

Multilayer Ceramic Capacitors

[250V to 630V High Voltage & Low DC Bias]

HCP Series



Holy Stone high voltage products are designed and manufactured to meet the general requirements of international standards. The X7P product offering is ideally suited for LED driver, lighting, power adapter and USB charger applications where effective capacitance at working voltage is critical to circuit design.

◆ Features

- +/-10% Temperature Coefficient from -55° C to +125° C
- Low DC Bias characteristics
- Competitive price compared to X7T dielectric
- 1206, 1210, 1812, 2220 sizes. Other sizes and dielectric available upon request

◆ Applications

- LED Drivers
- Power Adapters/USB Chargers
- Lighting
- Power Supplies
- General telecommunications equipment

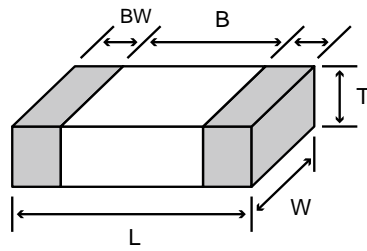
◆ Summary of Specifications

Operation Temperature	-55 °C ~ +125 °C
Rated Voltage	250Vdc, 400Vdc , 450Vdc and 630Vdc
Temperature Coefficient	± 10% at -55 °C ~ +125 °C
Capacitance Range	10nF ~0.68uF, other capacitance values available upon request
Dissipation Factor	0.8% max. at 1KHz 25 °C
Insulation Resistance	10GΩ or 500/CΩ, whichever is smaller
Dielectric Withstanding	1.5 x WVDC for 5 sec
Capacitance Tolerance	5% , 10% , 20%

◆ How To Order

C	1206	P	104	K	401	T	E	X	Y
Product Code	Chip Size	Dielectric	Capacitance Unit : pF	Tolerance	Rated Voltage	Packaging	Thickness (mm) (Optional)	Special Requirement	Suffix Code
C: MLCC (Multilayer Ceramic Capacitor)	Ex: 1206 1210 1812 2220	Ex: P: X7P	Ex: 103: 10 x 10 ³ 104: 10 x 10 ⁴ 224: 22 x 10 ⁴	Ex: J :+/- 5% K :+/-10% M:+/-20%	Ex: 251: 250Vdc 401: 400Vdc 451: 450Vdc 631: 630Vdc	Ex: T: T&R 7" R: T&R 13" B: Bulk	Ex: D: 1.25±0.20 E: 1.60±0.20	Ex: O: Arc Prevention Coating X: Polymer Termination (Super Term) Z: Arc coating and Polymer Termination	Y

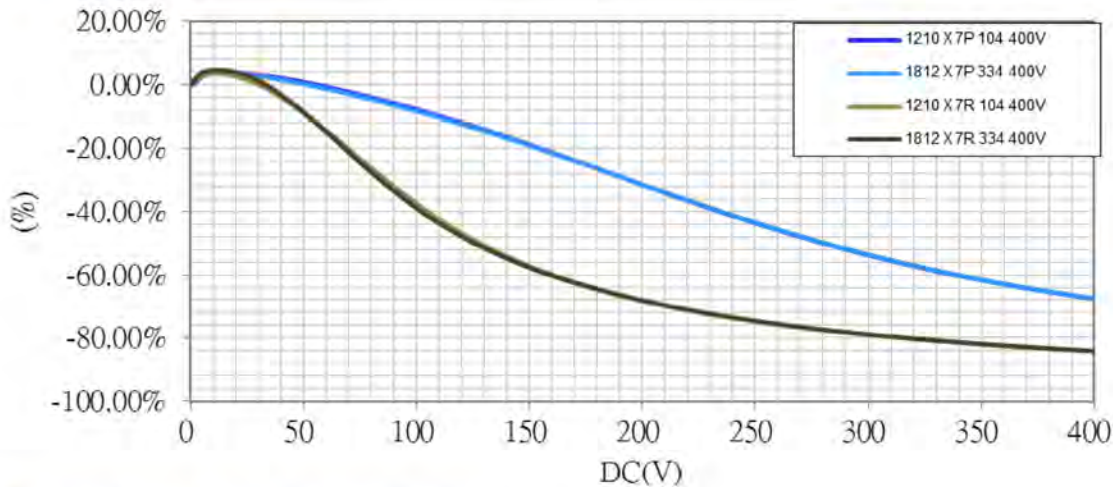
◆ Dimensions



Unit : mm [inches]

SIZE	L	W	T (max)	B (min)	BW (min)
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 [.126±.012]	2.60 [.102]	1.60 [.059]	0.30 [.012]
1812	4.60±0.30 [.181±.012]	3.20±0.30 [.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]

◆ DC Bias Comparison

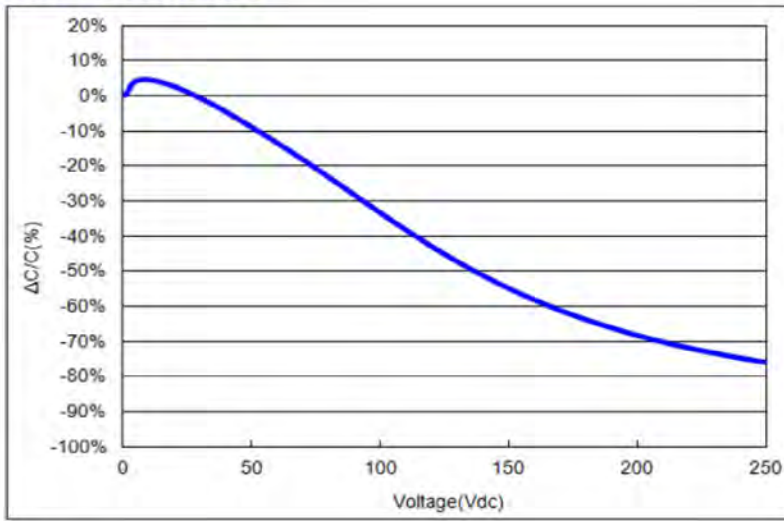


◆ Capacitance Range (preferred values)

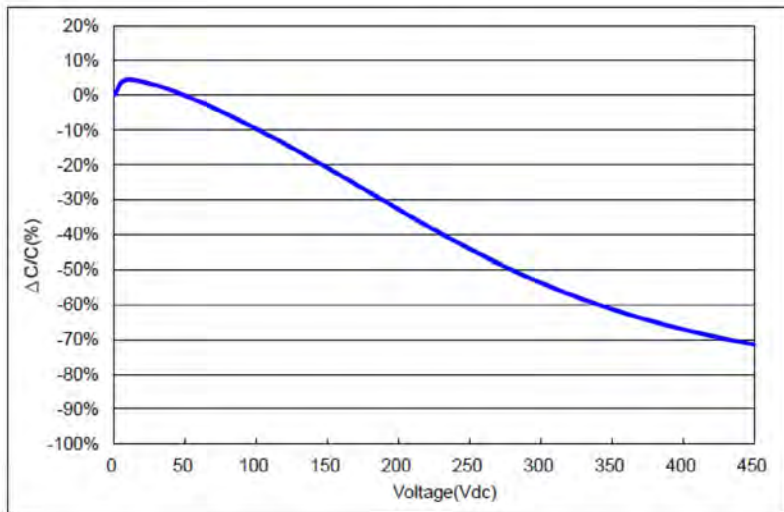
Temperature Characteristic	Voltage (V)	Size	Capacitance Range																			
			103	123	153	183	223	273	333	393	473	563	683	823	104	154	224	334	394	474	684	
X7P	250V	1206	B		B		B		B	B	C		C		D		E					
		1210							C		C		C		C		F	F	F			
	400V	1206	B		B		C		D	D	E		E		E							
		1210							C		D		D		E	F		F				
		1812															F	F				
	2220																				F	F
	450V	1206											E		E							
		1210																F				
		1812																F	F		G	
630V	1206	B		B		C		D	D	E		E										
	1210							C		D		D		E/F	F/G							

■ Other dimensions, capacitance values and voltage ratings are available on request. Please contact Holy Stone.

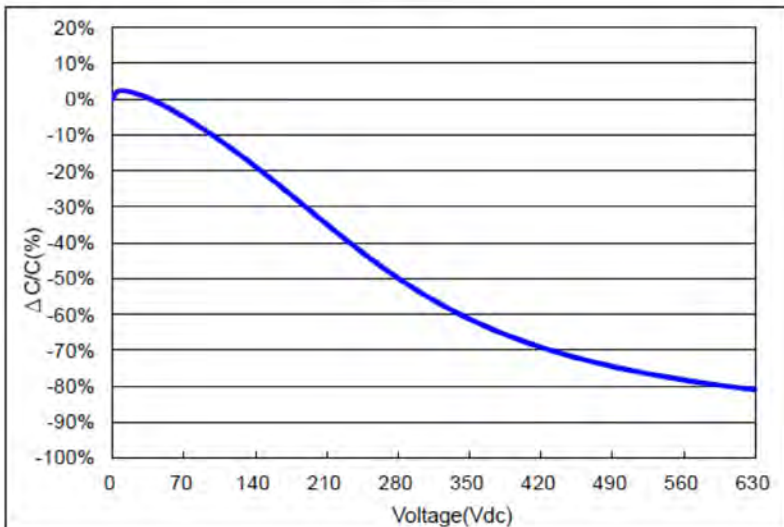
◆ DC Bias Characteristics



C1206P224K251T
DC Bias Characteristics
(typical)



C1206P473K451T
DC Bias Characteristics
(typical)



C1210P104K631T
DC Bias Characteristics
(typical)