

Technical Data of Ceramic Resonator

MURATA Part No.: CSTCR4M00G55-R0

Applied to R5F21256SNFP(High)




TOYAMA MURATA MANUFACTURING CO., LTD.

Product Engineering Service Section VI

Piezoelectric Components Department I

Piezoelectric Components Division

Device Business Unit

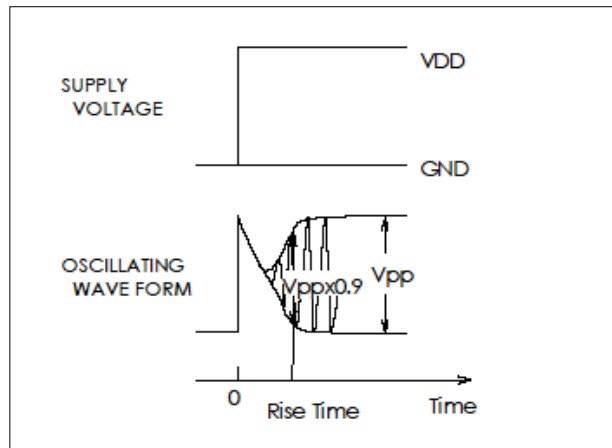
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Contents

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

Note : Rise Time

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

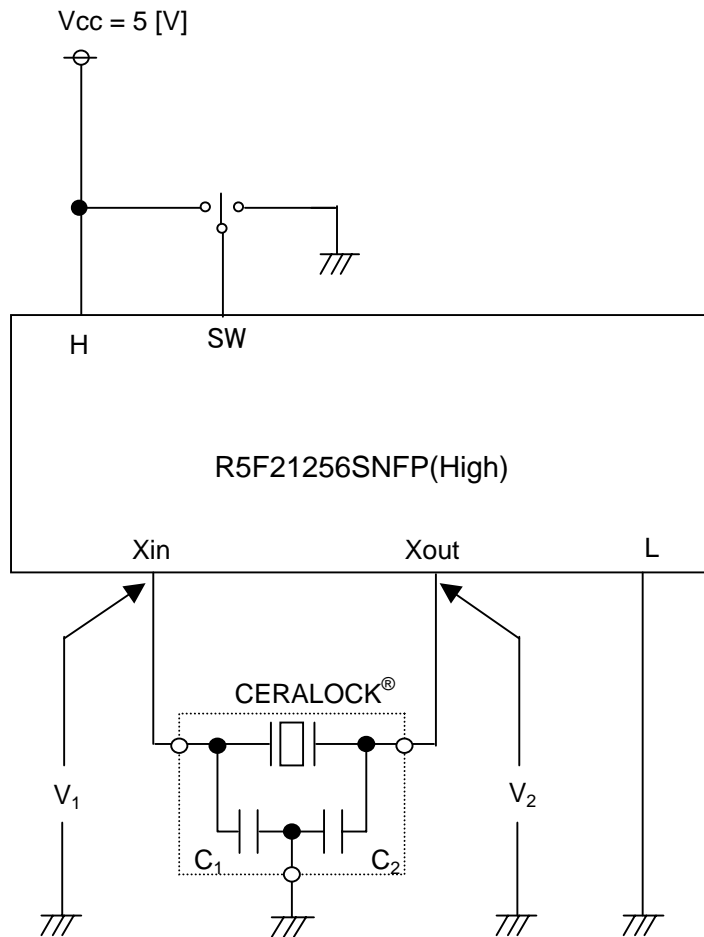


In the case that rising time of Vdd(Vset) is slow comparing to resonator's rise time due to the bypass capacitor, resonator's rise time is also slow because it depends on rising time of Vdd(Vset).

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



SEL	RESET 8pin	P1_7/TRAI0/INT1 21pin	P4_5/INT0 27pin
SW	L→H	H	H→L

Xin : 11

Xout: 9

H : 5, 12

L : 10

Recommended Value

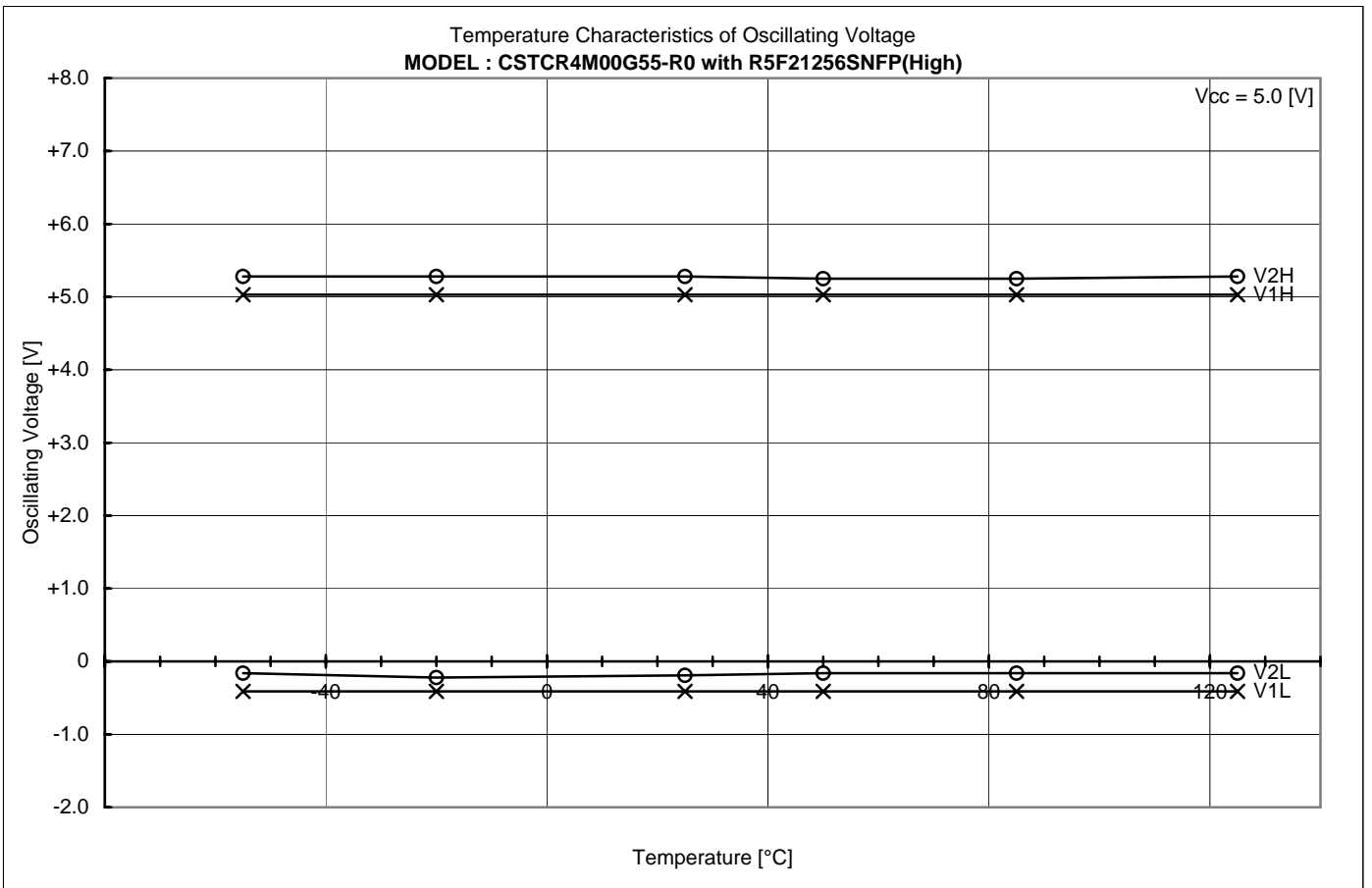
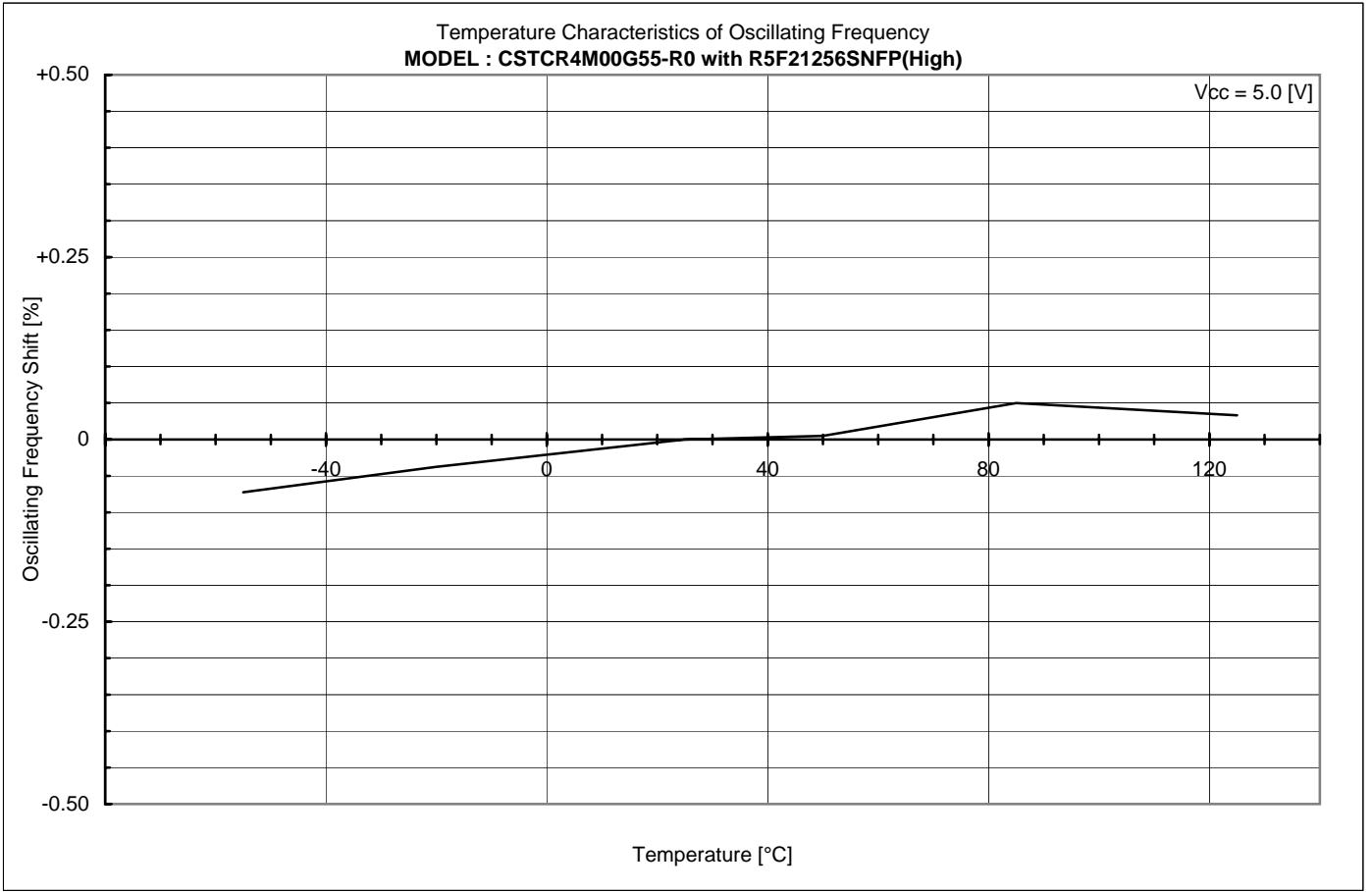
CERALOCK® : CSTCR4M00G55-R0

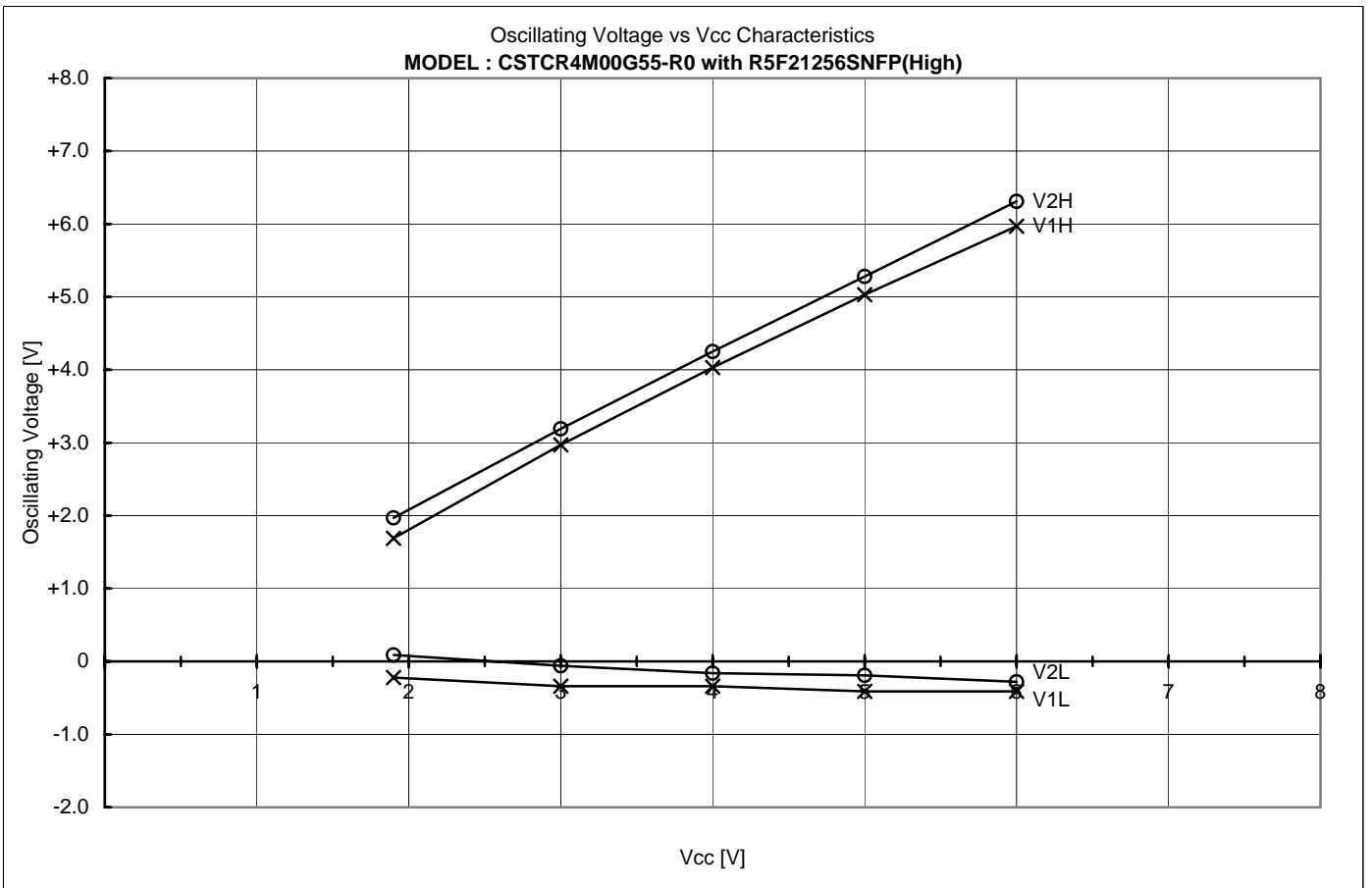
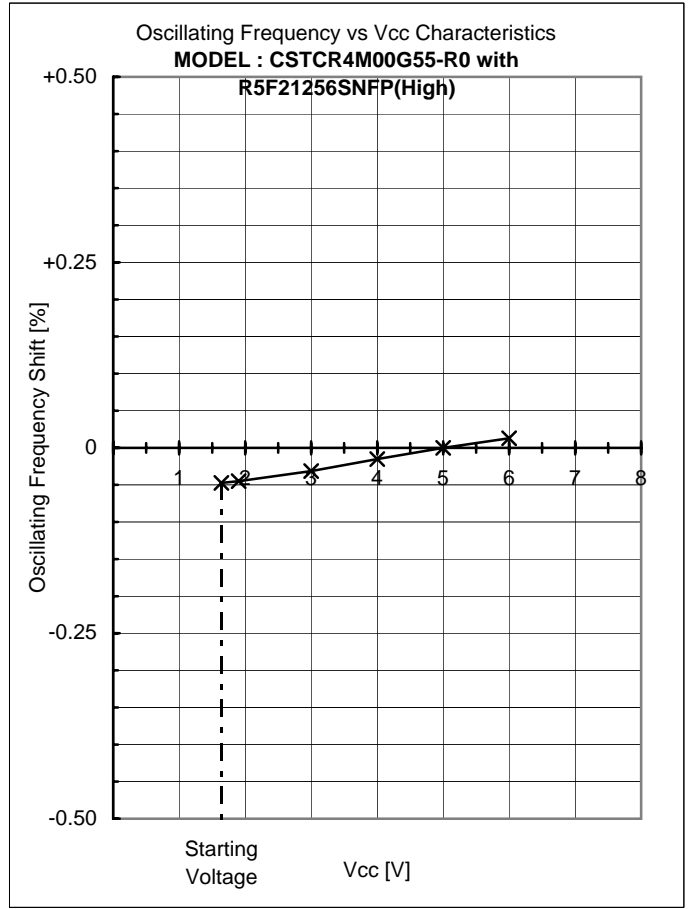
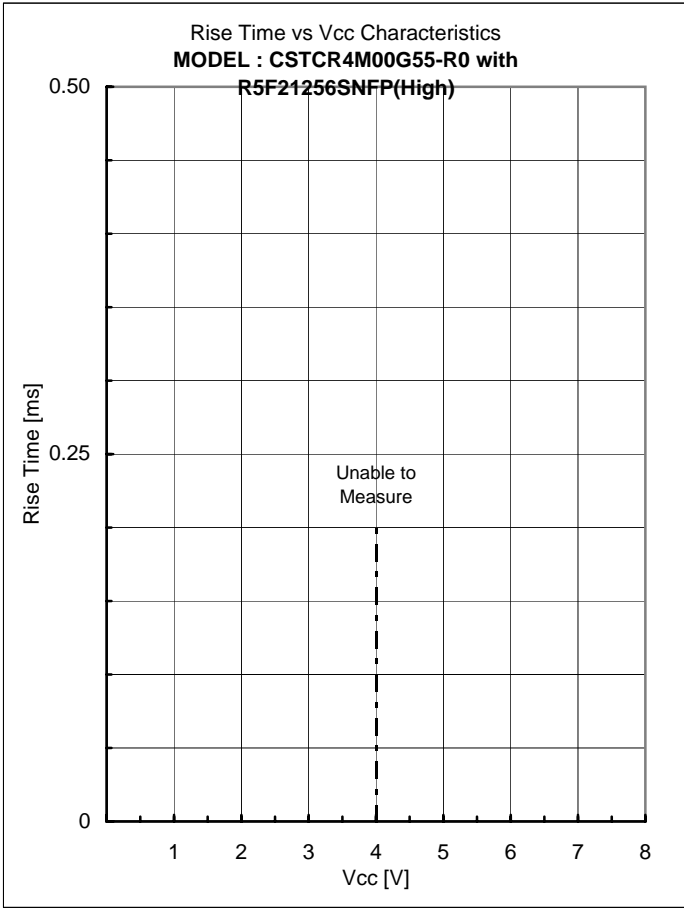
Vcc = 2.6 to 5.5 [V]

C1 = 39 [pF] (Typ.)

C2 = 39 [pF] (Typ.)

Ta = -40 to 85 [°C]





Appendixes

4. Comparison Table

4

Comparison Table

IC : No	V1H [V]	V1L [V]	V1p-p [V]	V2H [V]	V2L [V]	V2p-p [V]	Fosc [kHz]	Trise [ms]	Vstart [V]
WS	5.03	-0.41	5.44	5.28	-0.19	5.47	3998.110	Unable to	1.64
LL	5.03	-0.34	5.37	5.28	-0.25	5.53	3988.198	Measure	1.50
LH	5.03	-0.34	5.37	5.28	-0.19	5.47	3997.960		1.62
HH	5.03	-0.34	5.37	5.28	-0.25	5.53	3997.752		1.67
HL	5.03	-0.34	5.37	5.22	-0.25	5.47	3998.067		1.65

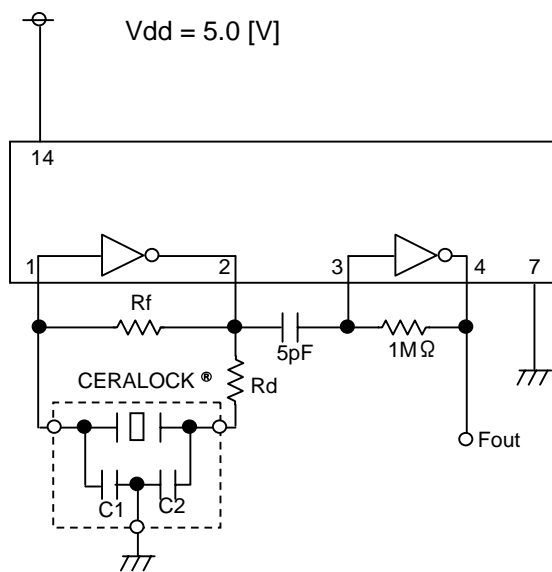
Ref.

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

Frequency Correlation Data

Sample No.	R5F21256SNFP(High) Fosc [kHz]	TC74HCU04AP Fosc [kHz]	Shift [%]
1	3999.935	3997.862	0.0519
2	4001.271	4000.387	0.0221
3	4001.378	4000.061	0.0329
4	3996.043	3994.619	0.0356
5	4000.008	3999.080	0.0232
\bar{X}	3999.727	3998.402	0.0331

muRata Standard Circuit



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C1 = 39 [pF]

C2 = 39 [pF]

Rf = 1 [Mohm]

Rd = 680 [ohm]