV	DDDDDDDDDDDDDDDDDDDDDDDDDDDBFFFGG
	2220	1KV	DDDDDDDDDDDDDDDDDDDDDDDDEEFFF
	1825	1KV	DDDDDDDDDDDDDEEEE
	2225	1KV	

◆ Capacitance Range – X7R / 1.5KV to 2.5KV

Temperature		Rated	Г														Ca	ра	cita	anc	e F	Ran	ge													
Characteristic	Size	Voltage	151	181	221	271	331	391	471	561	681	821	102	122	152	182	222	272	332	392	472	562	682	822	103	123	153	183	223	273	333	393	473	563	683	104
		1.5KV			В	В	В	В	В	В	В	В	В	С	С	С	С	D	D	D	D	D	D	Е	ш											
	1206	2KV			В	В	В	В	В	В	В	В	В	С	С	С	С	D	D	Ε	Ε	Е														
		2.5KV											В	C	С	С	С	D	D	E	Ε	Е														
	1210	2KV			С	С	С	С	С	С	С	С	С	С	С	С	D	D	Е	E	Ε	Е	F	F	G											
X7R	1808	2KV	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	Е	Е	F											
	1812	2KV			D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	Е	E	Ε	F	F	G	Н					
	1825	2KV																	D	D	D	D	D	D	D	E	Ε	Ε	Е	F	F	G	G	Н		
	2220	2KV											D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	Е	Е	E	F	F	G	G		
	2225	2KV											D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	E	Ε	Ε	F	F	GH	1 1

◆ Capacitance Range - X7R / 3KVdc to 4KVdc

T		Detect															Ca	pac	cita	inc	e F	Rar	nge	,													٦
Temperature Characteristic	Size	Rated Voltage	151	181	221	271	331	391	471	561	681	821	102	122	152	182	222	272	332	392	472	562	682	822	103	123	153	183	223	273	333	393	473	563	083	823	104
	1206	3KV	В	В	В	В	В	C	C	C	D	D	D	E		0																					
	1808	3KV	О	D	D	D	D	D	D	D	D	D	D	D	D	D	D	Ε	E	E	F	F															╗
	1000	4KV	D	D	D	D	D	Е	Е	E	F	F	F																								╗
	1812	3KV			D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	D	Е	Е	Е	F	F												╗
X7R	1825	3KV									D	D	D	D	D	D	D	D	D	D	D	D	D	Е	Е	Ε	F	G								Т	╗
A/K	1825	4KV									1																										╗
	2220	3KV									D	D	D	D	D	D	D	D	D	D	D	D	D	Ε	Е	E	F	G									╗
	2220	4KV																																		Т	╗
	2225	3KV															D	D	D	D	D	D	D	D	D	D	Е	E	E	F	G					Ī	╛
	2225	4KV																																			∄

♦ Thickness Specification

Symbol Code	0	Α	В	С	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



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