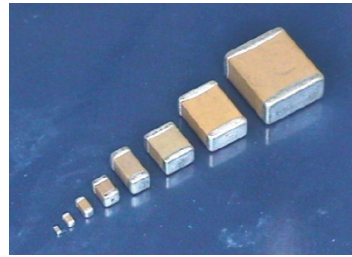




**THE DATASHEET OF  
C0402B105K016T**



## Multilayer Ceramic Chip Capacitors [ Normal Chip Capacitors – NP0,X7R,X5R,Y5V ] NCC Series



Standard Multilayer Ceramic Chip Capacitors are available in a full range of sizes and temperature coefficients, with voltage ratings from 6.3V to 50V.

### ◆ Features

- Surface mount suitable for wave and reflow soldering
- Small size and high reliability
- Excellent in high frequency characteristics
- RoHS compliant

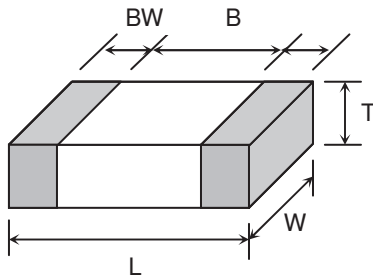
### ◆ Applications

- Suitable for general electronics circuit, telecommunication, personal computers and peripheral, power circuit, mobile application & etc ...

### ◆ Summary of Specifications

|                         |  |
|-------------------------|--|
| Operation Temperature   | NP0 & X7R : -55 °C ~ +125 °C , X5R : -55 °C ~ +85 °C , Y5V : -30 °C ~ +85 °C           |
| Rated Voltage           | 6.3Vdc to 50Vdc  |
| Temperature Coefficient | NP0 : $\leq \pm 30\text{ppm}/^\circ\text{C}$ , -55 °C ~ +125 °C (EIA Class I)          |
|                         | X7R : $\leq \pm 15\%$ , -55 °C ~ +125 °C (EIA Class II)                                |
|                         | X5R : $\leq \pm 15\%$ , -55 °C ~ +85 °C (EIA Class II)                                 |
|                         | Y5V : +22%/-82% , -30 °C ~ +85 °C (EIA Class II)                                       |
| Dissipation Factor      | NP0 : More than 30pF: $Q \geq 1000$ (0.001) , 30pF and below : $Q \geq 400+20C$ (C=pF) |
|                         | X7R, X5R and Y5V: Please see HEC specification data sheet                              |
| Insulation Resistance   | 10G $\Omega$ or 500/C $\Omega$ whichever is smaller (C in Farads)                      |
| Aging                   | NP0 : 0% , X7R/X5R : typically 1.0% , Y5V $\leq 7\%$ per decade of time                |
| Dielectric Strength     | 250% Rated Voltage   |

### ◆ Dimensions



| TYPE | L                        | W                         | T (max)        | B (min)        | BW (min)       |
|------|--------------------------|---------------------------|----------------|----------------|----------------|
| 0201 | 0.60±0.03<br>[.024±.001] | 0.30±0.03<br>[.011 ±.001] | 0.33<br>[.013] | 0.20<br>[.008] | 0.10<br>[.004] |
| 0402 | 1.00±0.05<br>[.039±.002] | 0.50±0.05<br>[.020 ±.002] | 0.55<br>[.022] | 0.30<br>[.012] | 0.15<br>[.006] |
| 0603 | 1.60±0.10<br>[.063±.004] | 0.80±0.10<br>[.031 ±.004] | 0.95<br>[.037] | 0.40<br>[.016] | 0.15<br>[.006] |
| 0805 | 2.00±0.20<br>[.079±.012] | 1.25±0.20<br>[.049 ±.008] | 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±.008]  | 1.80<br>[.071] | 1.50<br>[.059] | 0.30<br>[.012] |

### ◆ How To Order




| Product Code                                   | Chip Size                                    | Dielectric                                   | Capacitance Unit : pF  | Tolerance  | Rated Voltage  | Packaging                          |
|--|--|--|--|--|--|------------------------------------|
| C: MLCC (Multilayer Ceramic Chip of Capacitor) | Ex.:<br>0201<br>0402<br>0603<br>0805<br>1206 | Ex.:<br>N: NP0<br>X: X7R<br>B: X5R<br>Y: Y5V | Ex.:<br>102 : 10×10 <sup>2</sup><br>473 : 47×10 <sup>3</sup><br>104 : 10×10 <sup>4</sup> | Ex.:<br>C : +/- 0.25pF<br>D : +/- 0.50pF<br>F : +/- 1%<br>G : +/- 2%<br>J : +/- 5%<br>K : +/- 10%<br>M : +/- 20%<br>Z : +80/-20% | Ex.:<br>007 : 6.3Vdc<br>010 : 10Vdc<br>016 : 16Vdc<br>025 : 25Vdc<br>050 : 50Vdc | T: T&R 7"<br>R: T&R 13"<br>B: Bulk |



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