

# SURFACE MOUNT HIGH Q NPO CAPACITORS

## PRESIDIO ADVANTAGE

- Low ESR, High Q
- Q = 10,000 at 1 MHz
- 100% Made in U.S.A.
- For Use Up to Ku-Band
- Superior Mechanical Strength
- Suitable for Military and Space
- Matching Oscillator Design
- Typical Designs from DC to Ku-Band

## DIELECTRICS

**Ceramic NPO:** Extremely Low ESR & Very High Q. Ultra temperature stable. Most economical.

**Ceramic UP:** Extremely low ESR & Highest Q. Ultra temperature stable. Best for very high power applications.

## TYPICAL APPLICATIONS

### Filter Capacitors

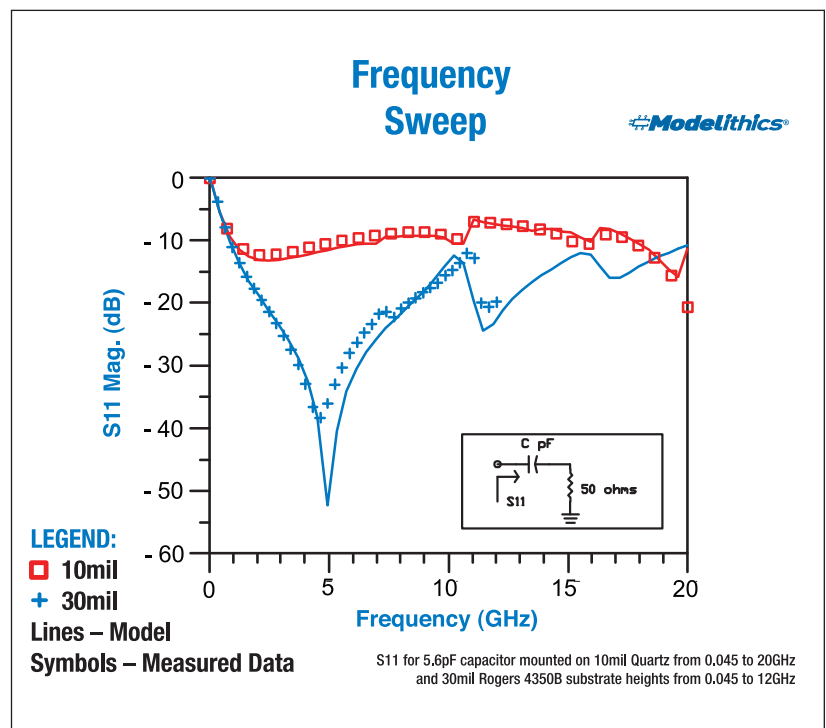
A filter design requires a specific capacitance value, cF, and at the upper end of the filter response, fF, the effective capacity must not exceed cF by more than a specified amount of delta C. Once cF is determined, case size, voltage rating and temperature characteristics can be selected.

### DC Block and RF Bypass

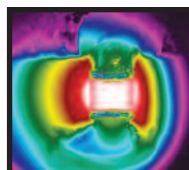
The bandwidth over which the insertion loss meets specification is determined by the location of parallel resonances. Minimum insertion loss at the band center is achieved by choosing a capacitor whose lowest series resonance is approximately at this frequency. Low impedance is typically more important than the capacitance value.

### Low Noise Applications

Dissipation loss is the consideration. ESR is very small at the series resonance, very large at the parallel resonance. The neighboring parallel resonances determine the bandwidth.



Presidio's capacitors are available in various screening levels from Industrial to Space Grade (See Page 18).



Front Cover: Thermal image of 0505 10pF during RF Power Test

 PRESIDIO COMPONENTS, INC.

7169 Construction Court, San Diego, CA 92121 • Tel: 858-578-9390 • Fax: 858-578-6225  
www.presidiocomponents.com • info@presidiocomponents.com