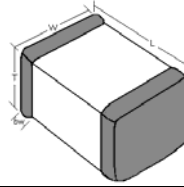


# Surface Mount Capacitors: 0402 - X7R ; X5R

## 0402 SMT Capacitors feature:

- 0402 Case Size
- High Voltage
- Low ESR
- X7R / X5R Dielectric Materials



## Mechanical Dimensions

Length (L): .040" ± .005"

Width (W): .020" ± .005"

Thickness (T): .023" max

Bandwidth (bw): .010" ± .005"

## Capacitance Value

| Value (pF) | Cap. Code | Max Voltage | Dielectric | Value (pF)      | Cap. Code | Max Voltage | Dielectric |
|------------|-----------|-------------|------------|-----------------|-----------|-------------|------------|
| 100        | 101       | 200 VDC     | X7R        | 5600            | 562       | 200 VDC     | X7R        |
| 120        | 121       | ↓           | X7R        | 6800            | 682       | ↓           | X7R        |
| 150        | 151       | ↓           | X7R        | 8200            | 822       | ↓           | X7R        |
| 180        | 181       | ↓           | X7R        | 10,000 (.01μF)  | 103       | 200 VDC     | X7R        |
| 220        | 221       | ↓           | X7R        | 12,000 (.012μF) | 123       | 150 VDC     | X7R        |
| 270        | 271       | ↓           | X7R        | 15,000 (.015μF) | 153       | 100 VDC     | X7R        |
| 330        | 331       | ↓           | X7R        | 22,000 (.022μF) | 223       | ↓           | X7R        |
| 390        | 391       | ↓           | X7R        | 33,000 (.033μF) | 333       | ↓           | X7R        |
| 470        | 471       | ↓           | X7R        | 47,000 (.047μF) | 473       | ↓           | X7R        |
| 680        | 681       | ↓           | X7R        | 56,000 (.056μF) | 563       | ↓           | X7R        |
| 1000       | 102       | ↓           | X7R        | 68,000 (.068μF) | 683       | ↓           | X7R        |
| 1200       | 122       | ↓           | X7R        | 100,000 (.10μF) | 104       | ↓           | X7R        |
| 1500       | 152       | ↓           | X7R        | 150,000 (.15μF) | 154       | 50 VDC      | X7R        |
| 1800       | 182       | ↓           | X7R        | 220,000 (.22μF) | 224       | ↓           | X7R        |
| 2000       | 202       | ↓           | X7R        | 330,000 (.33μF) | 334       | ↓           | X7R        |
| 2200       | 222       | ↓           | X7R        | 470,000 (.47μF) | 474       | ↓           | X5R,X7R    |
| 2400       | 242       | ↓           | X7R        | 680,000 (.68μF) | 684       | ↓           | X5R, X7R   |
| 2700       | 272       | ↓           | X7R        | 1,000,000(1μF)  | 105       | ↓           | X5R,X7R    |
| 3300       | 332       | ↓           | X7R        | 2200000(2.2μF)  | 225       | 16 VDC      | X5R,X7R    |
| 3900       | 392       | ↓           | X7R        | 4700000(4.7μF)  | 475       | 16 VDC      | X5R,X7R    |
| 4700       | 472       | ↓           | X7R        | 10μF            | 106       | 10 VDC      | X5R,X7R    |

**\*\* For Additional Capacitance Values and Working Voltages, Please Contact the Factory \*\***

## ORDERING INFORMATION

| Case Size                         | Dielectric         | Capacitance  | Tolerance                                   | Voltage   | Termination   | Packaging                            | Hi-Reli Testing  |
|-----------------------------------|--------------------|--|---|---|---|--------------------------------------|--|
| 0402                              | X                  | 472  | K   | 201   | SN  | T                                    | - A  |
| Mechanical Dimensions Shown Above | X = X7R<br>B = X5R | First 2 digits are Significant; Third digit indicates # of Zeros. Use "R" for decimal point<br>Examples:<br>201 = 200pF<br>2R2 = 2.2pF | F ±1%<br>G ±2%<br>J ±5%<br>K ±10%<br>M ±20% | First 2 digits are Significant; Third digit indicates number of Zeros<br>Examples:<br>201 = 200V<br>151 = 150V<br>500 = 50V | S Solder Over Nickel Plated<br>SN Tin over Nickel Plated (RoHS Compliant)<br>G Gold over Nickel Plated (RoHS Compliant) | T = Tape and Reel<br>W = Waffle Pack | (Optional)<br>A = Group A<br>B = Group B<br>C = Group C<br>Tested and Screened |