Technical Data of Ceramic Resonator

(*)

New Part No.	:	CSTLA12M0T55-B0
Previous Part No.	:	CST12.0MTW

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(∅=180mm)
- -B0 : Bulk

(*) Murata changed part number in June of 2001.
The new part number is shown on this sheet with previous part number.

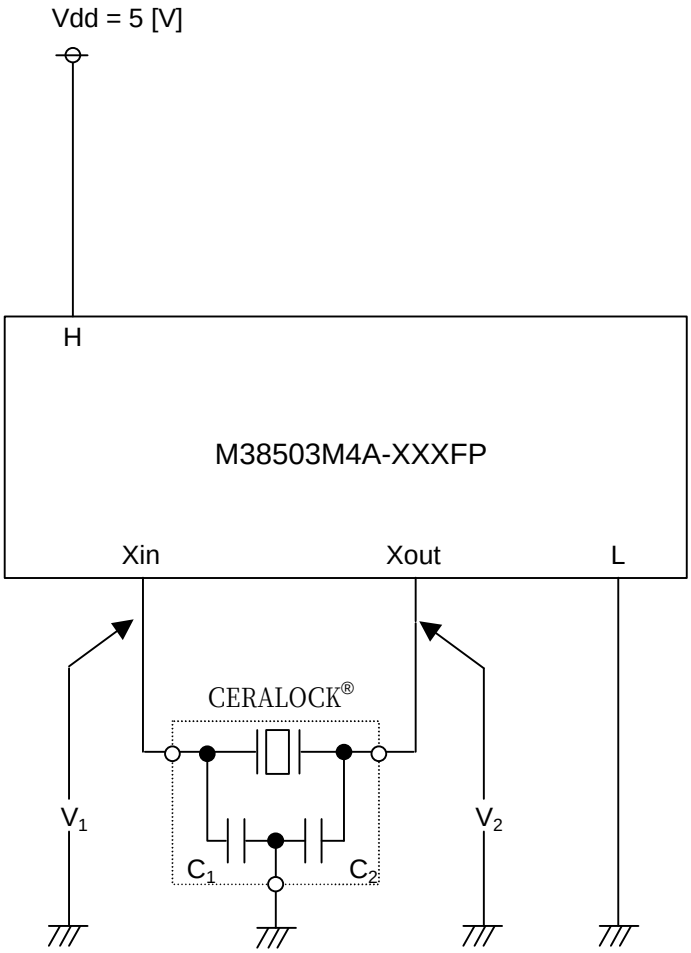
TOYAMA MURATA MANUFACTURING CO., LTD.

Product Engineering Service Section I
Planning Department
Piezoelectric Components Group

Approved by	Checked by	Checked by	Issued by	Issued Date	Data No.
K.Terada	K.Maruno	K.Masaki	K.Tagata	Dec 20, 2001	TCD-01-2192

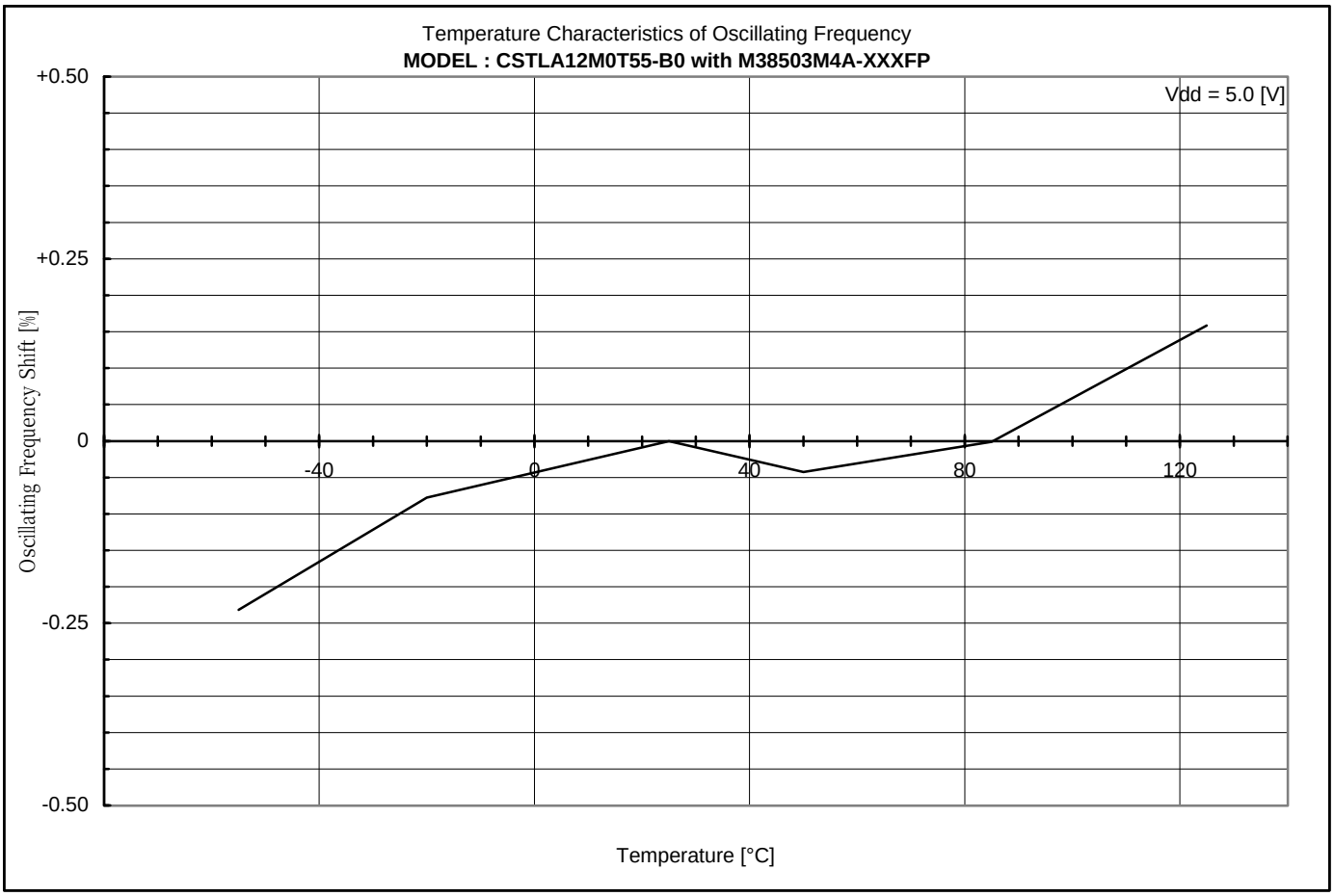
Contents

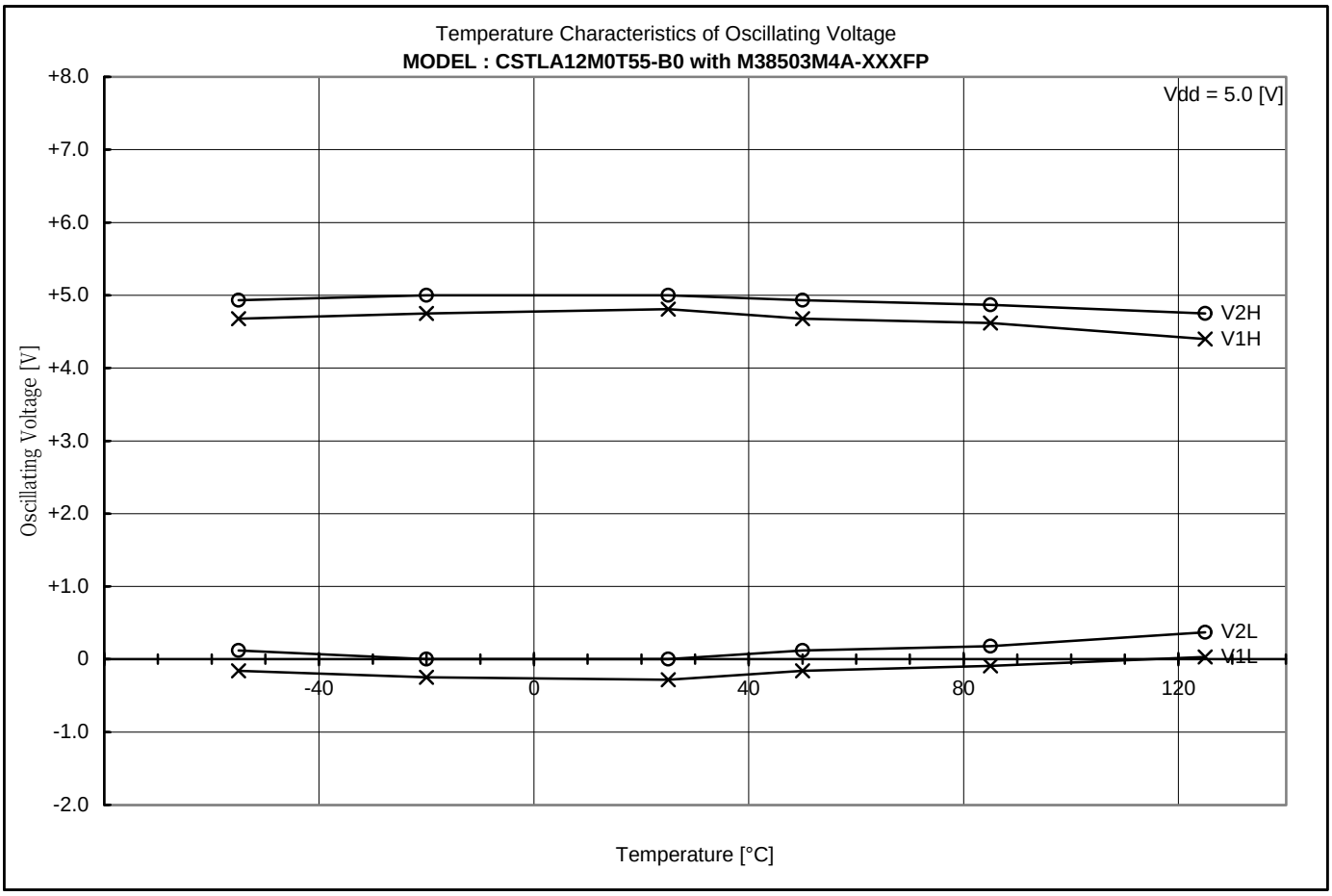
Test Circuit



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

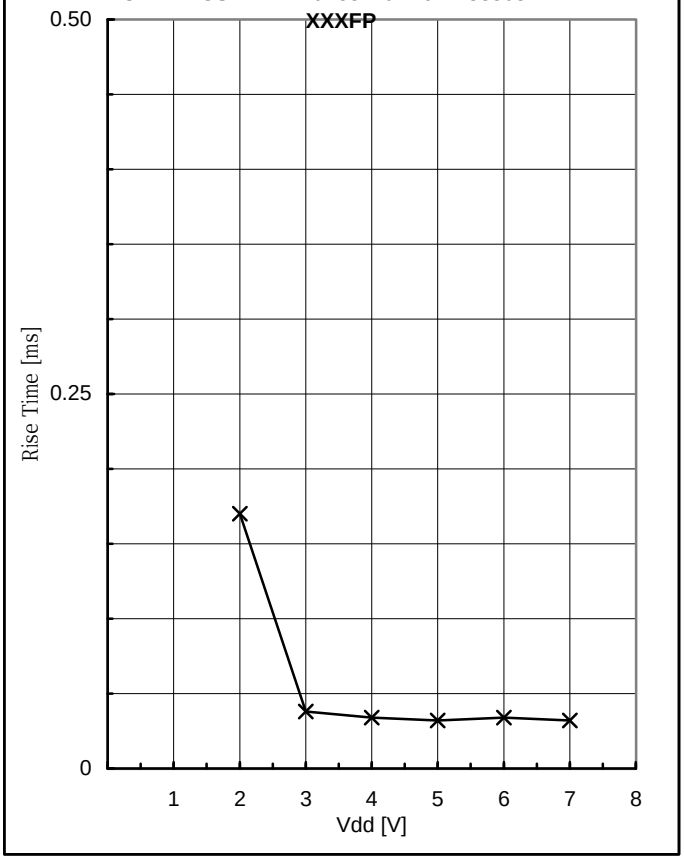
Recommended Value
CERALOCK® : CSTLA12M0T55-B0
Vdd = 2.6 to 6.0 [V]
C1 = 30 [pF] (Typ.)
C2 = 30 [pF] (Typ.)
Ta = -40 to 125 [°C]


Temperature Characteristics of Oscillating Frequency
MODEL : CSTLA12M0T55-B0 with M38503M4A-XXXFP
Vdd = 5.0 [V]
+0.50
+0.25
0
-0.25
-0.50
Oscillating Frequency Shift [%]
-40
0
40
80
120
Temperature [°C]


Temperature Characteristics of Oscillating Voltage
MODEL : CSTLA12M0T55-B0 with M38503M4A-XXXFP
Vdd = 5.0 [V]
+8.0
+7.0
+6.0
+5.0
+4.0
+3.0
+2.0
+1.0
0
-1.0
-2.0
Oscillating Voltage [V]
V2H
V1H
V2L
V1L
-40
0
40
80
120
Temperature [°C]

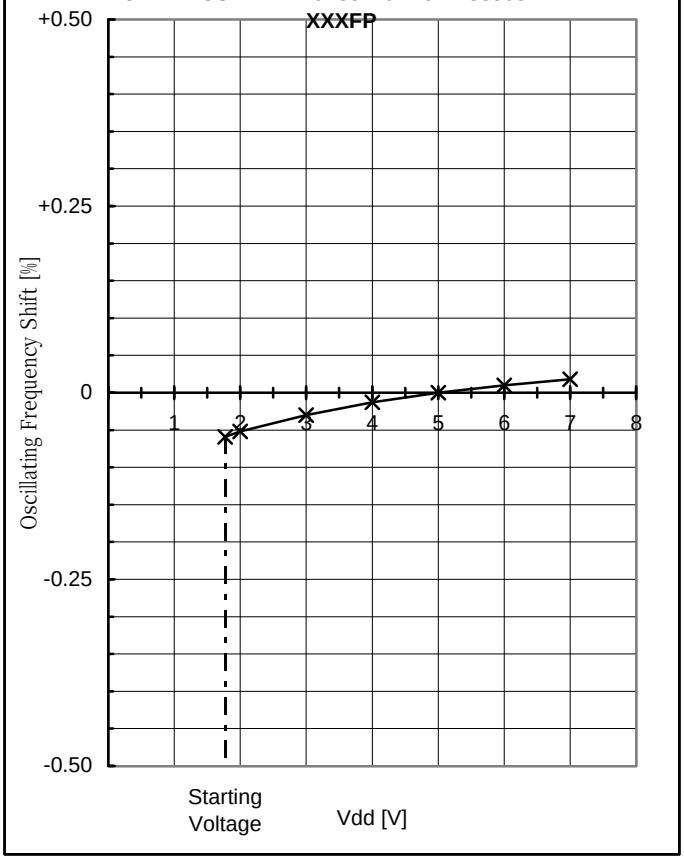
Rise Time vs Vdd Characteristics

MODEL : CSTLA12M0T55-B0 with M38503M4A-XXXFP



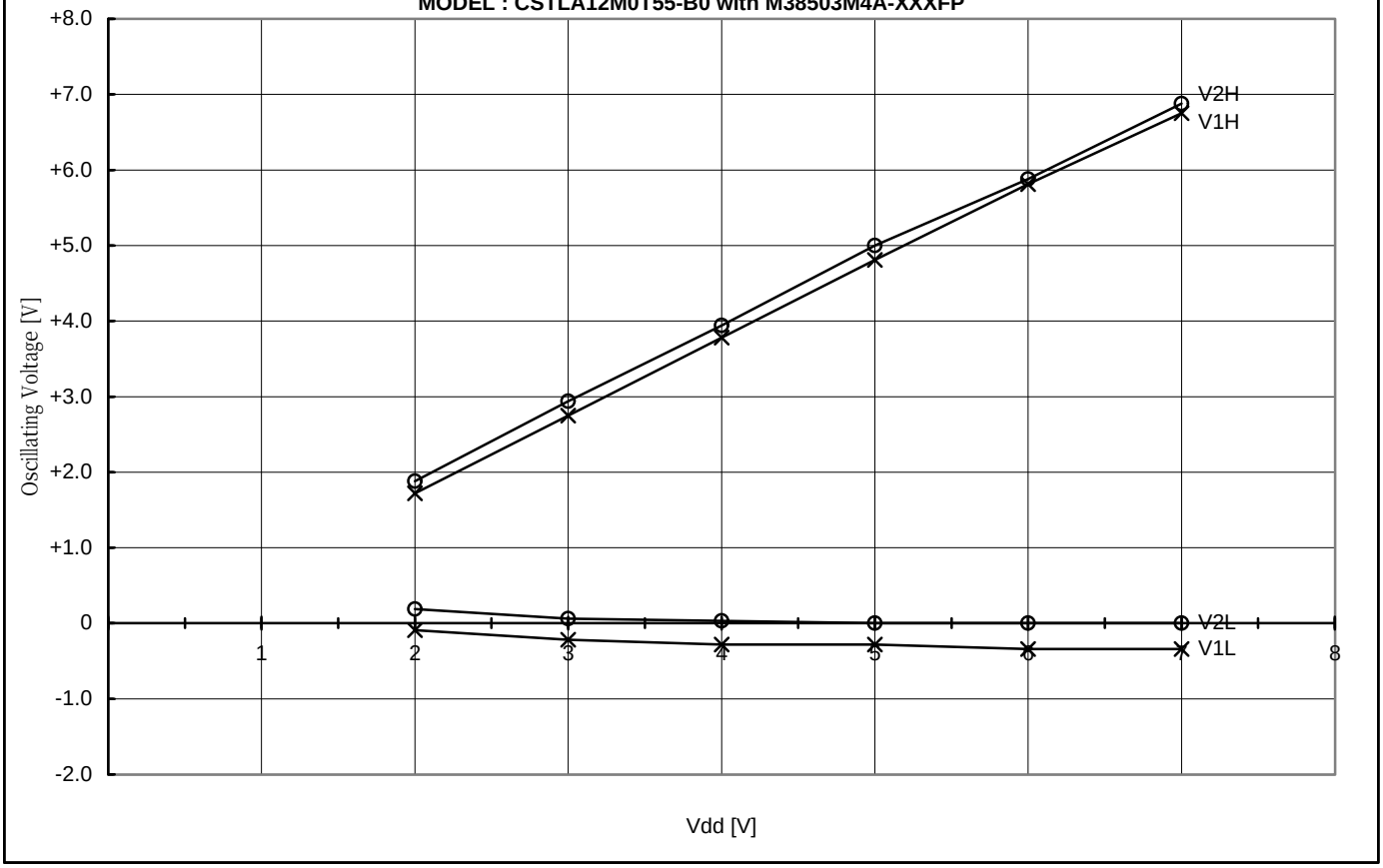
Oscillating Frequency vs Vdd Characteristics

MODEL : CSTLA12M0T55-B0 with M38503M4A-XXXFP



Oscillating Voltage vs Vdd Characteristics

MODEL : CSTLA12M0T55-B0 with M38503M4A-XXXFP



Appendixes

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	4.81	-0.28	5.09	5.06	0.00	5.06	12073.594	0.042	1.53
LH	4.84	-0.22	5.06	5.06	0.06	5.00	12073.162	0.045	1.69
MM	4.81	-0.28	5.09	5.00	0.00	5.00	12073.436	0.034	1.78
HL	4.81	-0.34	5.15	4.94	-0.06	5.00	12073.140	0.027	1.78
HH	4.81	-0.28	5.09	5.06	0.03	5.03	12072.687	0.036	1.94

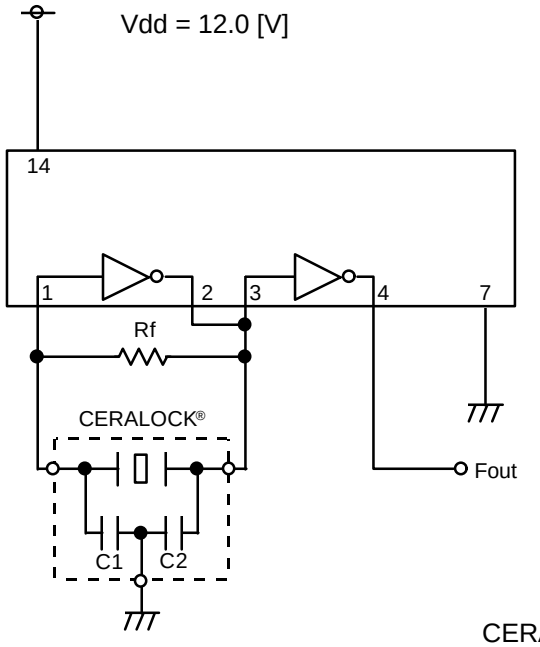
Ref.

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

Frequency Correlation Data

Sample No.	M38503M4A-XXXFP Fosc [kHz]	CD4069UBE Fosc [kHz]	Shift [%]
1	12073.593	12034.126	0.3280
2	12047.810	12009.307	0.3206
3	12061.781	12023.235	0.3206
4	12009.177	11970.832	0.3203
5	12072.449	12033.253	0.3257
$\bar{X}$	12052.962	12014.151	0.3230

muRata Standard Circuit



CERALOCK® : CSTLA12M0T55-B0
C1 = 30 [pF]
C2 = 30 [pF]
Rf = 1 [Mohm]