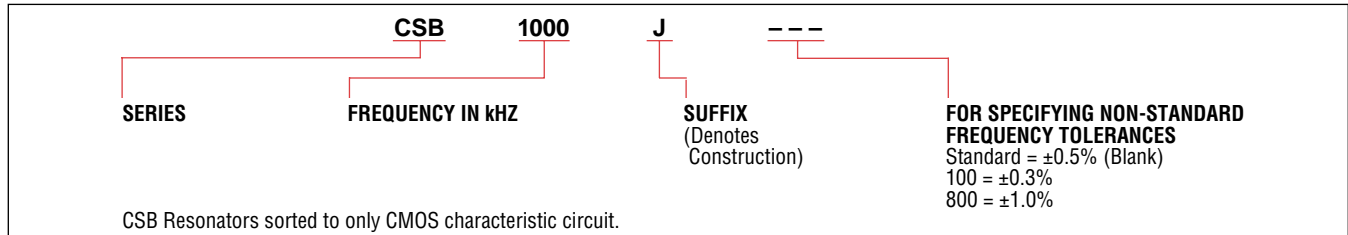


The CSB Series of ceramic resonators is designed to provide the design engineer with a rugged, relatively low frequency device in the frequency range of 375kHz to 1,250kHz. Initial frequency tolerance is  $\pm 0.5\%$  which

compares very favorably to the nominal  $\pm 2\%$  -  $3\%$  requirements of one chip microprocessors. The CSB Series utilizes the area vibration mode of the piezoelectric ceramic element.

#### PART NUMBERING SYSTEM



#### CSB SERIES: 375kHz – 1250kHz

#### DIMENSIONS: mm

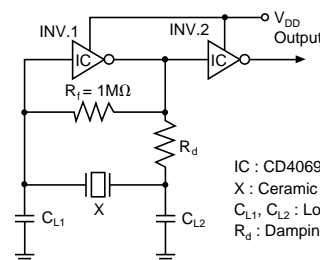
NON-WASHABLE						
Frequency	375 – 429kHz		430 – 509kHz		510 – 699kHz	
Series	CSB□□□P		CSB□□□E		CSB□□□P	
Dimensions						
	* : EIA-J Date Code		* : EIA-J Date Code		* : EIA-J Date Code	
WASHABLE						
Frequency	375 – 429kHz	430 – 519kHz	520 – 589kHz	590 – 655kHz	656 – 699kHz	700 – 1250kHz
Series	CSB□□□J	CSB□□□J	CSB□□□J	CSB□□□JR	CSB□□□J	CSB□□□J
Washability	Washable <sup>1</sup>	Washable <sup>1</sup>	Washable <sup>1</sup>	Washable <sup>1</sup>	Washable <sup>1</sup>	Washable <sup>1</sup>
Dimensions						

<sup>1</sup>The resonators are washable. However, temperature, time and other processing conditions should be checked to ensure that suitable electrical characteristics are maintained.

#### SPECIFICATIONS

Frequency Range (kHz)	375 to 1,250	375 to 699
Frequency Tolerance	$\pm 0.5\%$	$\pm 2.0\text{kHz}$
Temperature Stability ( $-20^{\circ}\text{C}$ to $+80^{\circ}\text{C}$ )	$\pm 0.3\%$	$\pm 0.3\%$
Aging (room temp., 10 years)	$\pm 0.3\%$	$\pm 0.3\%$

Standard Test Circuit



IC : CD4069UBE (RCA)  
X : Ceramic Resonator  
 $C_{L1}$ ,  $C_{L2}$  : Loading Capacitance  
 $R_d$  : Damping Resistance