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Ceramic Resonators (CERALOCK®)

muRata

1

Chip Type Three Terminals CSTCC/R/E/G/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.
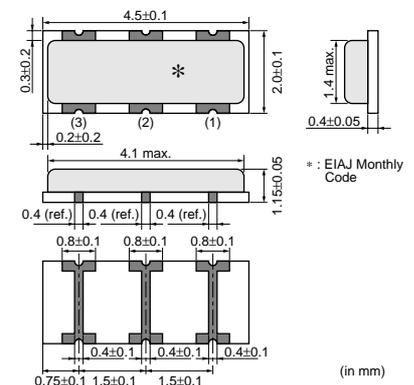
■ Applicatons

1. Clock oscillators for microprocessors
2. Electronic control circuits for small electronic equipment such as hand held video camera
3. Audio-visual applications
   (Camcorder, Remote Controller, etc.)
4. Office automation equipments
   (DVD, CD-ROM, HDD, FDD, etc.)
5. Automotive electronics
   (CSTCC_G_A series, CSTCR_G_B series, CSTCE_G_A series, CSTCE_V_A series, CSTCV_X_Q series)
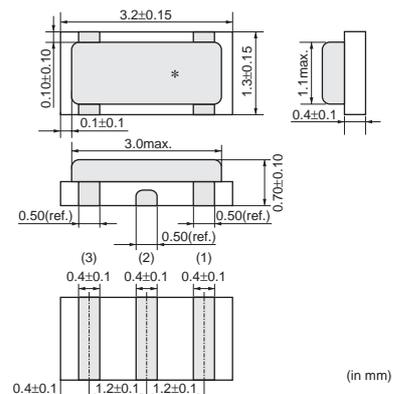6. Dual Tone Multi Frequency (DTMF) generator for cordless telephones
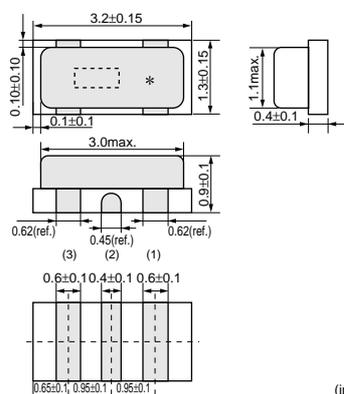
CSTCC_G(_A)
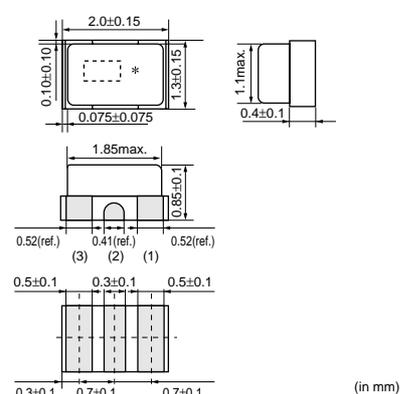2.00-3.99MHz
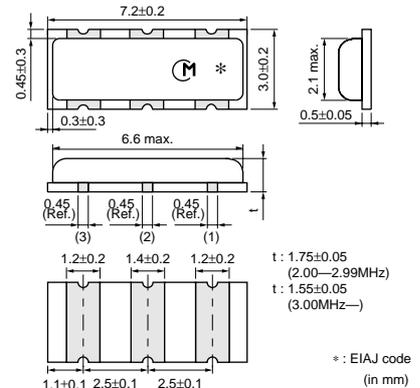
CSTCR_G(_B)
4.00-7.99MHz

CSTCE_G(_A)
8.00-12.50MHz

CSTCE_V(_A)
12.51-20.00MHz

CSTCG_V
20.00-33.86MHz
(Ultra small)

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◻ Continued from the preceding page.

1

CSTCV_X_Q
20.01-70.00MHz

3.7±0.2
3.1±0.2
1.3±0.1
(0.7) (0.9) (0.7)
(3) (2) (1)
0.4±0.2 0.5±0.2 0.4±0.2
0.5 0.5 0.5
1.6±0.2 1.6±0.2
1.85±0.3

Thickness varies
with frequency and
built-in capacitance.
＊: EIAJ code

CSTCW_X
20.01-70.00MHz

2.5±0.2
2.0±0.2
1.4 max.
(0.5) (0.5) (0.5)
(3) (2) (1)
0.05 +0.10 −0.05   0.05 +0.10 −0.05
0.4 +0.3 −0.2 0.4 +0.3 −0.2 0.4 +0.3 −0.2
0.5±0.2 0.5±0.2 0.5±0.2
1.0±0.2 1.0±0.2
1.25±0.2

Thickness varies
with frequency and
built-in capacitance.
＊: EIAJ code

(in mm)

(in mm)
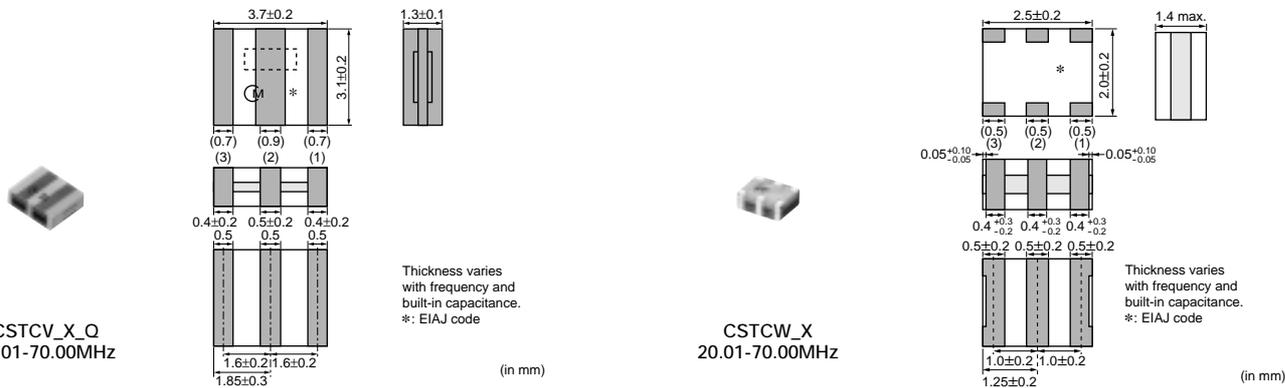
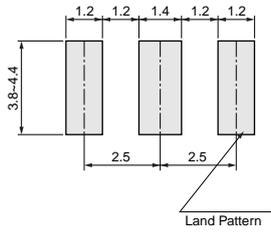| Part Number	Oscillating Frequency (MHz)	Initial Tolerance (%)	Temp. Stability (%)	Temperature Range (°C)	Use
CSTCC_G	2.00 to 3.99	±0.5	±0.3 [±0.4%:Built-in Capacitance 47pF type within Freq.2.00 to 3.49MHz]	-20 to +80	For consumer electronics
CSTCC_G_A	2.00 to 3.99	±0.5	±0.4 [-0.6% to +0.3%:Built-in Capacitance 47pF type within Freq.2.00 to 3.49MHz]	-40 to +125	For automotive electronics
CSTCR_G	4.00 to 7.99	±0.5	±0.2	-20 to +80	For consumer electronics
CSTCR_G_B	4.00 to 7.99	±0.5	±0.15	-40 to +125	For automotive electronics
CSTCE_G	8.00 to 12.50	±0.5	±0.2	-20 to +80	For consumer electronics
CSTCE_G_A	8.00 to 12.50	±0.5	±0.2	-40 to +125	For automotive electronics
CSTCE_V	12.51 to 20.00	±0.5	±0.3	-20 to +80	For consumer electronics
CSTCE_V_A	12.51 to 20.00	±0.5	±0.3	-40 to +125	For automotive electronics
CSTCG_V	20.00 to 33.86	±0.5	±0.3	-20 to +80	For consumer electronics
CSTCV_X_Q	20.01 to 70.00	±0.5	±0.3	-40 to +125	For automotive electronics
CSTCW_X	20.01 to 70.00	±0.5	±0.2	-20 to +80	For consumer electronics

Irregular or stop oscillation may occur under unmatched circuit conditions. Please check the actual conditions prior to use.
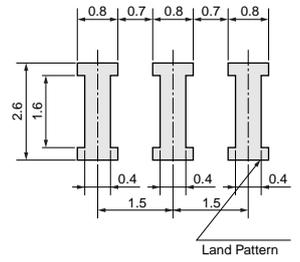
■ Oscillation Frequency Measuring Circuit

VDD

To Frequency counter

Rf

Rd

(1)   (3)

C1 C2

(2)

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■ Standard Land Pattern Dimensions
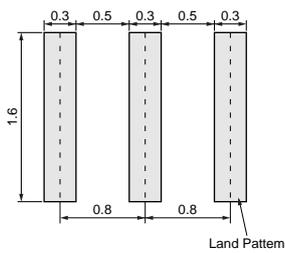
CSTCC_G(_A)

(in mm)

CSTCR_G(_B)

(in mm)

CSTCE_G(_A)
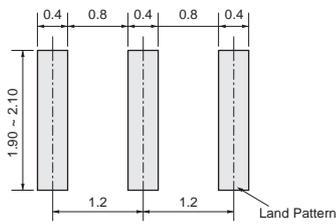
(in mm)

CSTCE_V(_A)
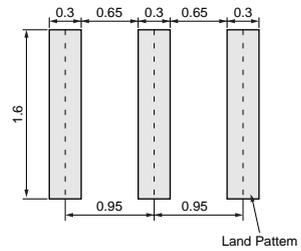
(in mm)

CSTCG_V

(in mm)

CSTCV_X_Q

(in mm)

CSTCW_X

(in mm)

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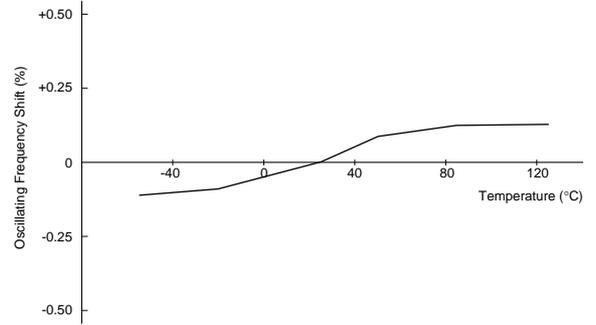
P16E15.pdf 04.8.27

1
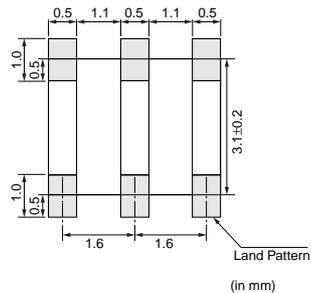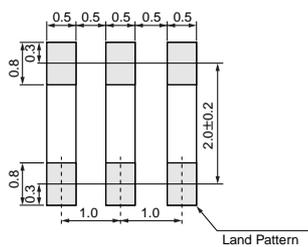
■ Oscillation Frequency Temperature Stability

CSTCC_G
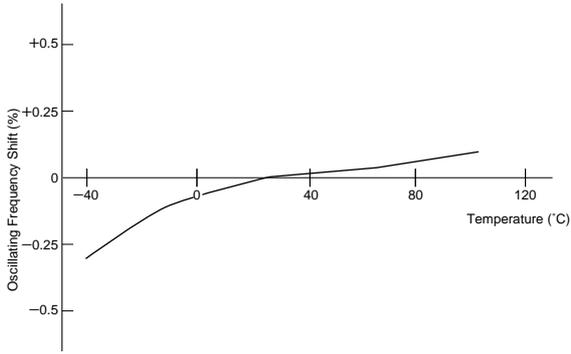
CSTCC_G_A
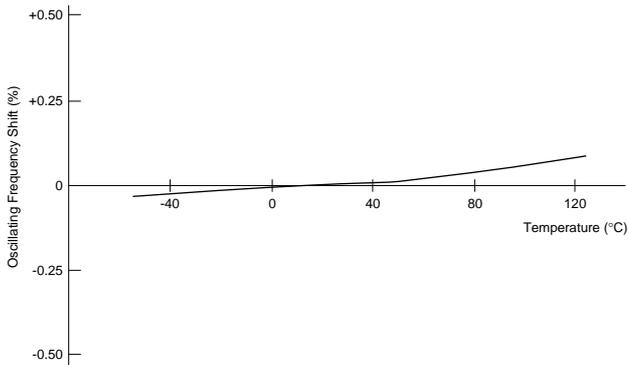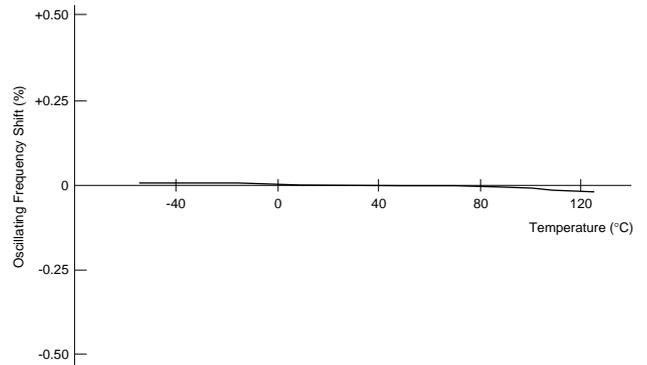

CSTCR_G(_B)
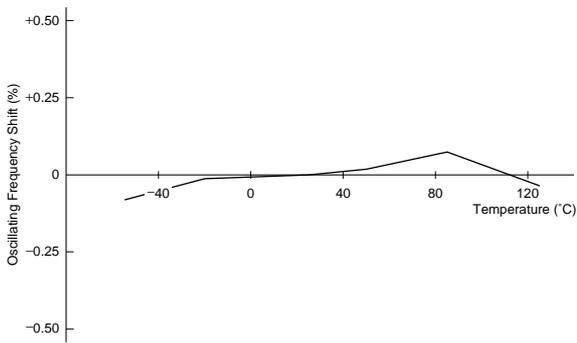
CSTCE_G(_A)
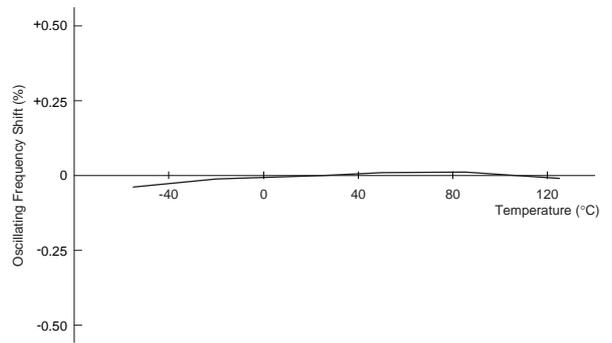
CSTCE_V(_A)

CSTCG_V

CSTCV_X_Q

CSTCW_X

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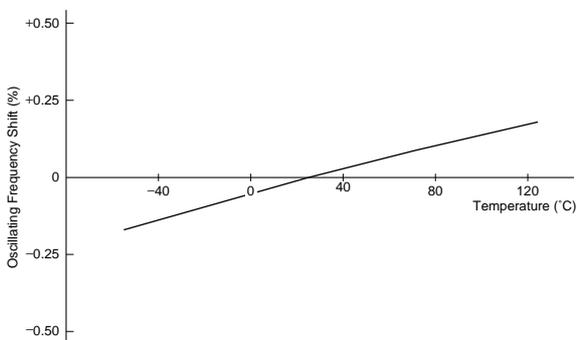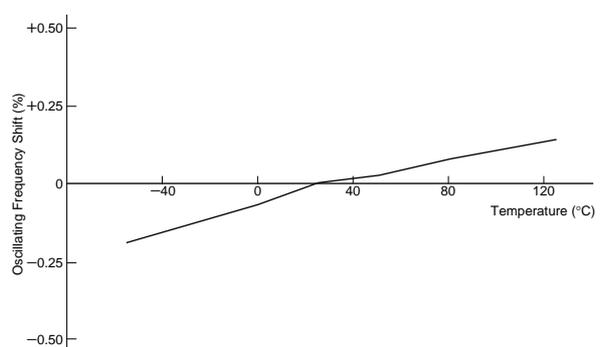
● Part Numbering

CERALOCK® (MHz)

(Part Number) | CS | T | CE | 16M0 | V53 | *** | -R0 |
               | ❶ | ❷ | ❸ | ❹ | ❺ | ❻ | ❼ |

❶Product ID

Product ID	
CS	Ceramic Resonators

❷Frequency/Capacitance

Code	Frequency/Capacitance
A	MHz No capacitance built-in
T	MHz Built-in Capacitance

❸Structure/Size

Code	Structure/Size
LS	Round Lead Type
CC	Cap Chip Type
CR/CE/CG	Small-cap Chip Type
CV	Monolithic Chip Type
CW	Small Monolithic Chip Type

❹Nominal Center Frequency

Expressed by four-digit alphanumerics. The unit is in hertz (Hz). Decimal point is expressed by capital letter "**M**".

❺Design

Code	Design
G□□	Thickness Shear mode
T/V□□	Thickness Expander mode
X□□	Thickness Expander mode (3rd overtone)

□□ indicates initial frequency tolerance and load capacity.

❻Individual Specification

Code	Individual Specification
*****	Three-digit alphanumerics express "Individual Specification".

With standard products, "❻Individual Specification" is omitted, and "❼Package Specification Code" is carried up.

❼Packaging

Code	Packaging
-B0	Bulk
-A0	Radial Taping H_0=18mm
-R0	Plastic Taping ø=180mm
-R1	Plastic Taping ø=330mm

Radial taping is applied to lead type and plastic taping to chip type.

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