

# Ceramic Resonators(CERALOCK®)



## Lead Type Two-Terminals CSBLA Series

"CERALOCK" with two leaded terminals.

The CSALA and CSBLA series ceramic resonator owe their development to MURATA's innovative expert technologies and the application of mass production techniques typically utilized in the manufacture of piezoelectric ceramic components. Because of their high mechanical Q and consistent high quality, both the CSALA and CSBLA series are ideally suited to microprocessor and remote control unit applications. The CSBLA series includes the thin and compact J type which is ideal in high-speed 4-bit microprocessor applications.

In addition, MURATA offers a special "CERALOCK" version suitable for automatic insertion utilizing tape and reel and other packaging forms. For further information, please contact your local MURATA representative office or authorized distributor.

### ■ Features

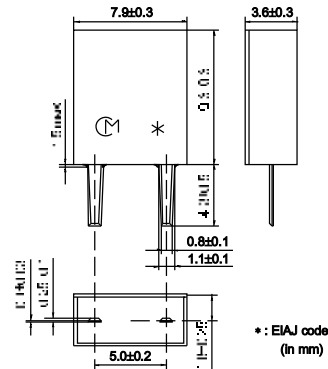
1. The series is stable over a wide temperature range and with respect to long-term aging.
2. The series comprises fixed, tuned, solid-state devices.
3. The resonators are miniature and light weight.
4. They exhibit excellent shock resistance performance.
5. Oscillating circuits requiring no adjustment can be designed by utilizing these resonators in conjunction with transistors or appropriate ICs.

### ■ Applications

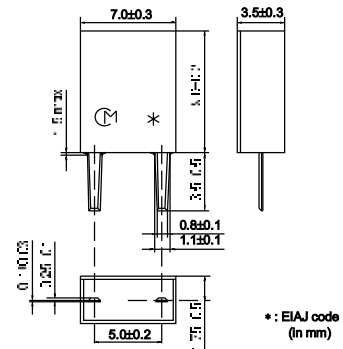
- Square-wave and sine-wave oscillator.
- Clock generator for microprocessors.
- Remote control systems.



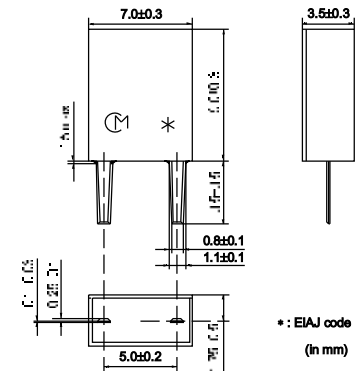
CSBLA\_E  
375-429kHz



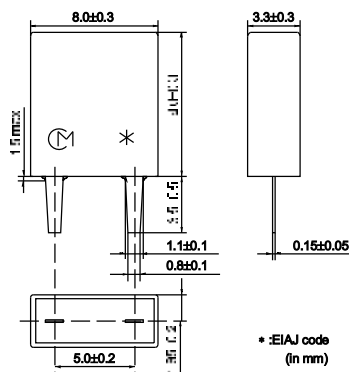
CSBLA\_E  
430-509kHz



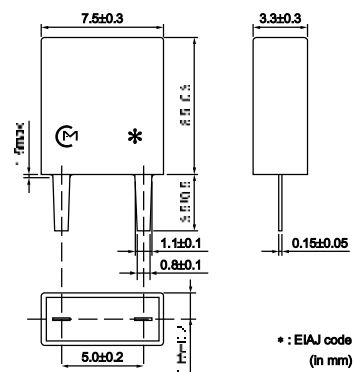
CSBLA\_E  
510-699kHz



CSBLA\_J  
375-429kHz



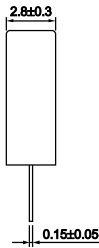
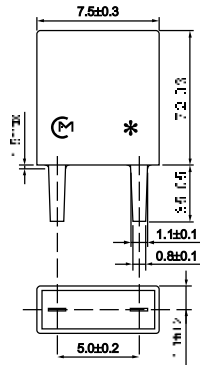
CSBLA\_J  
430-519kHz



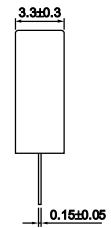
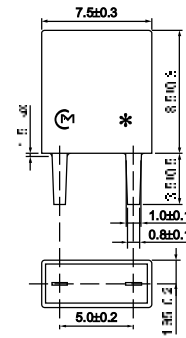
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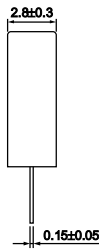
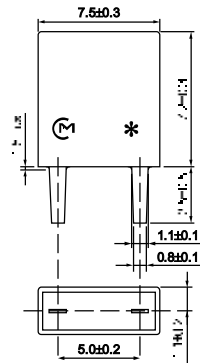
CSBLA\_J  
520-575kHz



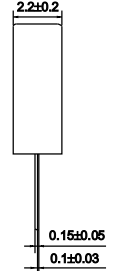
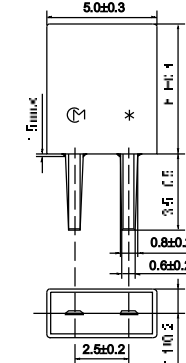
CSBLA\_J  
576-655kHz



CSBLA\_J  
656-699kHz



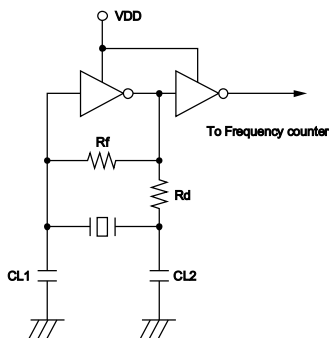
CSBLA\_J  
700-1250kHz



Part Number	Oscillating Frequency (kHz)	Initial Tolerance	Temp.Stability (%)	Temperature Range (°C)	Aging (10 years) (%)	Use
CSBLA_E	375 to 429, 510 to 699	$\pm 2$ kHz	$\pm 0.3$	-20 to 80	$\pm 0.3$	-
CSBLA_E	430 to 509	$\pm 2$ kHz	$\pm 0.3$	-20 to 80	$\pm 0.3$	-
CSBLA_J	375 to 575, 656 to 1250	$\pm 0.5$ %	$\pm 0.3$	-20 to 80	$\pm 0.3$	-
CSBLA_J	576 to 655	$\pm 0.5$ %	$\pm 0.3$	-20 to 80	$\pm 0.3$	-

Irregular or stop oscillation may occur under unmatched circuit conditions. Please check the actual conditions prior to use.  
 The order quantity should be an integral multiple of the Minimum Quantity shown in the packaging page.

■ Oscillation Frequency Measuring Circuit



■ Oscillation Frequency Temperature Stability

