

Technical Data of Ceramic Resonator

MURATA Part No.: CSTCE12M0G52-R0

Applied to M38503M4A-XXXFP

Note: Suffix indicates packaging style.

·Lead type

-A0 : Flat pack package(Ho=18mm)

-B0 : Bulk

·SMD type

-R0 : Plastic tape package( $\varnothing$ =180mm)





-B0 : Bulk

**TOYAMA MURATA MANUFACTURING CO., LTD.**

Product Engineering Service Section I

Planning Department

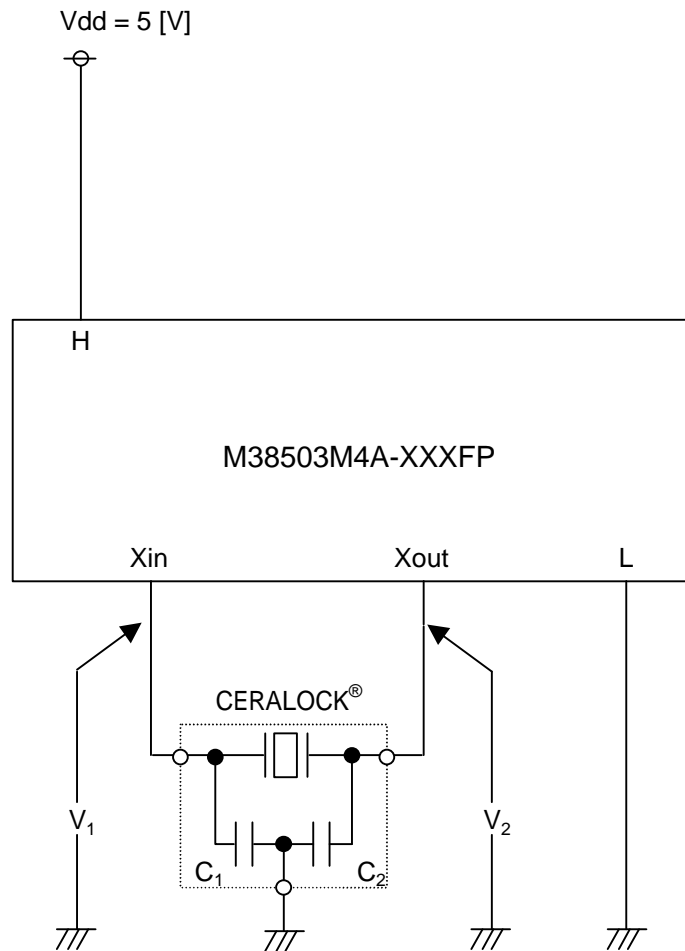
Piezoelectric Components Group

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## Contents

1.	Test Circuit	1
2.	Temperature Characteristics of Oscillating Frequency, Oscillating Voltage	2
3.	Rise Time, Oscillating Frequency, Oscillating Voltage vs Vdd Characteristics	3

## Test Circuit



Xin : 19  
 Xout: 20  
 H : 1,2  
 L : 3,15,18,21

## Recommended Value

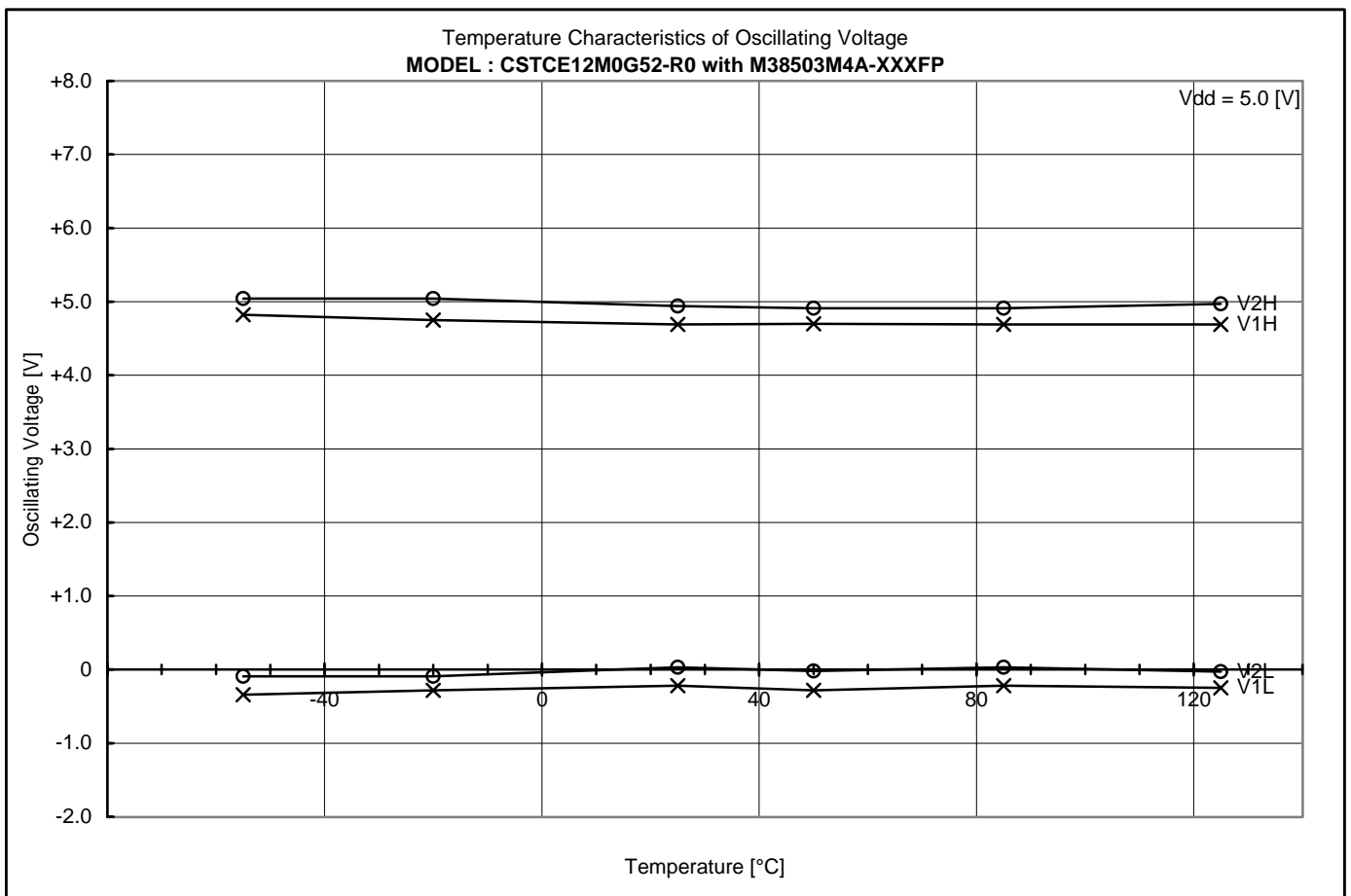
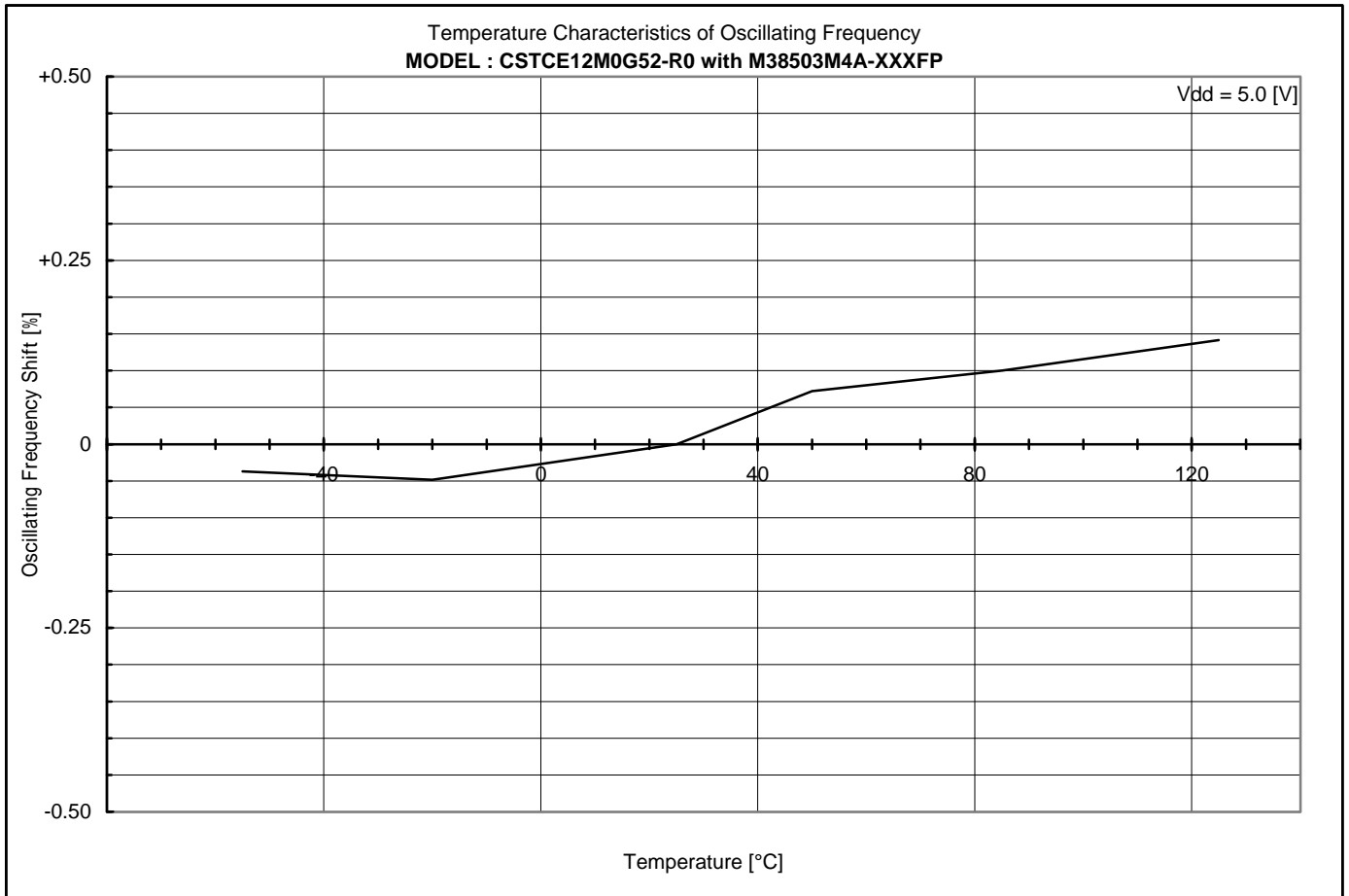
CERALOCK® : CSTCE12M0G52-R0

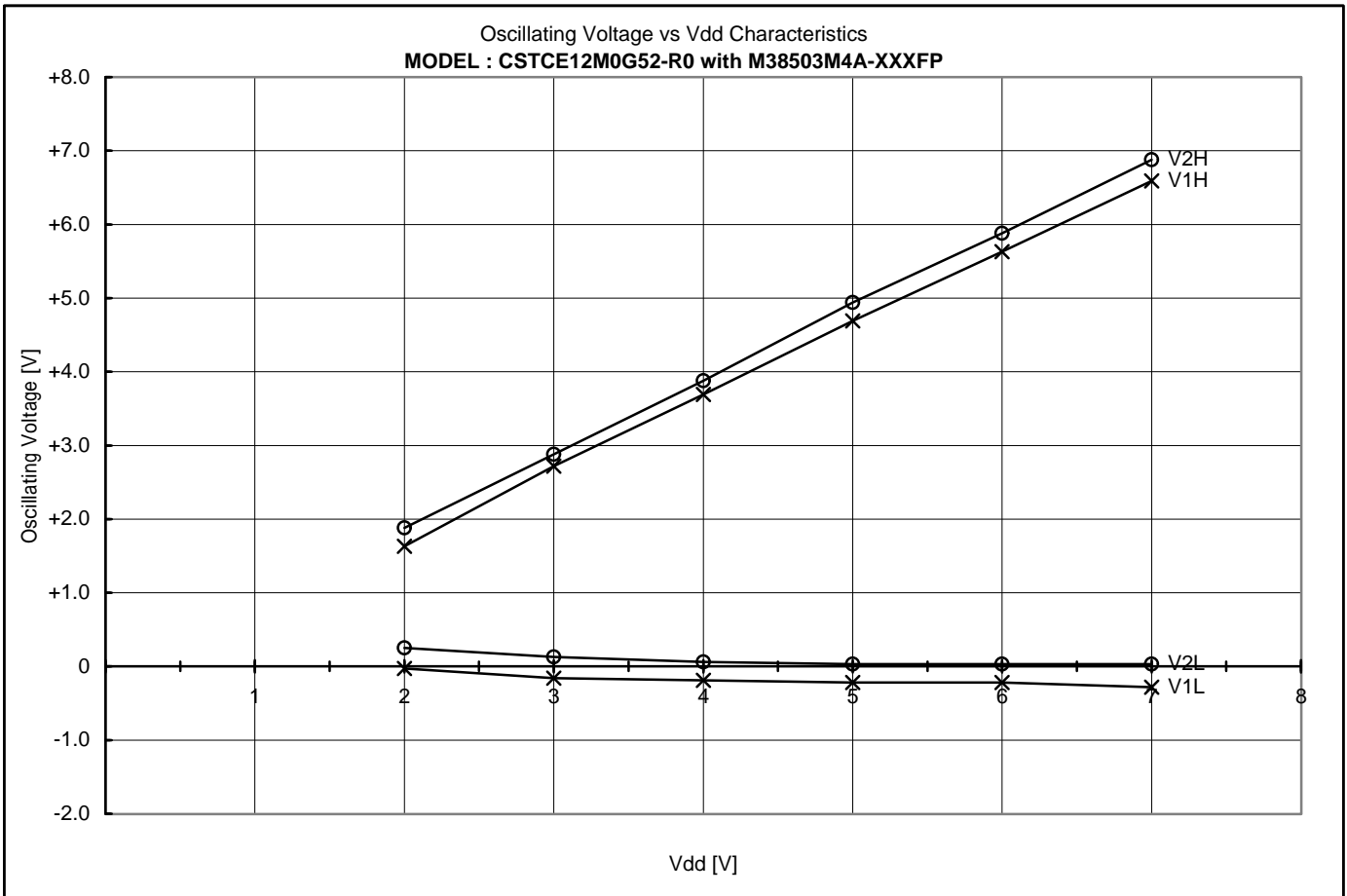
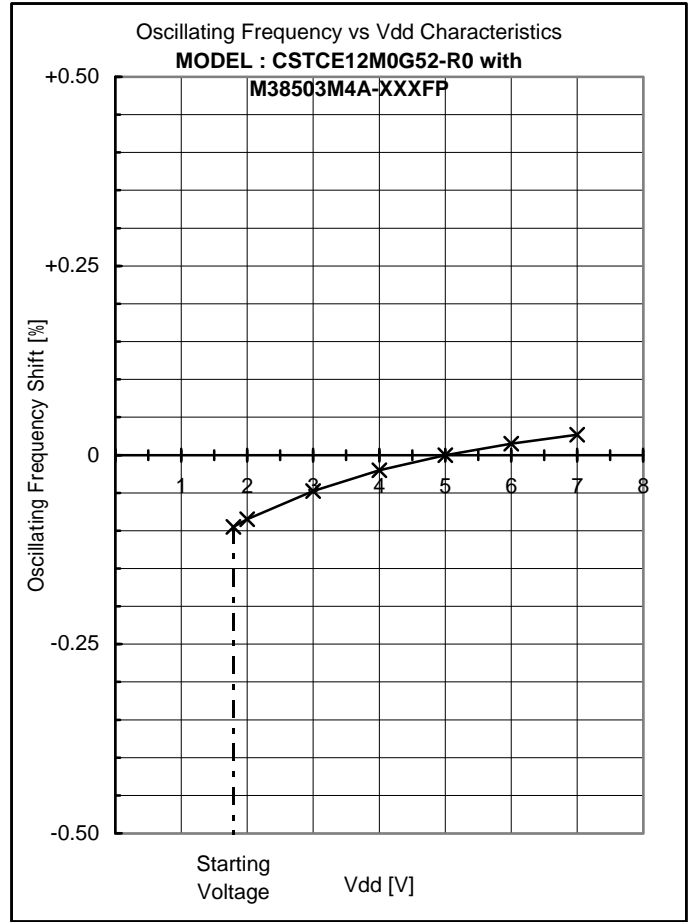
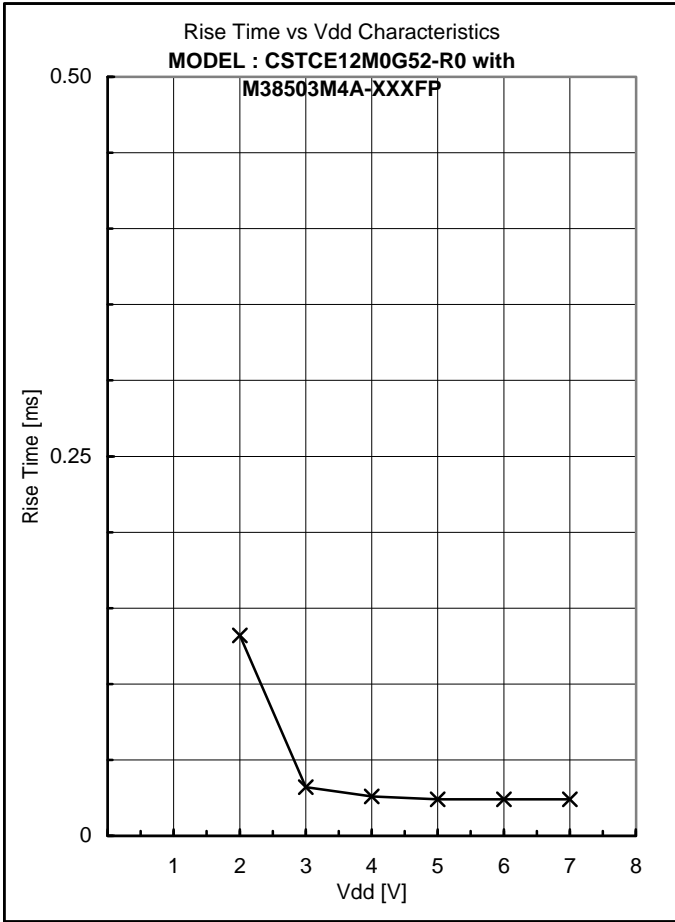
Vdd = 2.3 to 6.0 [V]

C1 = 10 [pF] (Typ.)

C2 = 10 [pF] (Typ.)

Ta = -40 to 125 [°C]







## Appendixes

4.	Comparison Table	4
5.	Frequency Correlation Data	5

### Comparison Table

IC : No	V1H [V]	V1L [V]	V1p-p [V]	V2H [V]	V2L [V]	V2p-p [V]	Fosc [kHz]	Trise [ms]	Vstart [V]
LL	4.69	-0.22	4.91	4.91	0.03	4.88	11975.158	0.028	1.55
LH	4.72	-0.16	4.88	5.03	0.10	4.93	11974.569	0.032	1.71
MM	4.69	-0.22	4.91	4.94	0.03	4.91	11976.235	0.025	1.78
HL	4.66	-0.28	4.94	4.91	-0.03	4.94	11974.648	0.021	1.80
HH	4.69	-0.22	4.91	4.91	0.03	4.88	11974.386	0.024	1.96

Ref.

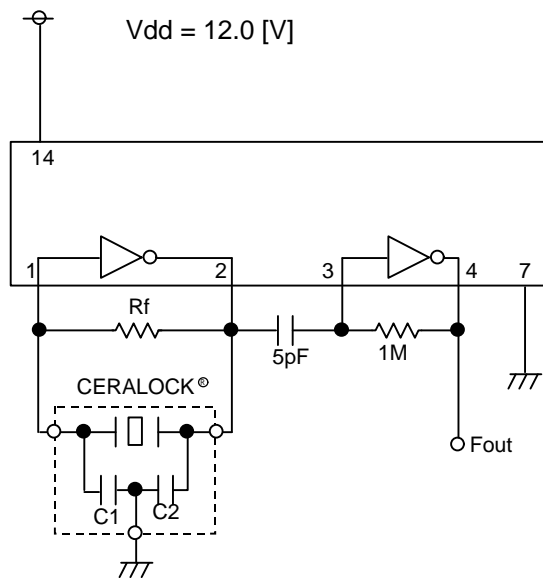
Performance described page 2 to 3 were measured with IC No. MM



### Frequency Correlation Data

Sample No.	M38503M4A-XXXFP Fosc [kHz]	TC4069UBP Fosc [kHz]	Shift [%]
1	11976.163	11993.800	-0.1471
2	11952.038	11967.800	-0.1317
3	11956.919	11975.100	-0.1518
4	11947.081	11964.600	-0.1464
5	11956.484	11973.300	-0.1404
-			
X	11957.737	11974.920	-0.1435

### muRata Standard Circuit



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C1 = 10 [pF]

C2 = 10 [pF]

Rf = 1 [Mohm]