**BREL**

# Ceramic Capacitor
# Temperature Coefficient (TC) Coding

Class I-Temperature Compensation Type Ceramic

| TC PPM/C | Symbol For TC | TC Tolerance, PPM/C | |
| --- | --- | --- | --- |
| | | +25C to +85C (See 4.10) | +25C to -55C *(Calculated) |
| NP0 | C0 | +-30ppm | +30, -72 |
| N33 | S1 | +-30ppm | +30, -79 |
| N75 | U1 | +-30ppm | +30, -89 |
| N150 | P2 | +-30ppm | +30, -105 |
| N220 | R2 | +-30ppm | +30, -120 |
| N330 | S2 | +-60ppm | +60, -180 |
| N470 | T2 | +-60ppm | +60, -210 |
| N750 | U2 | +-120ppm | +120, -350 |
| N1500 | P3 | +-250ppm | +250, -670 |
| N2200 | R3 | +-400ppm | +400, -1000 |
| N3300 | S4 | +-600ppm | +500, -1500 |
| N4700 | T3 | +-1000ppm | +1000, -2300 |
| N5600 | | +-1000ppm | +1000, -2500 |

Class II-Temperature Stable Type Ceramic

| Low Temperature Requirement | Letter Symbol | High Temperature Requirement | Numerical Symbol | Maximum Capacitance Change Over Temperature Range | Letter Symbol |
| --- | --- | --- | --- | --- | --- |
| +10C | Z | +45C | 2 | +1.0% | A |
| -30C | Y | +65C | 4 | +1.5% | B |
| -55C | X | +85C | 5 | +2.2% | C |
| | | +105C | 6 | +3.3% | D |
| | | +125C | 7 | +4.7% | E |
| | | | | +7.5% | F |
| | | | | +10.0% | P |
| | | | | +15.0% | R |
| | | | | +22% | S |
| | | | | +22%-33% | T |
| | | | | +22%-56% | U |
| | | | | +22%-82% | V |

The temperature characteristic is defined by establishing limits for the variation of capacitance with temperature over a specified temperature range using the capacitance value @+25C as a reference. As the shape of the temperature vs. capacitance curve is not defined, it only stays within the limits.

The code is composed of a letter, a number, and another letter in that order. The first letter establishes the lower temperature limit, the number establishes the upper limit, and the last letter denotes the maximum excursion over this range using the +25C value as the reference. The variation is expressed in percent (%).

*Calculated per EIA STD RS-196-B, Section 1.4 for reference only.*
17 Sept 2002-02091701.doc