

# Ceramic Resonators(CERALOCK<sup>®</sup>)



## Chip Type Three-Terminals CSTCC/E/G/R/V/W Series

Chip "CERALOCK" with built-in load capacitance in an extremely small package.

MURATA's package technology expertise has enabled the development of the Chip "CERALOCK" with built-in load capacitors.

High-density mounting can be realized because of the small package and the elimination of the need for an external load capacitor.

### ■ Features

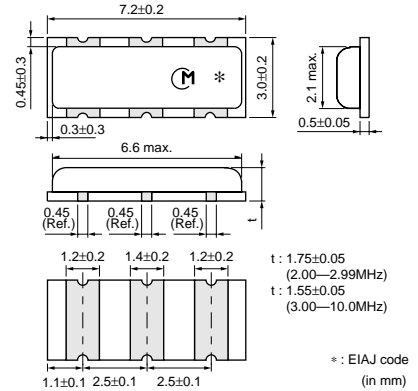
1. Oscillation circuits do not require external load capacitors.
2. The series is available in a wide frequency range.
3. The resonators are extremely small and have a low profile.
4. No adjustment is necessary for oscillation circuits.

### ■ Applicatons

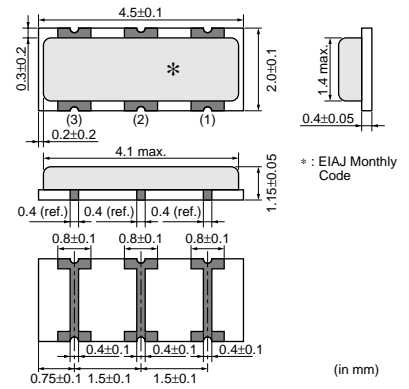
- Clock oscillators for microprocessors.
- Electronic control circuits for small electronic equipment such as hand held movie.
- Audio-visual applications (Camcorder, Remote Controller, etc.)
- Office automation equipments (DVD, CD-ROM, HDD, FDD, etc.)
- Automotive electronics. (CSTCC\_G\_A series, CSTCR\_G\_A series, CSTCV\_X\_A series)
- Dual Tone Multi Frequency (DTMF) generator for cordless telephones.



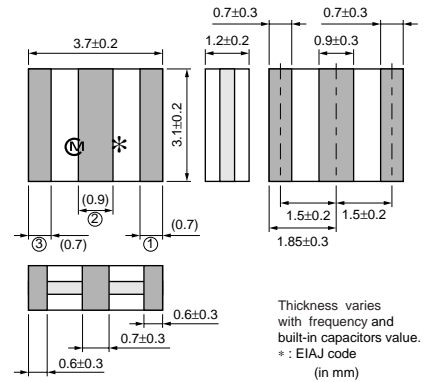
CSTCC\_G(A)  
2.00-3.99  
8.00-10.00MHz



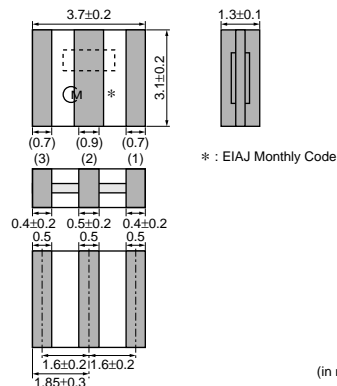
CSTCR\_G(A)  
4.00-7.99MHz



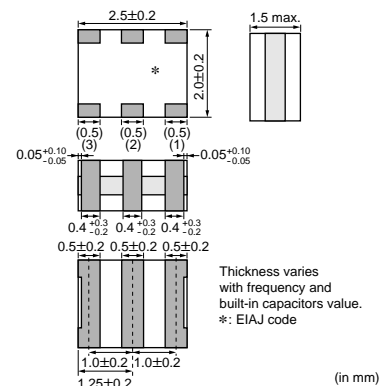
CSTCV\_X\_J  
10.01-13.49MHz  
CSTCV\_X\_J  
13.50-19.99MHz



CSTCV\_X\_Q  
14.70-70.00MHz



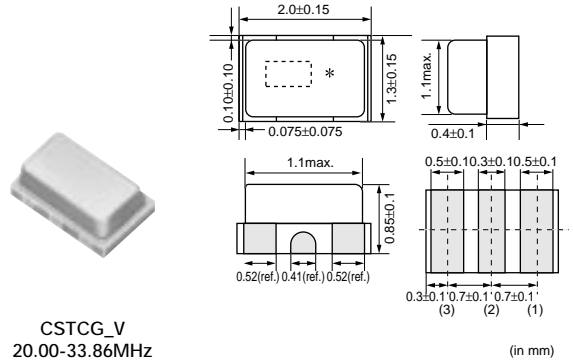
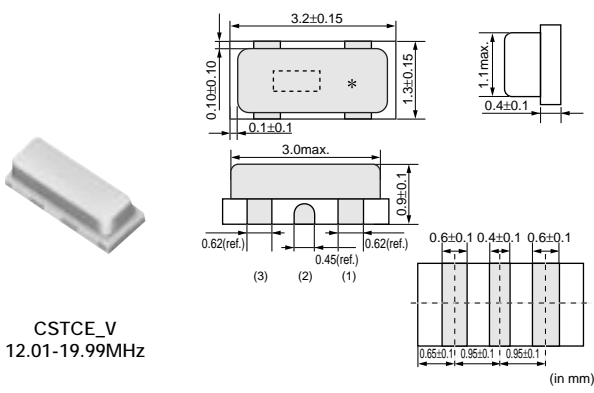
CSTCW\_X  
20.00-70.00MHz



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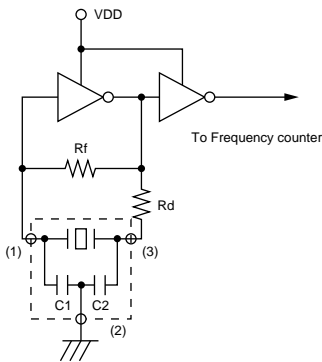
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Part Number	Oscillating Frequency (MHz)	Initial Tolerance (%)	Temp.Stability (%)	Temperature Range (°C)	Aging (10 years) (%)	Use
CSTCV_T_J	10.01 to 13.49	±0.5	±0.4	-20 to 80	±0.3	-
CSTCE_V	12.01 to 19.99	±0.5	±0.3	-20 to 80	±0.3	for ultra small electronics
CSTCV_X_J	13.50 to 19.99	±0.5	±0.3	-20 to 80	±0.3	-
CSTCV_X_Q	14.70 to 70.00	±0.5	±0.3	-40 to 125	±0.1	for automotive electronics
CSTCC_G	2.00 to 3.99, 8.00 to 10.0	±0.5	±0.3	-20 to 80	±0.3	-
CSTCC_G_A	2.00 to 3.99, 8.00 to 10.0	±0.5	±0.4	-40 to 125	±0.3	for automotive electronics
CSTCG_V	20.00 to 33.86	±0.5	±0.3	-20 to 80	±0.3	for ultra small electronics
CSTCW_X	20.00 to 70.00	±0.5	±0.2	-20 to 80	±0.1	-
CSTCR_G	4.00 to 7.99	±0.5	±0.2	-20 to 80	±0.1	-
CSTCR_G_A	4.00 to 7.99	±0.5	±0.3	-40 to 125	±0.1	for automotive electronics

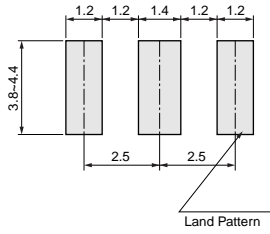
Irregular or stop oscillation may occur under unmatched circuit conditions. Please check the actual conditions prior to use.

### ■ Oscillation Frequency Measuring Circuit



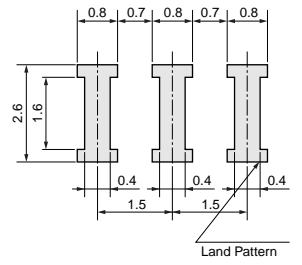
■ Standard Land Pattern Dimensions

CSTCC\_G(A) (2.00-3.99, 8.00-10.00MHz)



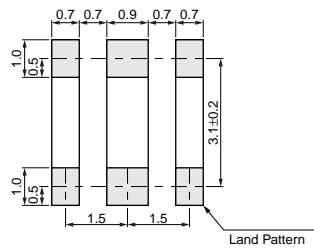
(in mm)

CSTCR\_G(A) (4.00-7.99MHz)



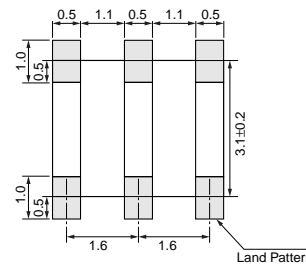
(in mm)

CSTCV\_T\_J (10.01-13.49MHz)/CSTCV\_X\_J (13.50-19.99MHz)



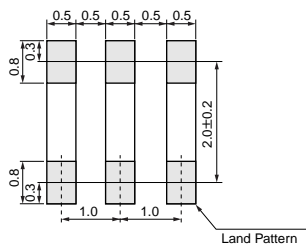
(in mm)

CSTCV\_X\_Q (14.70-70.00MHz)



(in mm)

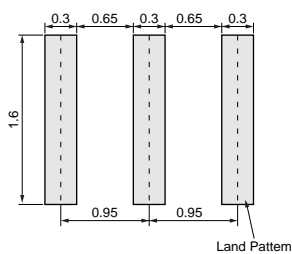
CSTCW\_X (20.00-70.00MHz)



(in mm)

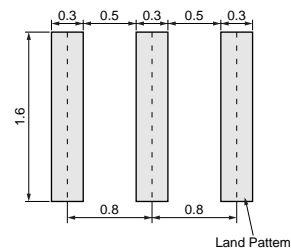
■ Standard Land Pattern Dimensions

CSTCE\_V (12.01-19.99MHz)



(in mm)

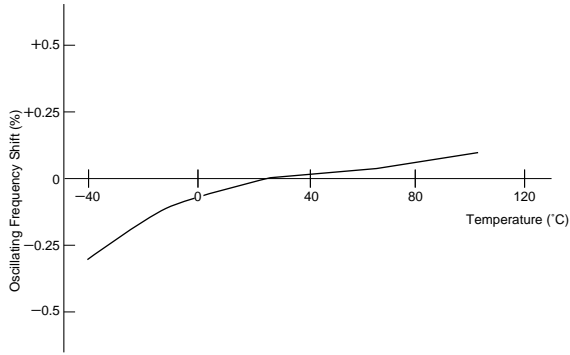
CSTCG\_V (20.00-33.86MHz)



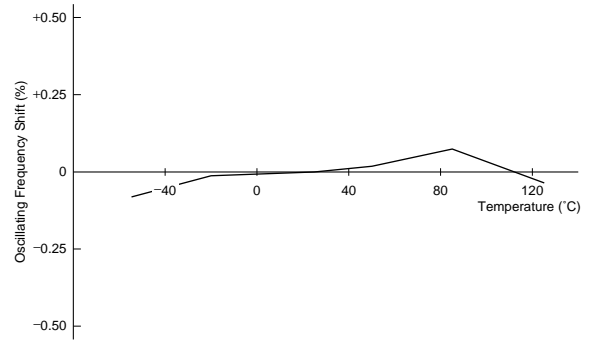
(in mm)

■ Oscillation Frequency Temperature Stability

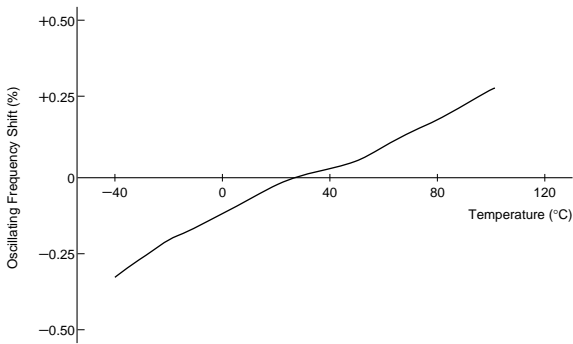
CSTCC\_G(A)



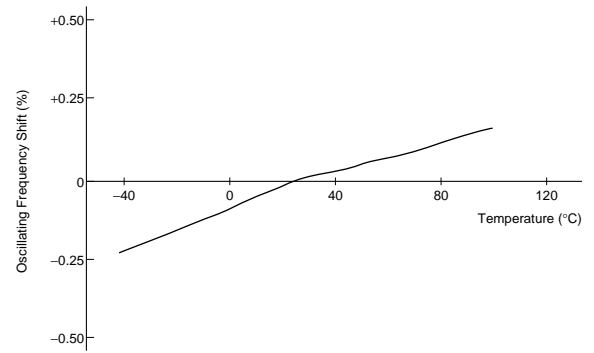
CSTCR\_G(A)



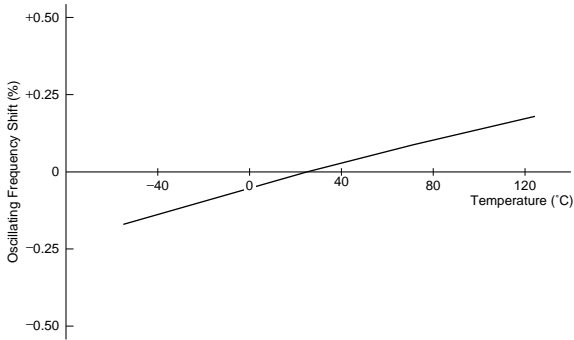
CSTCV\_T\_J



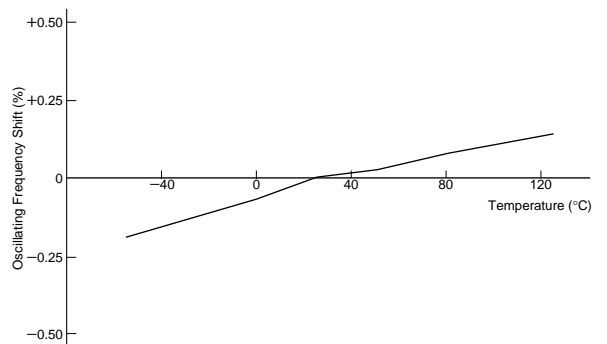
CSTCV\_X\_J



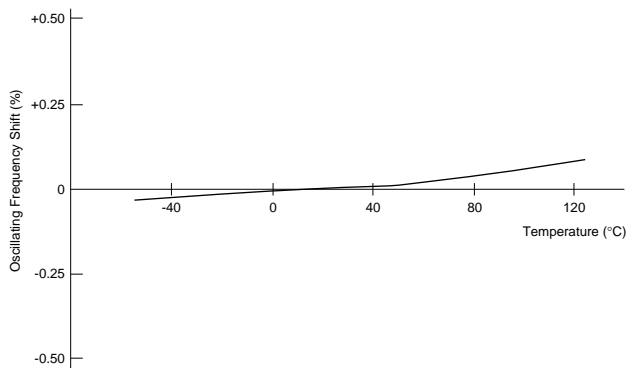
CSTCV\_X\_Q



CSTCW\_X



CSTCE\_V



CSTCG\_V

