

# CERAMIC RESONATOR (CERALOCK®)



## Chip Ceramic Resonator CSAC/CSACS Series (CERALOCK®)

### Wide range of chip CERALOCK® is now available.

This diverse series owes its development to MURATA's package technology expertise and original mass production techniques. It enables high-density mounting and further miniaturization of electronic equipment.

#### FEATURES

1. The series is available in a wide frequency range.
2. The resonators are extremely small and have a low profile (CSACS series).
3. No adjustment is necessary for oscillation circuits.



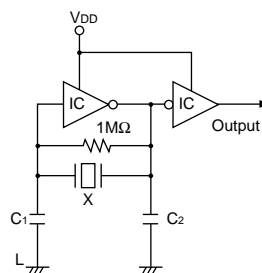
#### APPLICATIONS

1. Clock oscillators for microprocessors.
2. Electronic control circuits for small electronic equipment.
3. Automotive electronics
4. DTMF generators for cordless telephones.

#### SPECIFICATIONS

Item \ Type	CSAC Series		CSACS Series	
	CSAC□MGC/MGCM	CSACS□MT	CSACS□MX040	
Frequency Range	1.80—6.00MHz	6.01—13.0MHz	14.00—60.00MHz	
Oscillation Frequency Initial Tolerance	±0.5%	±0.5%	±0.5%	
Oscillation Frequency Temperature Stability※1	±0.3%	±0.5%	±0.3%	
Aging※2	±0.3%	±0.5%	±0.3%	

Oscillation Frequency Measuring Circuit



IC :1/6CD4069UBE×2※3  
 V<sub>DD</sub>:5V (MT Series:12V)  
 X :Chip CERALOCK®

※1 At -20 to +80°C

※2 For 10 years at room temperature

※3 TC74HCU04 is used as the standard circuit for the MX040 series.