



X7R RF By-Pass Capacitors

**0505X (0.055" x 0.055")**

**≠ Product Features**

- High Q
- High Power
- Low ESR/ESL
- Low Noise
- High Self-Resonance
- Ultra Stable Performance
- Capacitance Range:  
470pF to 10000pF

**≠ Product Applications**

**Typical Functional Applications:**

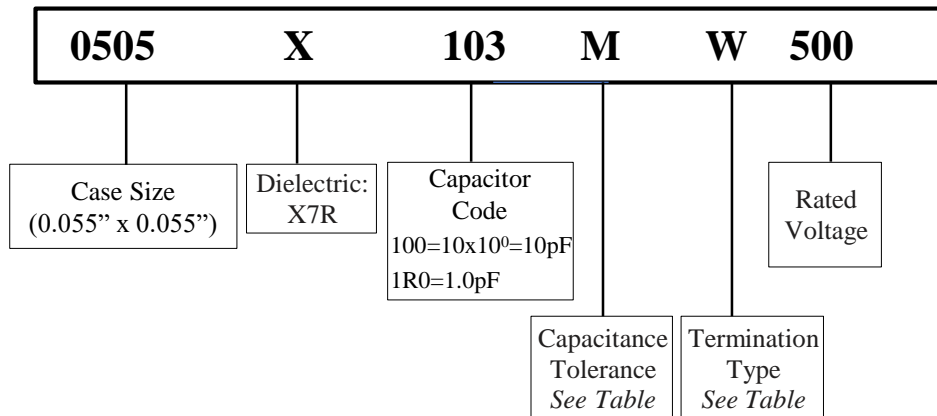
- Tuning • Bypass • Coupling
- Feedback • D.C. Blocking
- Impedance Matching

**Typical Circuit Applications:**

- UHF/Microwave RF Power Amplifiers
- Mixers • Oscillators • Filter Networks
- Low Noise Amplifiers • Timing Circuits and Delay Lines



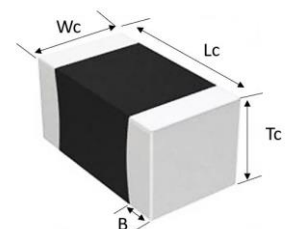
**≠ Part Numbering**



**≠ Capacitor Dimensions**

Unit: inch (millimeter)

Length	Width	Thickness	Overlap
Lc	Wc	Tc	B
0.055 + 0.015 to -0.010 (1.40 +0.38 to -0.25)	0.055 ± .010 (1.40 ±0.25)	0.057 (1.45 max)	0.014 ± 0.006 (0.356 ± 0.152)





**≠ 0505X Capacitance Values**

Cap. pF	Code	Tol.	Rated WVDC	Cap. pF	Code	Tol.	Rated WVDC	Cap. pF	Code	Tol.	Rated WVDC
470	471			1500	152			4700	472		
560	561			1800	182			5000	502		
680	681	K,M	50V Code	2200	222	K,M	50V Code	5600	562	K,M	50V
820	821		500	2700	272		500	6800	682		Code 500
1000	102			3300	332			8200	822		
1200	122			3900	392			10000	103		

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

**≠ Capacitance Tolerance Codes**

Code	K	M
Tol.	±10%	±20%

**≠ Termination Types**

Termination Code	Plated Material
W	Sn/Ni
L	90% Sn10%Pb
P (Non-Magnetic)	Sn/ Cu
C	Ag/Pb
G	Au/Ni

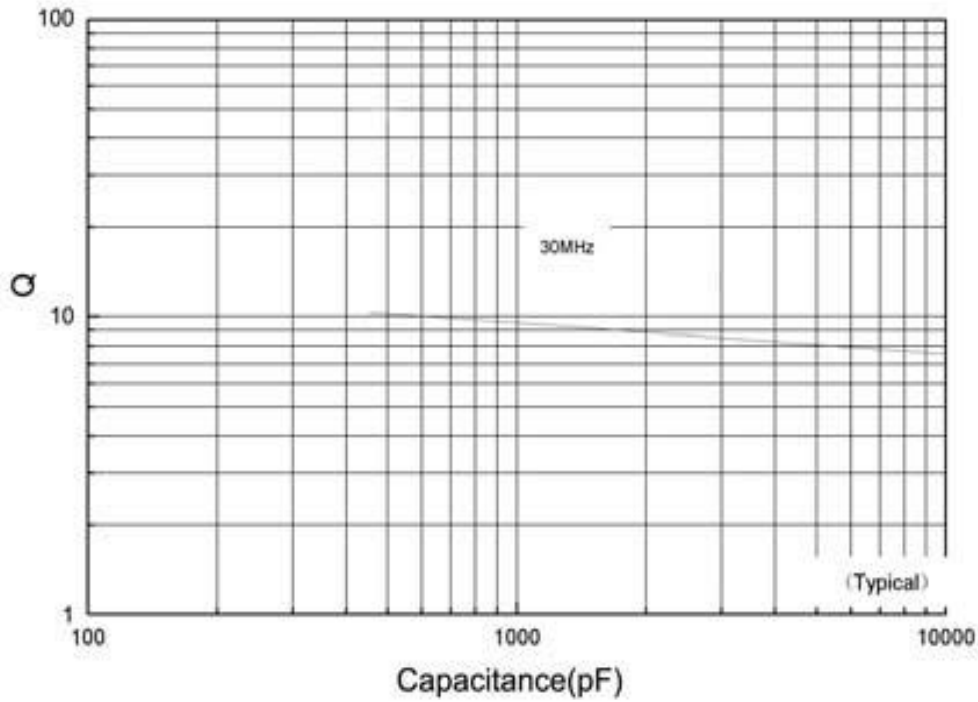


Note: "Non-Magnetic" means no magnetic materials.

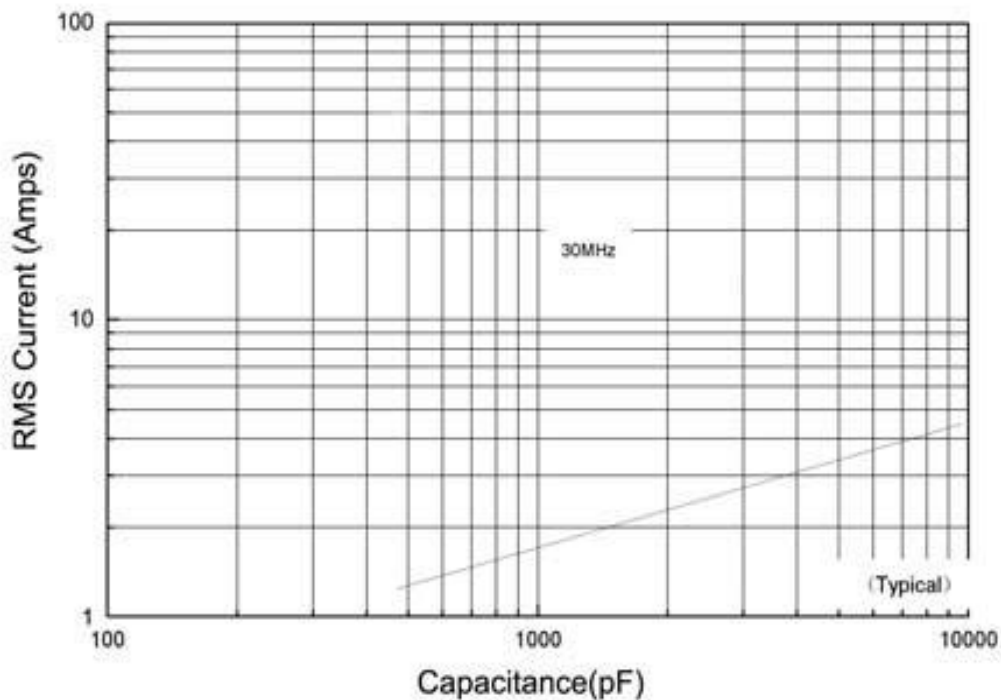
**≠ Electrical Specifications**

Operating Temperature Range	-55°C to +125°C
Insulation Resistance (IR)	Insulation Resistance @ +25°C > 1000ΩF Insulation Resistance @ +125°C > 100ΩF
Temperature Voltage Coefficient	+15/-25% ΔC (-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
Terminal Strength	5 lbs. min per Mil-STD-202, Method 211
Aging	3% max per decade hour
Working Voltage	50V

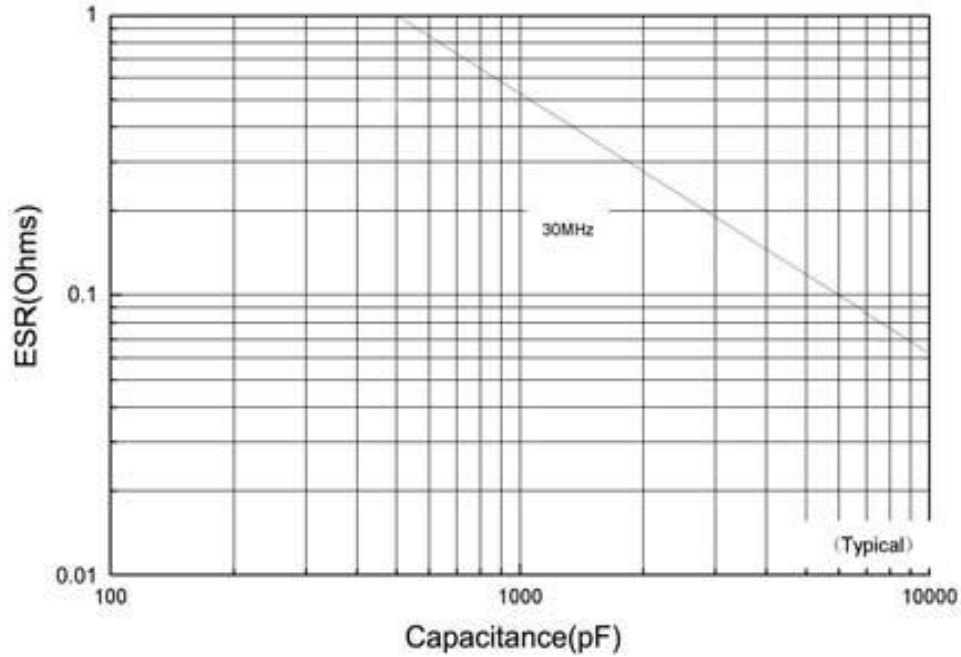
**≠ Q vs. Frequency**



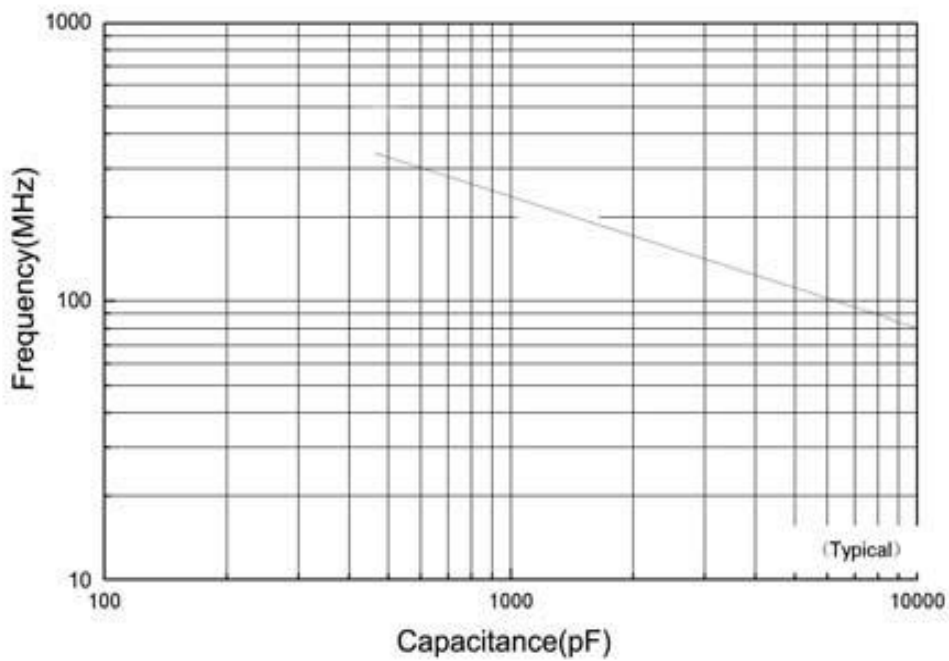
**≠ Current Rating vs. Capacitance**



## ⚡ ESR vs Capacitance

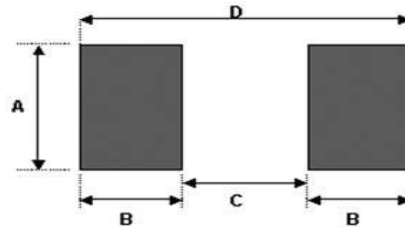


## ⚡ Series Resonance vs. Capacitance



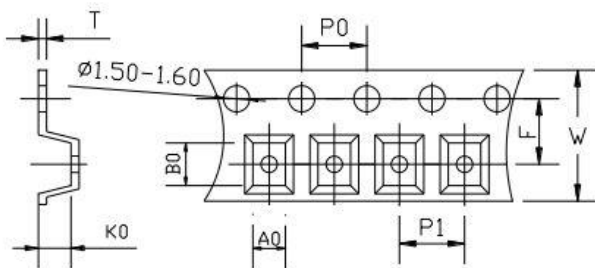
**≠ Mounting Pad Recommendations**

Orientation	A Min	B Min	C Min	D Min
Vertical	0.070"	0.050"	0.030"	0.130"
Horizontal	0.080"	0.050"	0.030"	0.130"



**≠ Tape & Reel Specifications (mm)**

Horizontal Orientation



Orientation	W	P0	P1	T	F	Qty Min	Qty/reel	Tape Material
Horizontal	8.00	4.00	4.00	0.22	3.50	500	3000	Plastic

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:  
.05 (.002) min to .50 (.020) max for 8mm tape and .50 (.002) min to .65 (.026) max for 12mm tape.
- The component cannot rotate more than 20° within the determined cavity.