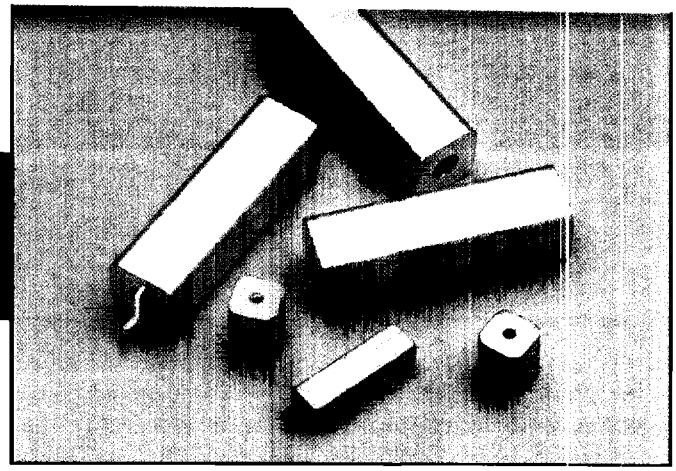
SPECTRUM CONTROL INC.

Dielectric Resonators

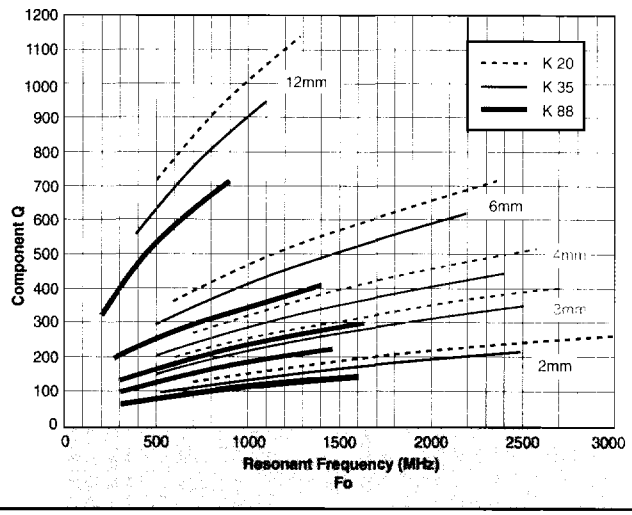


SpecWave coaxial ceramic dielectric resonators provide an effective frequency range of 300 MHz to 3 GHz. We offer five standard sizes to allow you flexibility in determining a resonator with optimum frequency Q factor. Our 6 mm resonator provides a combination of frequency Q factor and mechanical size that makes it appropriate for most applications. By contrast, our 12 mm resonator provides the highest Q factor and largest mechanical size.

For applications where available real estate is of concern, we offer three smaller SpecWave packages. Our 2, 3 and 4 mm resonators allow designers to prioritize their requirements for performance and size.

The dimensions and configurations shown on page 5 reference our standard square configurations. In reviewing these packages, it is important to consider that the resonator length is frequency dependent. Silver metalization is applied to form either a quarter wave or half wave resonator. We encourage you to consult our engineering staff for assistance in determining the best size for your application.

Component Q Quarter Wave



Length (L) Calculation

K20

Quarter wave: $L = \frac{.644\ (16.38)}{fo\ (GHz)}$ Half wave: $L = \frac{1.288\ (32.75)}{fo\ (GHz)}$

K35

Quarter wave: $L = \frac{.492\ (12.51)}{fo\ (GHz)}$ Half wave: $L = \frac{.983\ (25.00)}{fo\ (GHz)}$

K88

Quarter wave: $L = \frac{.315\ (8.01)}{fo\ (GHz)}$ Half wave: $L = \frac{.629\ (16.00)}{fo\ (GHz)}$

Dimensions in inches *(mm)* Fo = Resonant Frequency

Ordering information

The part number shown represents a ceramic resonator with a 6 mm cross-section, a dielectric constant of K 88, a resonant frequency of 445 MHz, and a frequency tolerance of 0.5%. The wavelength type is 1/4 wave. The resonator's plating type is thick film silver and it uses a mounting tab.

Example: **CRF3-0445 A-QST**

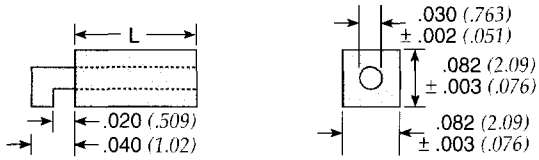
CR	F	3	-	0445	A	-	Q	S	T
Series Ceramic Resonators	**Resonator * Cross-Section** B = 2 mm C = 3 mm D = 4 mm F = 6 mm L = 12 mm	**Dielectric Constant** 1 = K 20 2 = K 35 3 = K 88		**Resonant Frequency** fo (MHz)	**Frequency Tolerance** A = 0.5% B = 1.0%		**Wavelength Type** Q = 1/4 wave H = 1/2 wave	**Plating Type** S = Thick Film Silver	**Mounting Type** T = Mounting Tab Blank = No Tab

* Standard sizes. Consult factory for a custom resonator designed to meet **your** requirements.

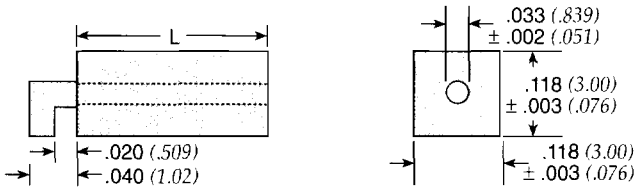
SPECWAVE

Dielectric Resonators

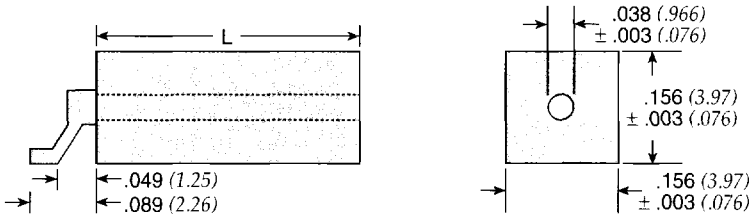
Dimensions and Configurations



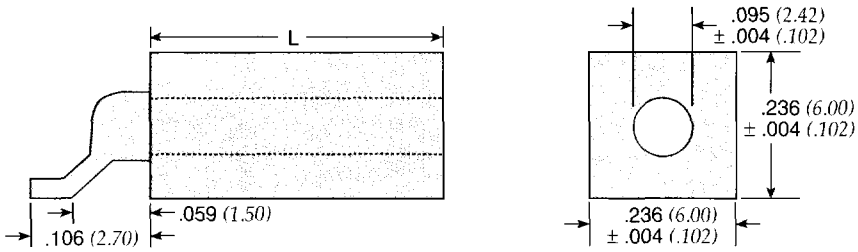
2 mm



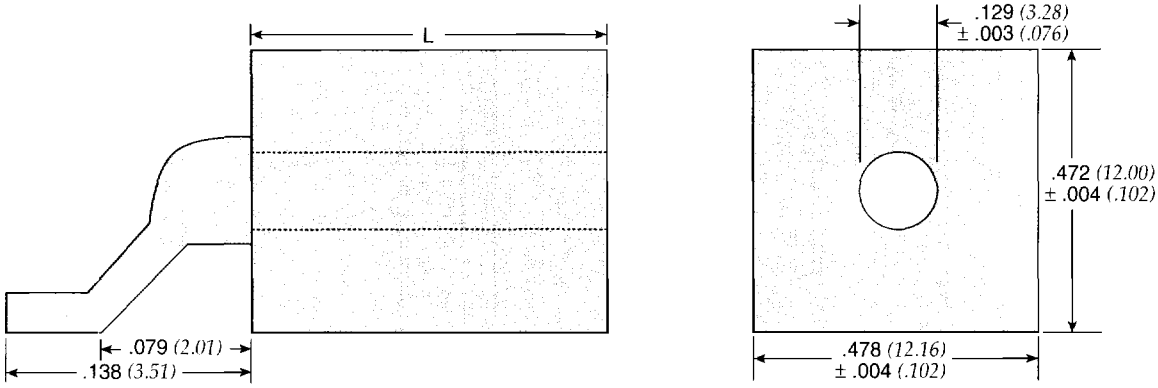
3 mm



4 mm



6 mm



12 mm

Dimensions in inches *(mm)*