



*Holy Stone Enterprise Co., Ltd.*

# CERAMIC CAPACITOR CATALOG

## **HCT Series**

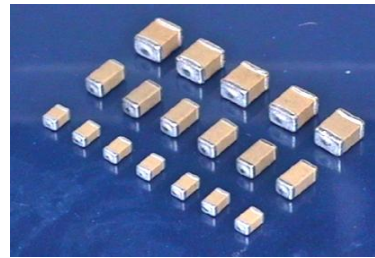
**Commerical grade  
High Voltage &  
Low DC Bias**

[www.holystone.com.tw](http://www.holystone.com.tw)

[www.holystonecaps.com](http://www.holystonecaps.com)

## HCT Series

Multilayer Ceramic Chip Capacitors  
250V ~ 630V High Voltage & Low DC Bias



Holy Stone high voltage products are designed and manufactured to meet the general requirements of international standards. The X7T 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

+22/-33% Temperature Coefficient  
from -55° C to +125° C  
Low DC Bias characteristics  
1206, 1210, 1812 sizes, other sizes and dielectric available upon request  
These dielectrics produce lower acoustic noise.

### ◆ Applications

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

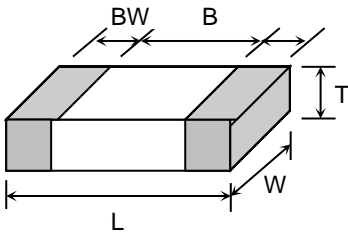
### ◆ Summary of Specifications

|                         |  |
|-------------------------|--|
| Operation Temperature   | -55 to +125 °C   |
| Rated Voltage           | 250Vdc ~630Vdc   |
| Temperature Coefficient | +22/-33% at -55°C ~+125°C                                    |
| Capacitance Range       | 10nF~0.47uF ,other capacitance values available upon request |
| Dissipation Factor :    | 2.5% max. at 1KHz 25°C                                       |
| Insulation Resistance   | 10GΩ or 500 MΩ ·μF min. whichever is smaller                 |
| Dielectric Withstanding | 1.5 x WVDC for 5 sec   |
| Capacitance Tolerance   | ± 10% , ± 20%,   |

### ◆ How To Order

|   |                                   |                       |   |   |   |  |  |
|---|-----------------------------------|-----------------------|---|---|---|--|--|
| C   | 1210                              | T                     | 154   | K   | 631   | T  | X  |
| Product Code<br>C : MLCC Multilayer Ceramic Capacitor | Chip Size<br>1206<br>1210<br>1812 | Dielectric<br>T : X7T | Capacitance Unit : pF<br>Example:<br>103 : 10 x 10 <sup>3</sup><br>104 : 10 x 10 <sup>4</sup><br>224 : 22 x 10 <sup>4</sup> | Tolerance<br>Example:<br>J : +/- 5%<br>K : +/-10%<br>M : +/-20% | Rated Voltage<br>Example:<br>251 : 250Vdc<br>451 : 450Vdc<br>631 : 630Vdc | Packaging<br>T : T/R 7"<br>R : T/R 13"<br>B : Bulk | Special Requirement<br>Example:<br>O : Arc Prevention Coating<br>X : Polymer Termination (Super Term)<br>Z : Arc coating and Polymer Termination |

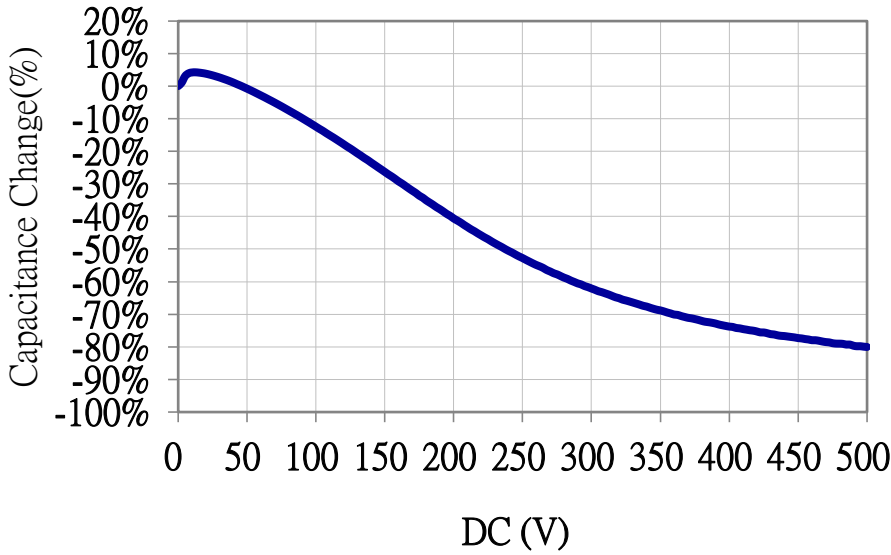
◆ Dimensions



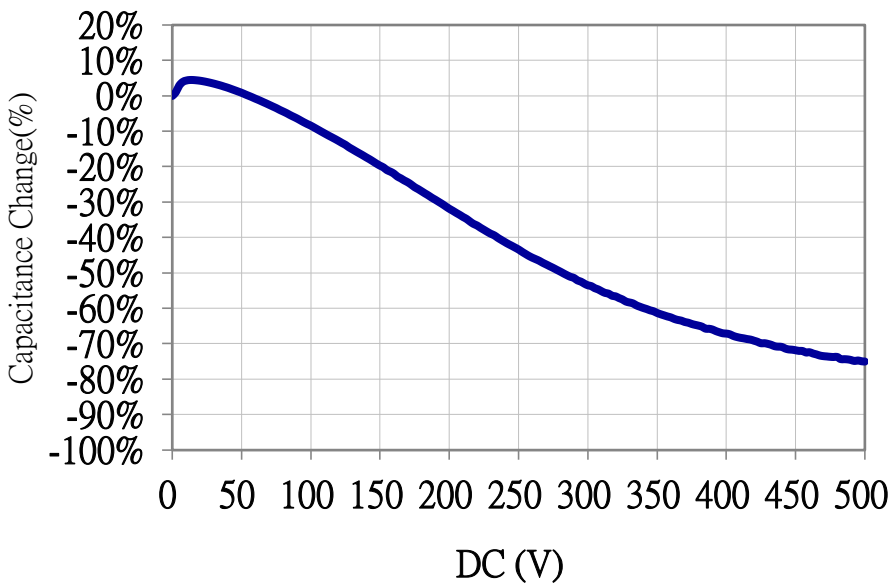
| SIZE | L           | W           | T (max) | B (min) | BW (min) |
|------|-------------|-------------|---------|---------|----------|
| 1206 | 3.20±0.30   | 1.60±0.20   | 1.80    | 1.50    | 0.30     |
|      | [.126±.012] | [.126±.012] | [.071]  | [.059]  | [.012]   |
| 1210 | 3.20±0.30   | 2.50±0.20   | 2.60    | 1.60    | 0.30     |
|      | [.126±.012] | [.126±.012] | [.102]  | [.059]  | [.012]   |
| 1812 | 4.60±0.30   | 3.20±0.30   | 3.00    | 2.50    | 0.30     |
|      | [.181±.012] | [.126±.012] | [.118]  | [.098]  | [.012]   |

◆ Capacitance Range (preferred values)

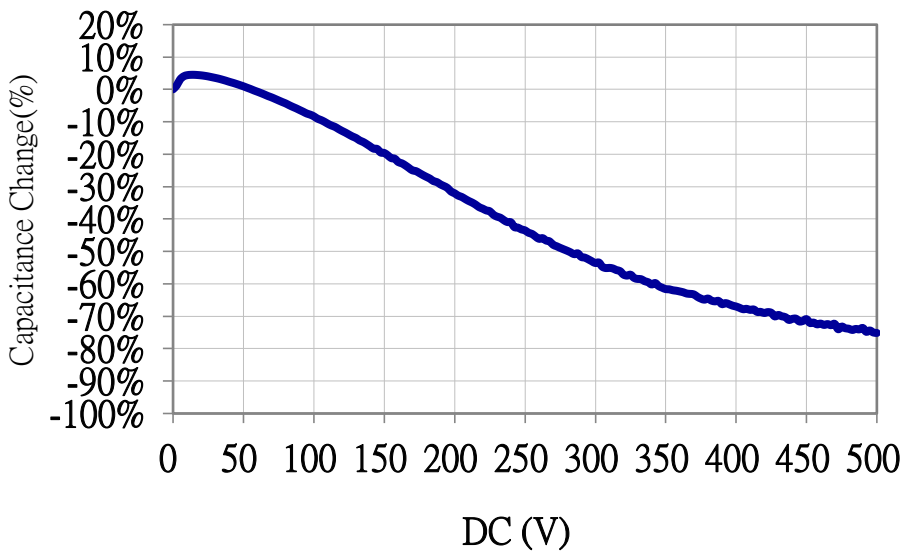
| Temperature Characteristic | Voltage | Size | EIA Capacitance Code |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |
|----------------------------|---------|------|----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|
|                            |         |      | 103                  | 123 | 153 | 183 | 223 | 273 | 333 | 393 | 473 | 563 | 683 | 823 | 104 | 154 | 224 | 334 | 394 | 474 | 684 |  |  |
| X7T                        | 250V    | 1206 |                      |     |     |     |     |     |     |     |     |     |     |     |     |     | E   |     |     |     |     |  |  |
|                            |         | 1210 |                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | F   |     |     |  |  |
|                            | 450V    | 1206 |                      |     |     |     |     |     |     |     |     | E   |     | E   |     |     |     |     |     |     |     |  |  |
|                            |         | 1210 |                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     | F   |     |     |     |  |  |
|                            | 630V    | 1206 | B                    |     | B   |     | C   |     | D   |     | E   |     |     |     |     |     |     |     |     |     |     |  |  |
|                            |         | 1210 |                      |     |     |     |     |     |     |     |     |     |     |     | E   | F   |     |     |     |     |     |  |  |
|                            |         |      |                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |  |  |



C1812T334K451T  
DC Bias Characteristics  
(typical)



C1210T154K631T  
DC Bias Characteristics  
(typical)



C1206T473K631T  
DC Bias Characteristics  
(typical)

| Cap            | Size                      | Thickness | Cap. Tol. | Catalog Number         |                        |                        |
|----------------|---------------------------|-----------|-----------|------------------------|------------------------|------------------------|
|                |                           |           |           | Rated Voltage Vdc 250V | Rated Voltage Vdc 450V | Rated Voltage Vdc 630V |
| 103<br>(10nF)  | 1206 B/0.85±0.15mm        |           | K         |                        |                        | C1206T103K631T         |
| 153<br>(15nF)  | 1206 B/0.85±0.15mm        |           | K         |                        |                        | C1206T153K631T         |
| 223<br>(22nF)  | 1206 C/1.0 +0.1mm -0.05mm |           | K         |                        |                        | C1206T223K631T         |
| 333<br>(33nF)  | 1206 D/1.25±0.2mm         |           | K         |                        |                        | C1206T333K631T         |
| 473<br>(47nF)  | 1206 E/1.6±0.2mm          |           | K         |                        |                        | C1206T473K631T         |
| 683<br>(68nF)  | 1206 E/1.6±0.2mm          |           | K         |                        | C1206T683K451T         |                        |
| 104<br>(100nF) | 1206 E/1.6±0.2mm          |           | K         |                        | C1206T104K451T         |                        |
|                | 1210 E/1.6±0.2mm          |           | K         |                        |                        | C1210T104K631T         |
| 154<br>(150nF) | 1210 F/2.0±0.2mm          |           | K         |                        |                        | C1210T154K631T         |
| 224<br>(220nF) | 1206 E/1.6±0.2mm          |           | K         | C1206T224K251T         |                        |                        |
|                | 1210 F/2.0±0.2mm          |           | K         |                        | C1210T224K451T         |                        |
| 334<br>(330nF) | 1210 F/2.0±0.2mm          |           | K         | C1210T334K251T         |                        |                        |
|                | 1812 F/2.0±0.2mm          |           | K         |                        | C1812T334K451T         |                        |
| 474<br>(470nF) | 1812 G/2.4±0.2mm          |           | K         |                        | C1812T474K451T         |                        |