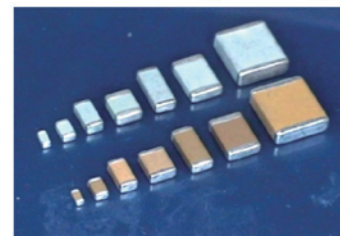


## Multilayer Ceramic Chip Capacitors

[ Middle Voltage Capacitors – NPO,X7R,100Vdc to 630Vdc ]



## MVC Series

**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 0603 to 2225 and with working voltages up to 630Vdc.

### ◆ 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.

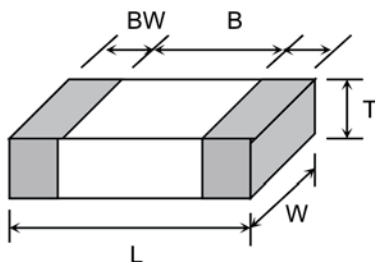
### ◆ Summary of Specifications

|                         |                                                                                                                 |
|-------------------------|-----------------------------------------------------------------------------------------------------------------|
| Operation Temperature   | -55 °C ~ +125 °C                                                                                                |
| Rated Voltage           | 100Vdc ~ 630Vdc                                                                                                 |
| Temperature Coefficient | NP0 : $\pm 30$ ppm/ °C , -55 °C ~ +125 °C (EIA Class I )<br>X7R : $\pm 15\%$ , -55 °C ~ +125 °C (EIA Class II ) |
| Dissipation Factor      | NP0 : $Q \geq 1000$ , X7R : D.F. $\leq 2.5\%$                                                                   |
| Insulation Resistance   | 10GΩ or 500/CΩ, whichever is smaller                                                                            |
| Aging                   | NP0 : 0% , X7R : Typically 1.0% per decade of time                                                              |
| Dielectric Strength     | 100V $\leq V < 500V$ : 200% Rated Voltage                                                                       |
|                         | 500V $\leq V < 1000V$ : 150% Rated Voltage                                                                      |
|                         | 1000V $\leq V$ : 120% Rated Voltage                                                                             |

### ◆ How To Order

| C                                      | 1206                                                                         | X                        | 102                                                                                             | K                                                                             | 631                                                              | T                                         | E                                | X                                                                                                            | Y           |
|----------------------------------------|------------------------------------------------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|------------------------------------------------------------------|-------------------------------------------|----------------------------------|--------------------------------------------------------------------------------------------------------------|-------------|
| Product Code                           | Chip Size                                                                    | Dielectric               | Capacitance Unit : pF                                                                           | Tolerance                                                                     | Rated Voltage                                                    | Packaging                                 | Thickness (mm) (Optional)        | Special Requirement (Optional)                                                                               | Suffix Code |
| C: MLCC (Multilayer Ceramic Capacitor) | Ex.:<br>0603<br>0805<br>1206<br>1210<br>1808<br>1812<br>1825<br>2220<br>2225 | Ex.:<br>N: NP0<br>X: X7R | Ex.:<br>2R0:2.0pF<br>100:10x10 <sup>0</sup><br>471:47x10 <sup>1</sup><br>102:10x10 <sup>2</sup> | Ex.:<br>C: +/-0.25pF<br>D: +/-0.50pF<br>J : +/- 5%<br>K : +/-10%<br>M: +/-20% | Ex.:<br>101: 100Vdc<br>251: 250Vdc<br>501: 500Vdc<br>631: 630Vdc | Ex.<br>T: T&R 7"<br>R: T&R 13"<br>B: Bulk | Ex:<br>E:1.60±0.20<br>F:2.0±0.20 | Ex.:<br>O: Arc Prevention Coating<br>X: Polymer Termination (Super Term)<br>Z: Coating & Polymer Termination | Y           |

## ◆ Dimensions



Unit : mm [inches]

| Unit : mm (inches) |                          |                           |                |                |                |
|--------------------|--------------------------|---------------------------|----------------|----------------|----------------|
| TYPE               | L                        | W                         | T (max)        | B (min)        | BW (min)       |
| 0603               | 1.60±0.10<br>[.063±.004] | 0.80±0.10<br>[.031 ±.004] | 1.00<br>[.039] | 0.40<br>[.016] | 0.15<br>[.006] |
| 0805               | 2.00±0.20<br>[.079±.012] | 1.25±0.20<br>[.049±.012]  | 1.45<br>[.057] | 0.70<br>[.028] | 0.20<br>[.008] |
| 1206               | 3.20±0.30<br>[.126±.012] | 1.60±0.20<br>[.063±.012]  | 1.80<br>[.071] | 1.50<br>[.059] | 0.30<br>[.012] |
| 1210               | 3.20±0.30<br>[.126±.012] | 2.50±0.20<br>[.098±.012]  | 2.60<br>[.102] | 1.60<br>[.059] | 0.30<br>[.012] |
| 1808               | 4.60±0.30<br>[.181±.012] | 2.00±0.20<br>[.079±.008]  | 2.20<br>[.087] | 2.50<br>[.098] | 0.30<br>[.012] |
| 1812               | 4.60±0.30<br>[.181±.012] | 3.20±0.30<br>[.126±.012]  | 3.00<br>[.118] | 2.50<br>[.098] | 0.30<br>[.012] |
| 1825               | 4.60±0.30<br>[.181±.012] | 6.35±0.40<br>[.250±.016]  | 3.40<br>[.118] | 2.50<br>[.098] | 0.30<br>[.012] |
| 2220               | 5.70±0.40<br>[.220±.016] | 5.00±0.40<br>[.197±.016]  | 3.00<br>[.118] | 3.50<br>[.137] | 0.30<br>[.012] |
| 2225               | 5.70±0.40<br>[.220±.016] | 6.35±0.40<br>[.250±.016]  | 3.00<br>[.118] | 3.50<br>[.137] | 0.30<br>[.012] |

◆ Capacitance Range – NP0 / 100Vdc to 630Vdc

[illegible]

[illegible]