



X7R RF By-Pass Capacitors

**2225X (0.220" x 0.250")**

## Product Features

- High Q
- High RF Current/Voltage
- Ultra Stable Performance
- Capacitance Range:  
10nF to 1μF
- Working Voltage: 300V

## Product Applications

### Typical Functional Applications:

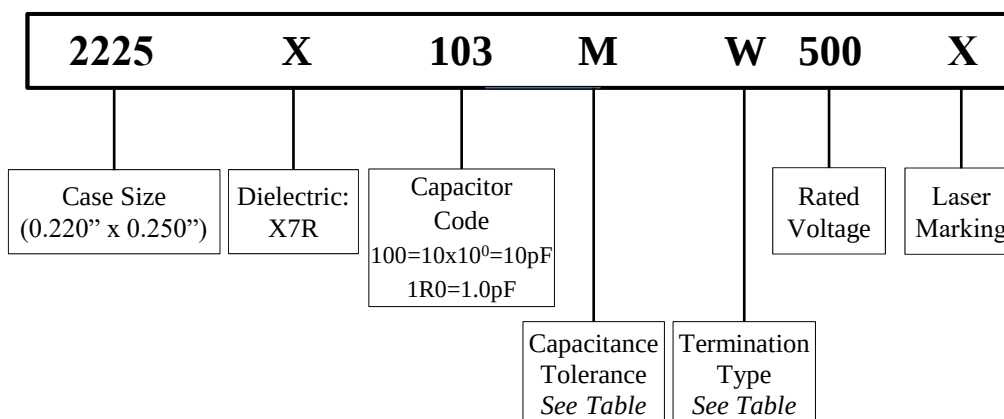
- Tuning • Bypass • Coupling
- D.C. Blocking • Impedance Matching

### Typical Circuit Applications

- UHF/Microwave RF Power Amplifiers
- Antenna Tuning • Plasma Chambers
- Medical Equipment

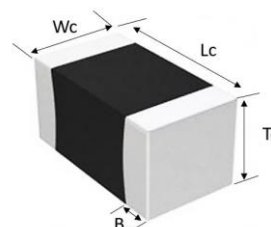


## Part Numbering



## Capacitor Dimensions Unit: $\frac{\text{inch}}{\text{mm}}$

| Length |                                                | Width             | Thickness  | Overlap             |
|--------|------------------------------------------------|-------------------|------------|---------------------|
| Lc     |                                                | Wc                | Tc         | B                   |
| 0.230  | $\begin{matrix} +0.020 \\ -0.012 \end{matrix}$ | $0.250 \pm 0.015$ | 0.165 max  | $0.030 \pm 0.015$   |
| (5.84  | $\begin{matrix} +0.51 \\ -0.30 \end{matrix}$ ) | (6.35 $\pm$ 0.38) | (4.19 max) | (0.762 $\pm$ 0.380) |





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## ≠ Capacitance Tolerance Codes

| Code | K    | M    |
|------|------|------|
| Tol. | ±10% | ±20% |

## ≠ Voltage Codes

| Voltage | Code |
|---------|------|
| 100V    | 101  |
| 150V    | 151  |
| 200V    | 201  |
| 250V    | 251  |
| 300V    | 301  |

## ≠ Termination Types

| Termination Code    | Termination                                  |
|---------------------|----------------------------------------------|
| W                   | 100% Tin<br>Solder over Nickel Barrier       |
| L                   | 90%Tin/10%Lead<br>Solder over Nickel Barrier |
| P<br>(Non-Magnetic) | 100% Tin<br>Solder over Copper Barrier       |
| C                   | 100% Silver<br>Solder over Palladium Barrier |

Note: "Non-Magnetic" means no magnetic materials.

## ≠ 2225X Capacitance Values

Special capacitances, tolerances and WVDC are available. Please contact PPI.

| Cap.<br>uF | Cap<br>Code | Tol. | <u>Rated</u><br>WVDC | Cap.<br>uF | Cap<br>Code | Tol. | <u>Rated</u><br>WVDC | Cap.<br>uF | Cap<br>Code | Tol. | <u>Rated</u><br>WVDC |
|------------|-------------|------|----------------------|------------|-------------|------|----------------------|------------|-------------|------|----------------------|
| 0.010      | 103         | K,M  | 300V                 | 0.082      | 823         | K,M  | 200V                 | 0.560      | 564         | K,M  | 150V                 |
| 0.012      | 123         |      |                      | 0.100      | 104         |      |                      | 0.680      | 684         |      |                      |
| 0.015      | 153         |      |                      | 0.120      | 124         |      |                      | 0.820      | 824         | K,M  | 100V                 |
| 0.022      | 223         |      |                      | 0.150      | 154         |      |                      | 1.000      | 105         |      |                      |
| 0.033      | 333         | K,M  | 250V                 | 0.220      | 224         | K,M  | 150V                 |            |             |      |                      |
| 0.047      | 473         |      |                      | 0.330      | 334         |      |                      |            |             |      |                      |
| 0.068      | 683         |      |                      | 0.470      | 474         |      |                      |            |             |      |                      |



## Electrical Specifications

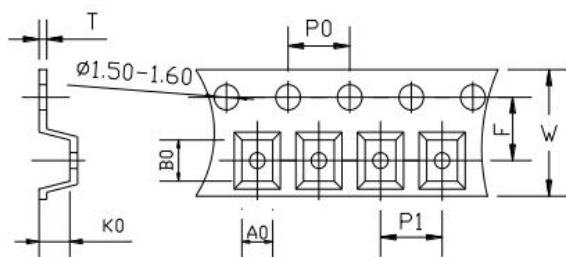
|                                       |                                                                                  |
|---------------------------------------|----------------------------------------------------------------------------------|
| Operating Temperature Range           | -55°C to +125°C                                                                  |
| Insulation Resistance (IR)            | Insulation Resistance @ +25°C > 1000ΩF<br>Insulation Resistance @ +125°C > 100ΩF |
| Temperature Coefficient               | ± 15%; -55°C to +125°C                                                           |
| Dielectric Withstanding Voltage (DWV) | 2.5x WVDC, 5 seconds                                                             |
| Max Dissipation Factor                | 0.025 (2.5%) max                                                                 |
| Test Parameters                       | 1kHz, 1.0 VRMS, 25°C                                                             |

## Recommended Land Pattern Dimensions

Regarding Landing Patterns, please refer to IPC-7351B (table 3-5, 3-6).

## Tape & Reel Specifications (mm)

| Orientation | Measurement Unit | W     | P0   | P1   | T    | F    | Min. Qty per Reel | Std. Qty per Reel | Tape Material |
|-------------|------------------|-------|------|------|------|------|-------------------|-------------------|---------------|
| H           | in.              | 0.47  | 0.16 | 0.16 | 0.02 | 0.22 | 500               | 4000              | Plastic       |
|             | mm               | 12.00 | 4.00 | 4.00 | 0.40 | 5.50 |                   |                   |               |



A<sub>0</sub>B<sub>0</sub>K<sub>0</sub>

- Determined by component size. Typical clearance between the cavity and the component is: .50 (.002) min to .65 (.026) max for 12mm tape.
- The component cannot rotate more than 20° within the determined cavity.