




Technical Data of Ceramic Resonator

MURATA Part No.: CSTCE10M0G55-R0

Applied to R5F21194SP(High)

TOYAMA MURATA MANUFACTURING CO., LTD.

Product Engineering Service Section VI
Piezoelectric Components Department I
Piezoelectric Components Division
Device Business Unit

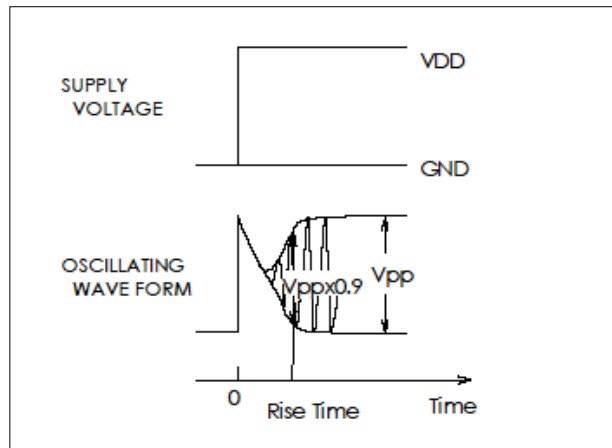
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 K.Maruno	 R.Miyamae	 T.Morita	Feb 13, 2006	TCD-06-0166

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Note : Rise Time

"Rise time" is defined as the time when oscillation voltage reaches 90% of full voltage swing after Vdd(Vset) is supplied.



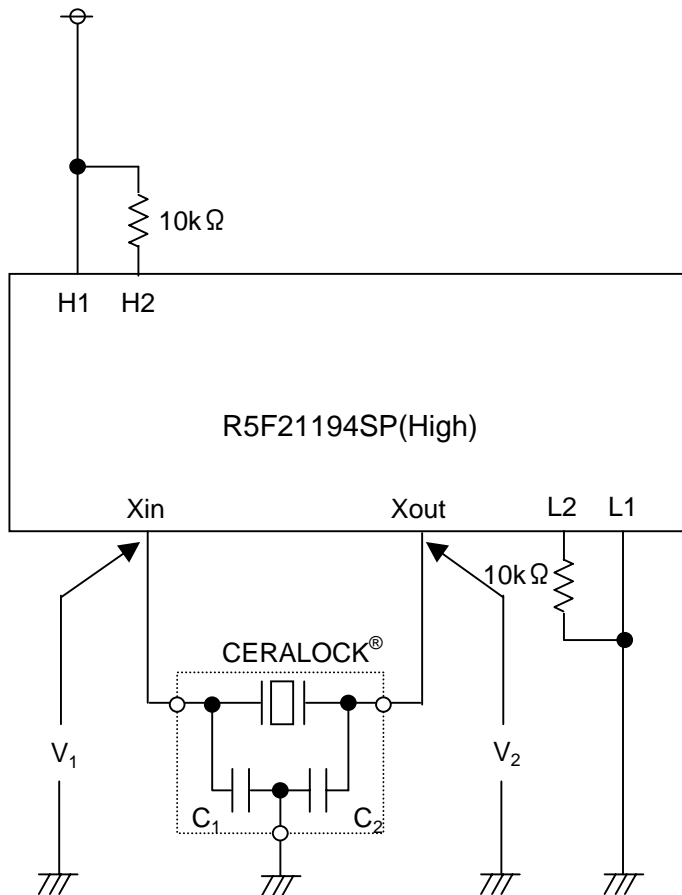
In the case that rising time of Vdd(Vset) is slow comparing to resonator's rise time due to the bypass capacitor, resonator's rise time is also slow because it depends on rising time of Vdd(Vset).

Also, in the case that the time supplying voltage to the oscillator circuit takes a certain time by reset time etc after Vdd(Vset) is applied, resonator's rise time is also slow.

In these case, we will describe "Unable to measure" in rise time data, because we can not measure resonator's rise time correctly.

Test Circuit

Vcc = 5.0 [V]



Xin : 6

Xout: 4

H1 : 3,7

L1 : 5

H2 : 8,10

L2 : 2

Recommended Value

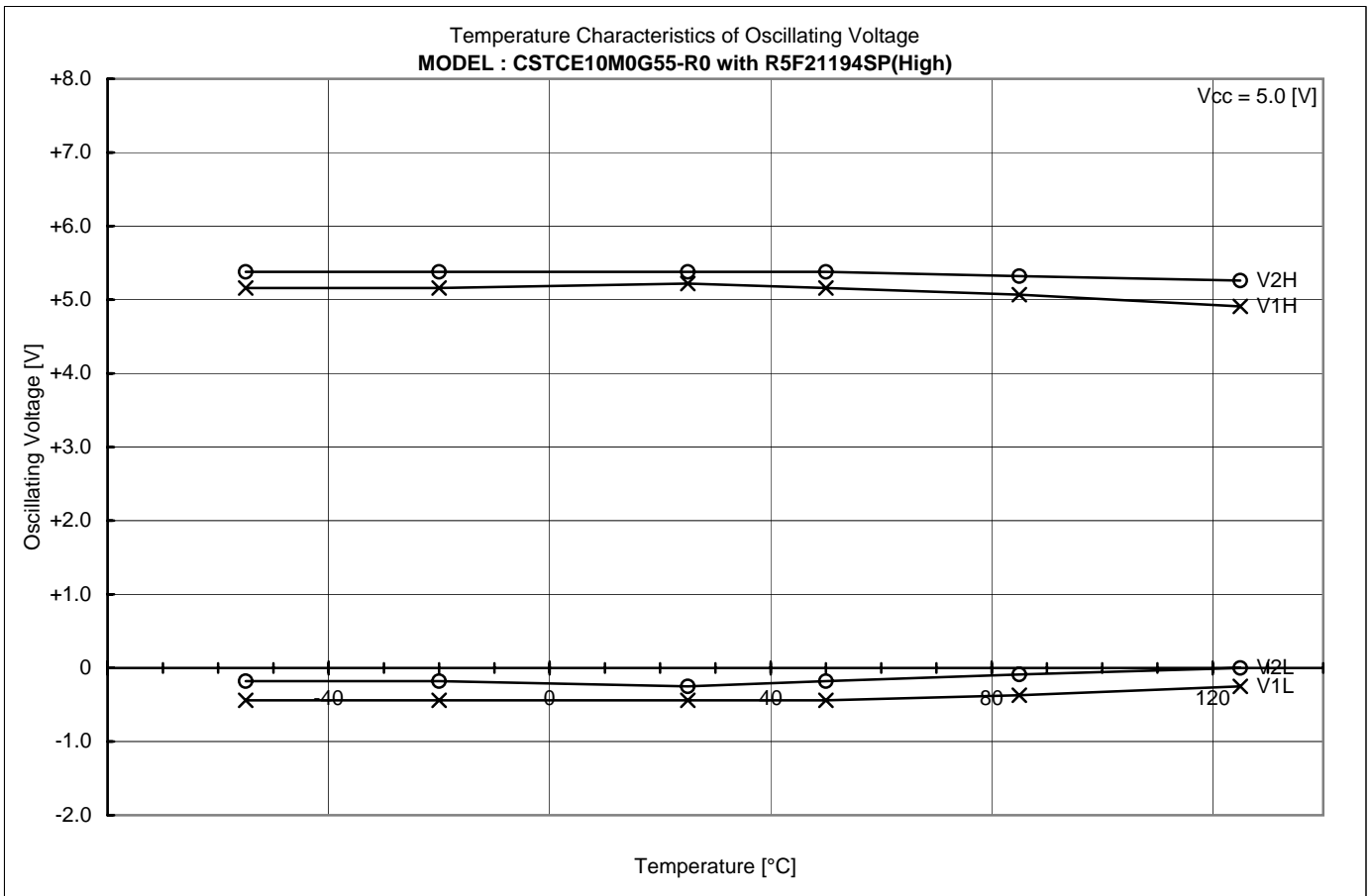
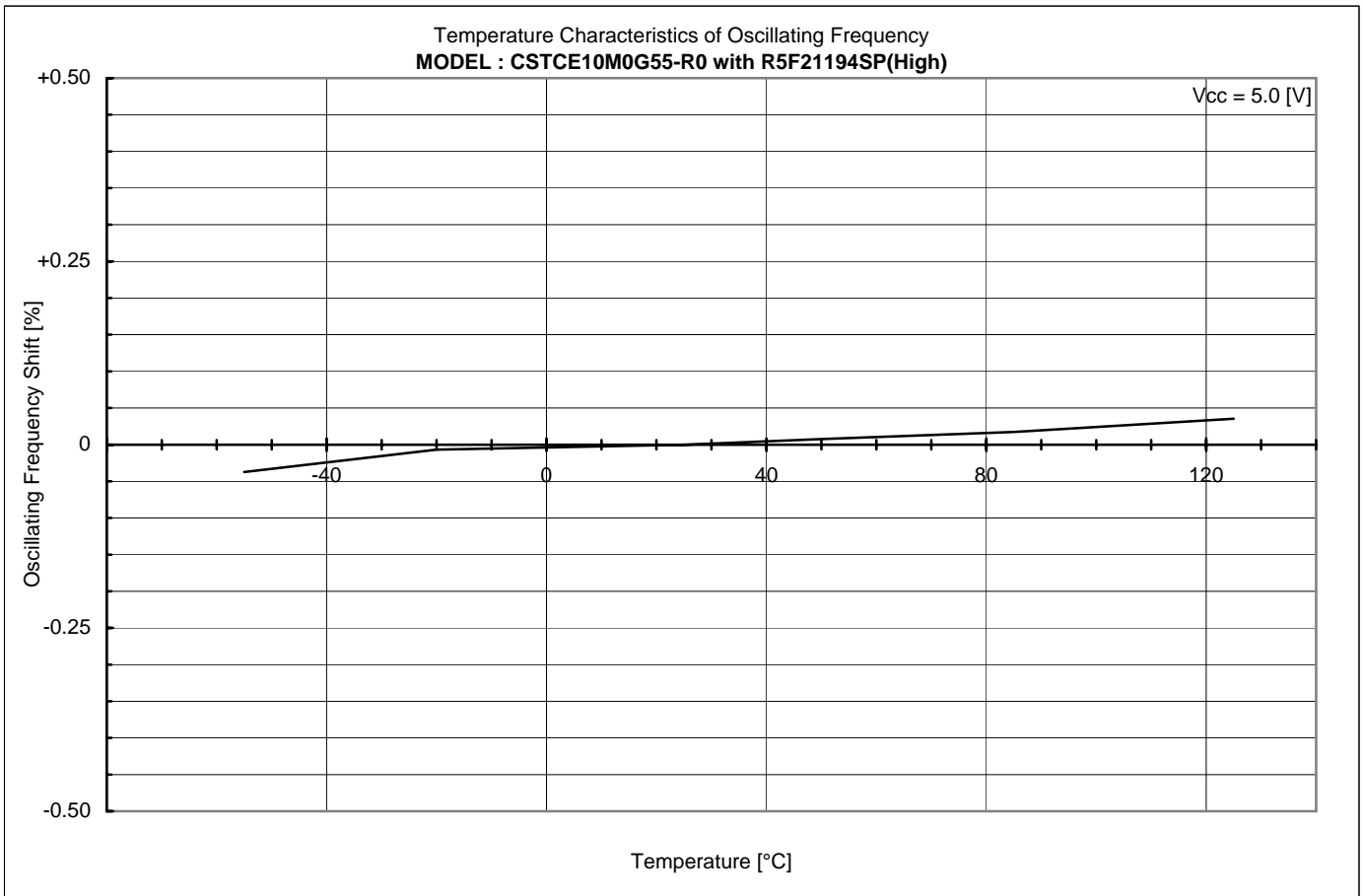
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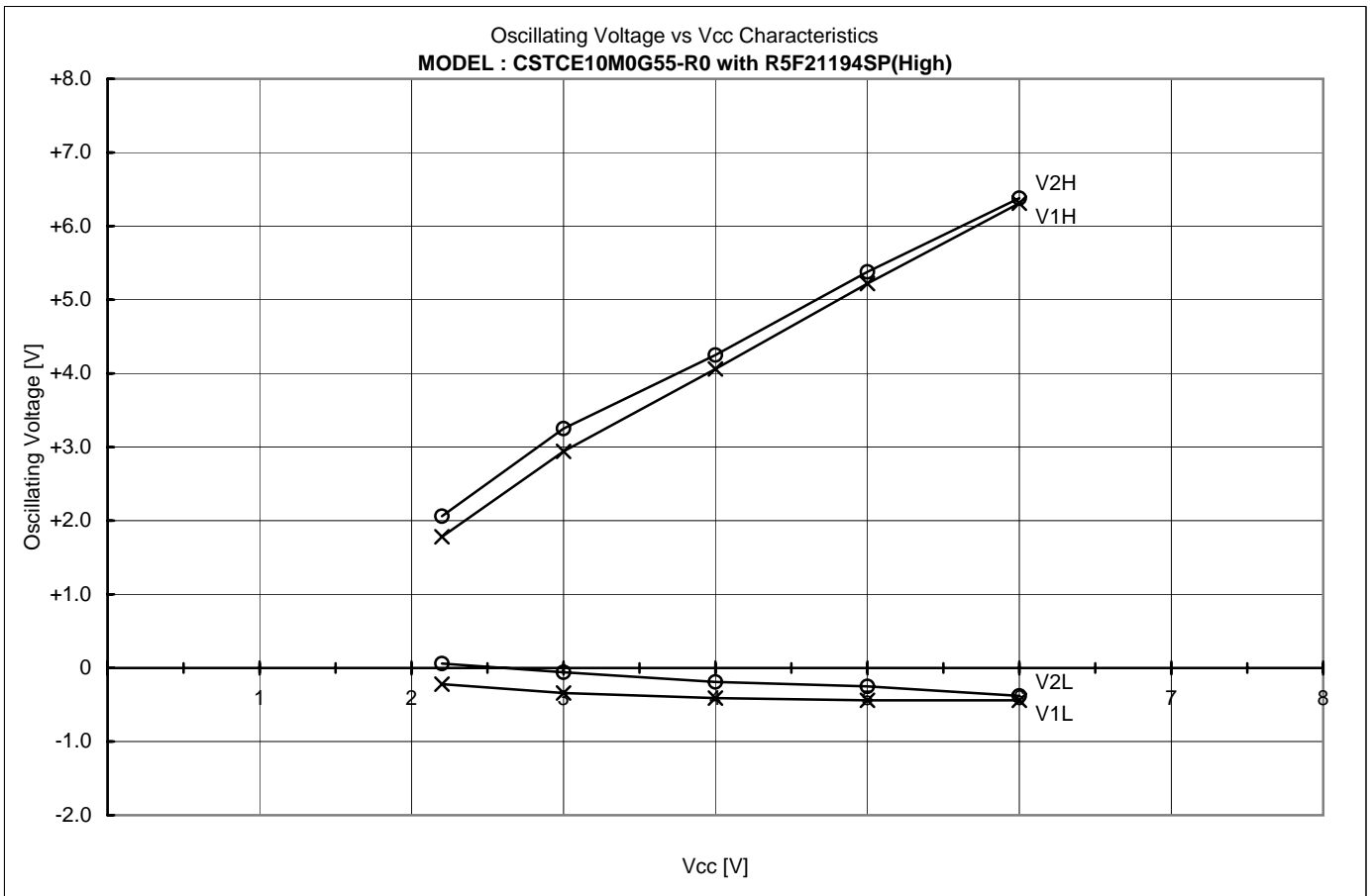
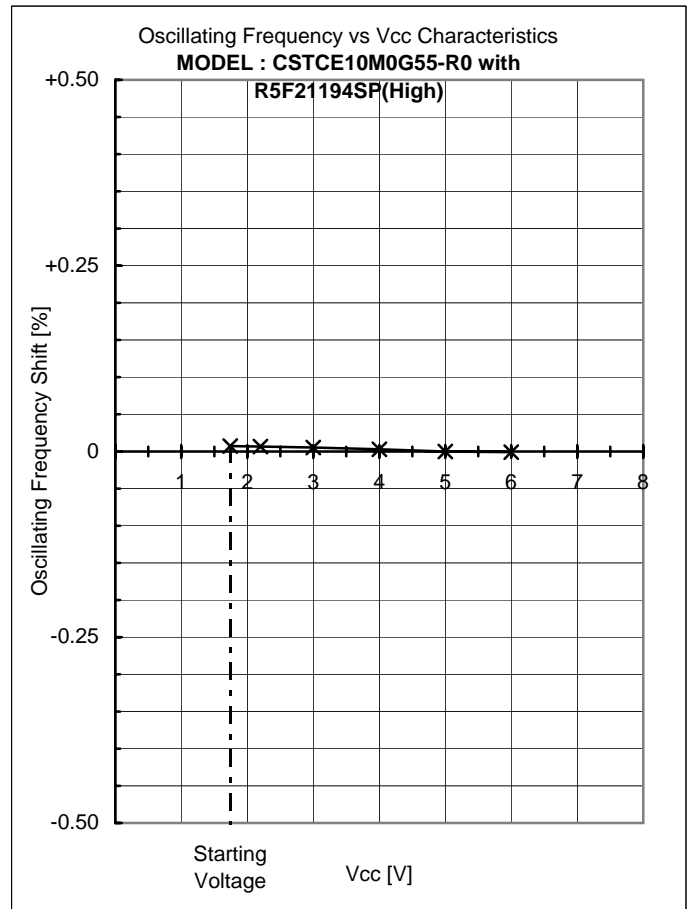
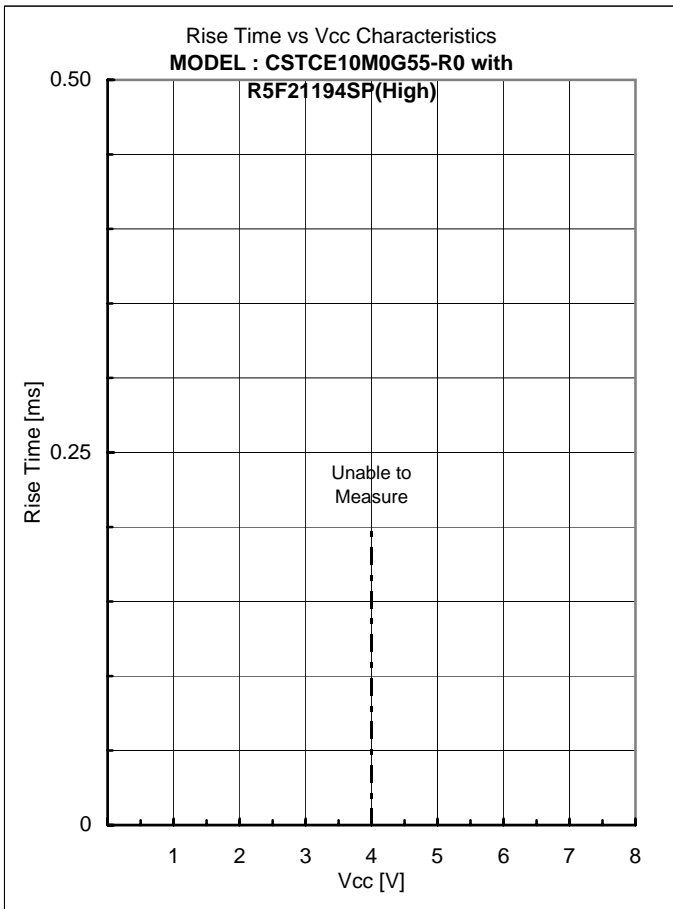
Vcc = 2.7 to 5.5 [V]

C1 = 33 [pF] (Typ.)

C2 = 33 [pF] (Typ.)

Ta = -40 to 85 [°C]





Appendixes

4. Comparison Table

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Comparison Table

IC : No	V1H [V]	V1L [V]	V1p-p [V]	V2H [V]	V2L [V]	V2p-p [V]	Fosc [kHz]	Trise [ms]	Vstart [V]
TYP	5.22	-0.44	5.66	5.38	-0.25	5.63	10011.205	Unable to	1.74
LL	5.34	-0.44	5.78	5.38	-0.25	5.63	10010.872	Measure	1.54
LH	5.28	-0.47	5.75	5.38	-0.19	5.57	10010.580		1.69
HL	5.34	-0.44	5.78	5.31	-0.32	5.63	10009.966		1.68
HH	5.28	-0.47	5.75	5.38	-0.25	5.63	10010.013		1.78

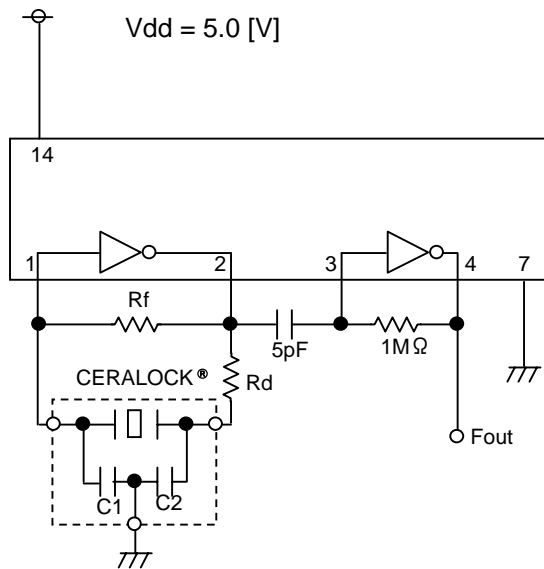
Ref.

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

Frequency Correlation Data

Sample No.	R5F21194SP(High) Fosc [kHz]	TC74HCU04AP Fosc [kHz]	Shift [%]
1	10015.601	10014.400	0.0120
2	10021.829	10021.600	0.0023
3	10025.583	10025.200	0.0038
4	10010.477	10010.000	0.0048
5	10020.866	10020.700	0.0017
-			
X	10018.871	10018.380	0.0049

muRata Standard Circuit



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C1 = 33 [pF]

C2 = 33 [pF]

Rf = 1 [Mohm]

Rd = 330 [ohm]