

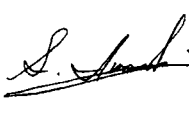


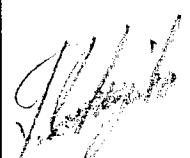
Technical Data of Ceramic Resonator

Type CSB800J

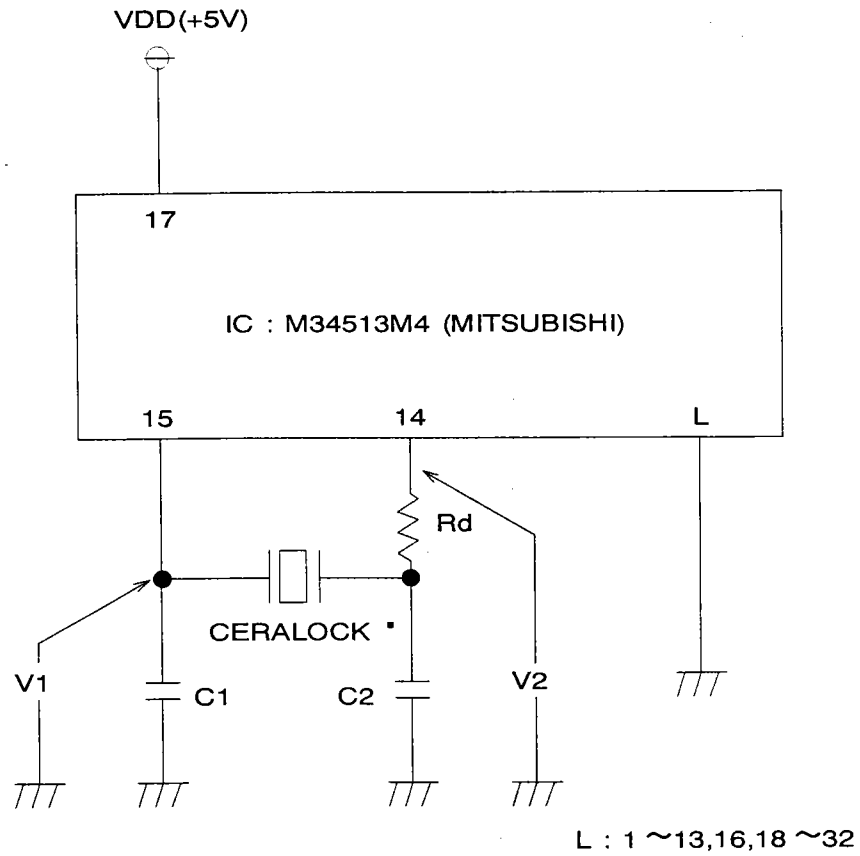
Applied to M34513M4

TOYAMA MURATA MANUFACTURING CO., LTD.

Product Engineering Service Section I
Engineering Service Department
Piezoelectric Components Group

Approved by	Checked by	Checked by	Issued by	Issued Date	TCD No.
 S. Iwasaki	 K. Kuramoto	 M. Kurosaka	 T. Ishizuka	Oct 28, 1998	TCD-98-5x40

Test Circuit



Recommendable Value

CERALOCK® : CSB800J

C1 = 100 [pF]

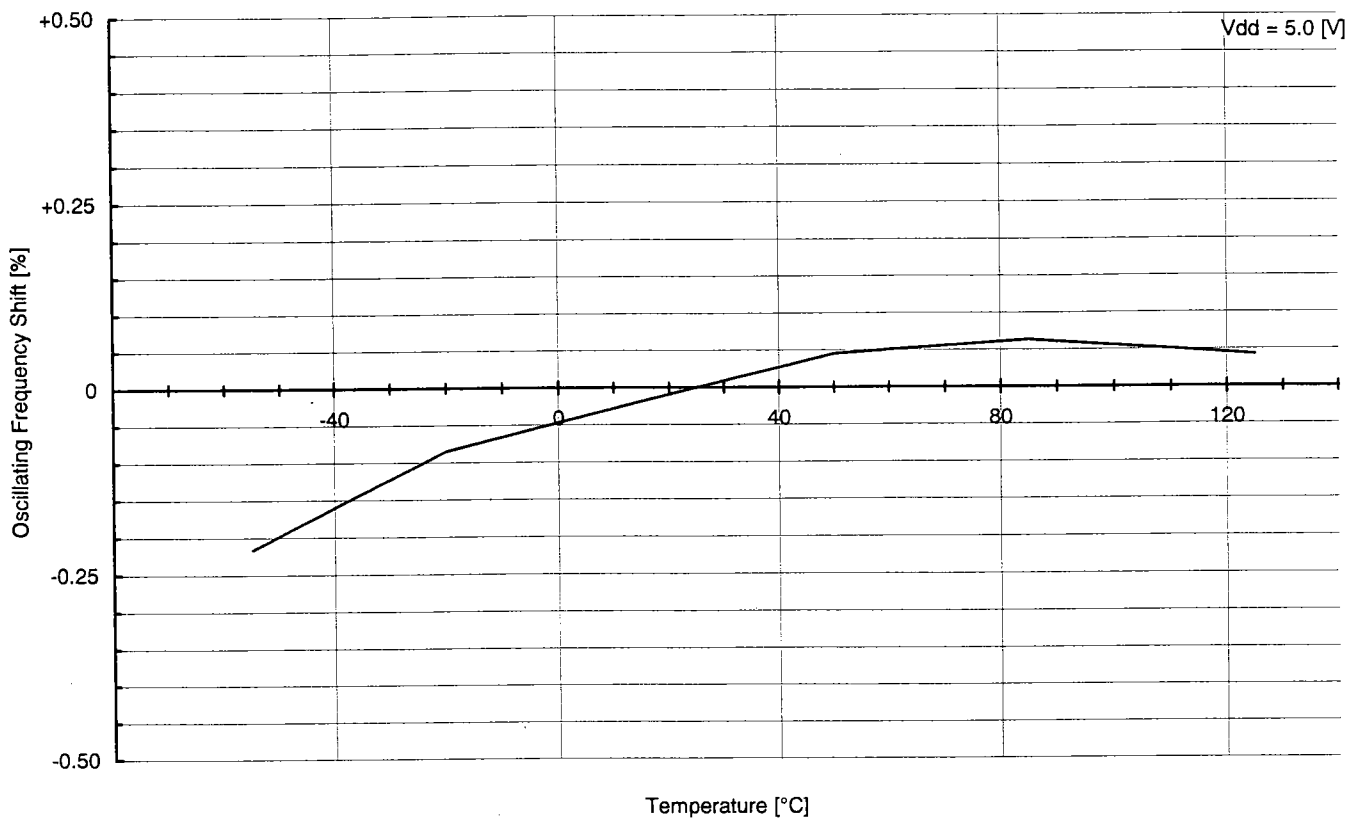
C2 = 100 [pF]

Rd = 2.2 [k ohm]

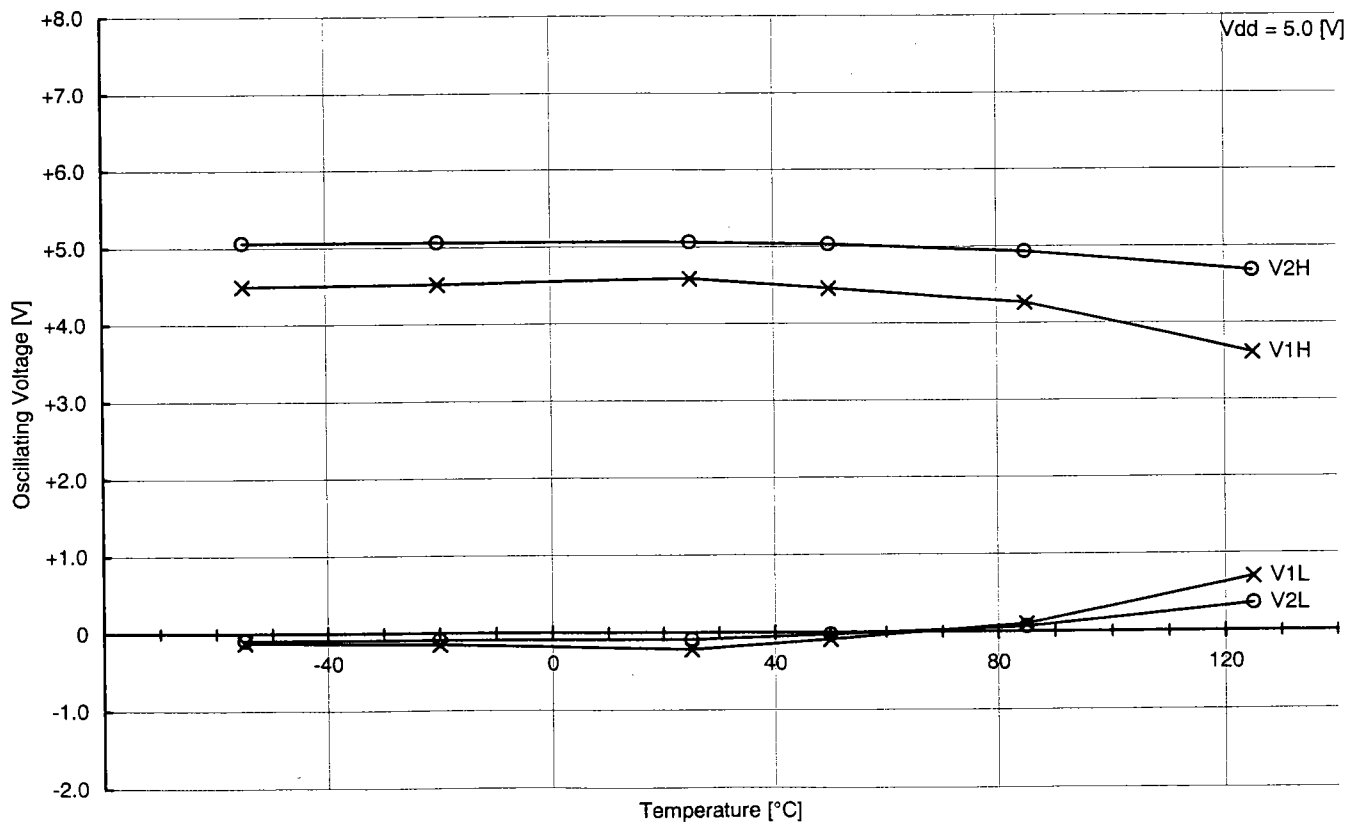
Contents

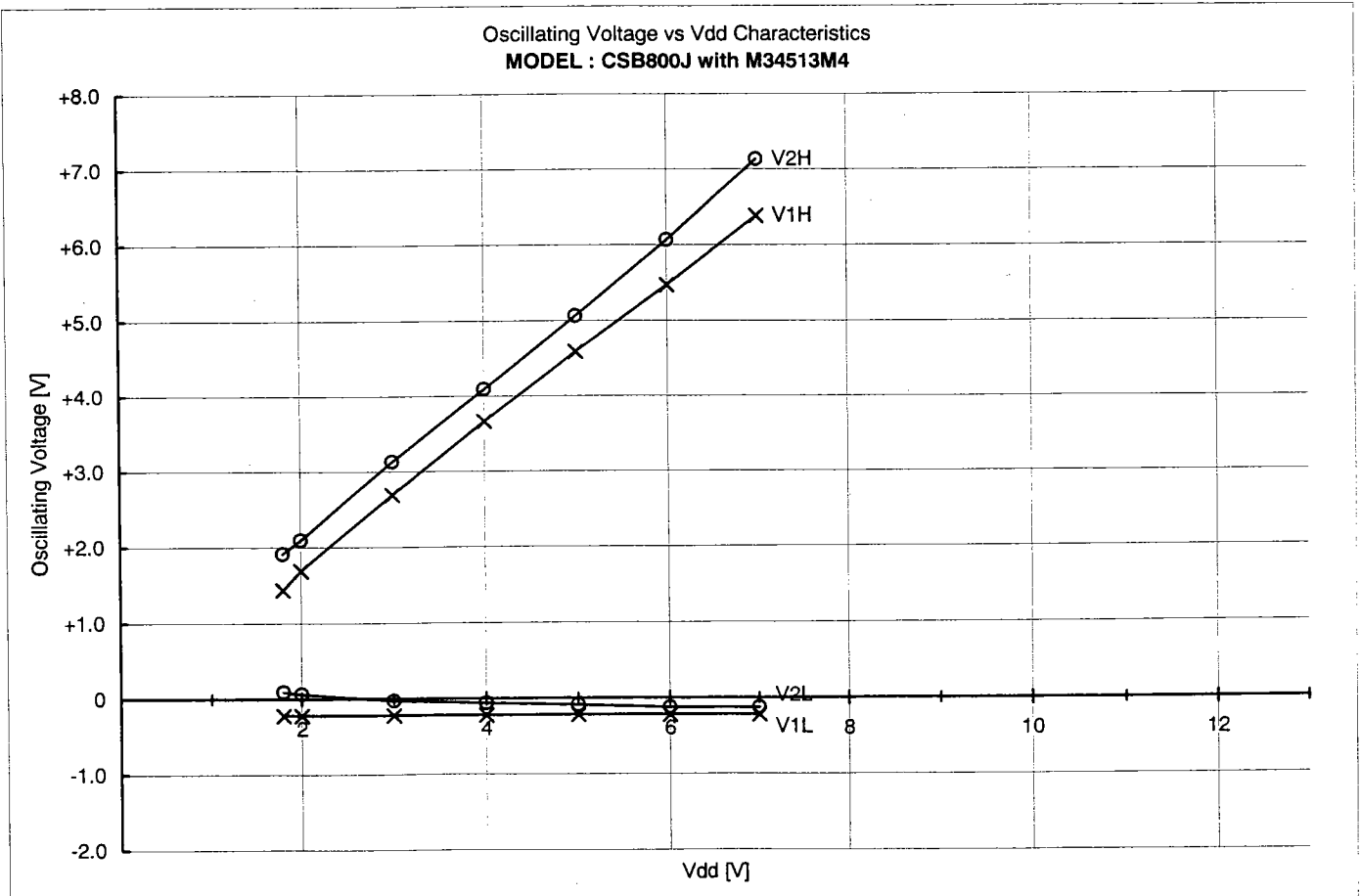
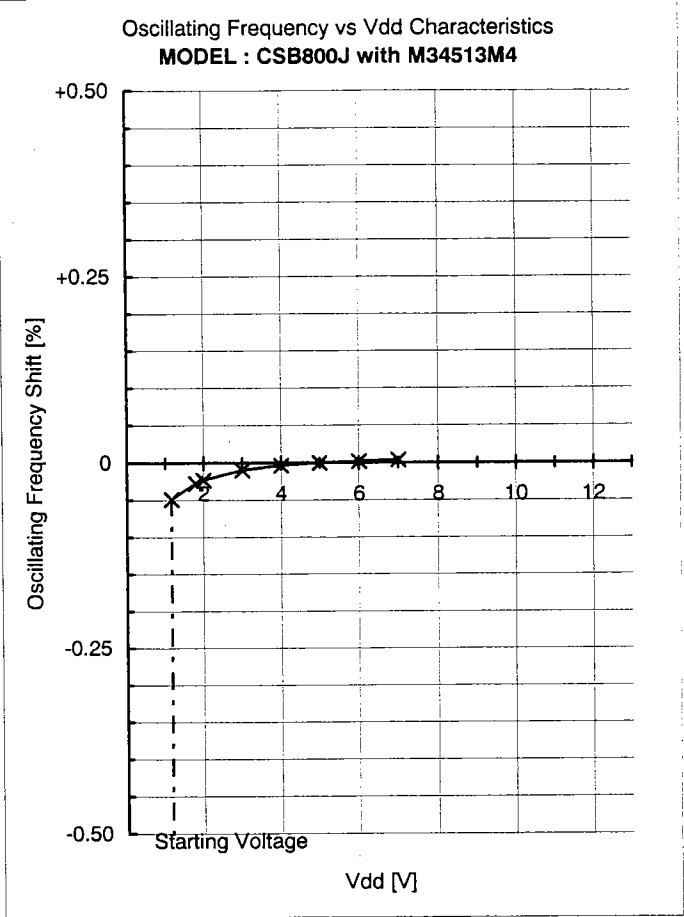
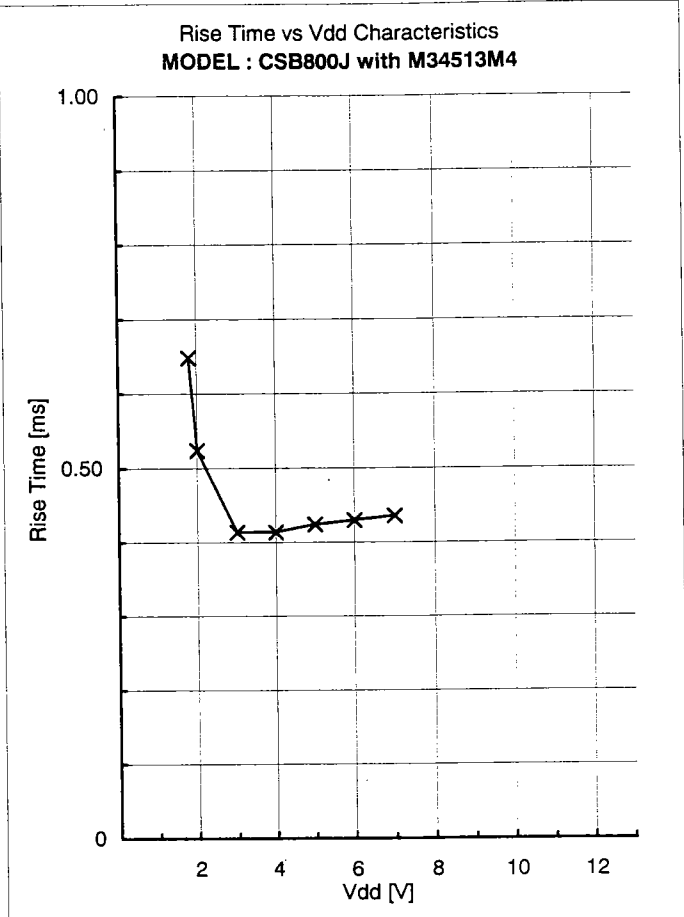
1.	Test Circuit	1
2.	Temperature Characteristics of Oscillating Frequency, Oscillating Voltage	2
3.	Rise Time, Oscillating Frequency, Oscillating Voltage vs Vdd Characteristics	3
4.	Oscillating Frequency, Oscillating Voltage vs (C1,C2) Characteristics	4
5.	Oscillating Frequency, Oscillating Voltage, Rise Time, Oscillating Voltage vs C(C1=C2) Characteristics	5
6.	Oscillating Frequency, Oscillating Voltage, Rise Time, Oscillating Voltage vs Rd Characteristics	6

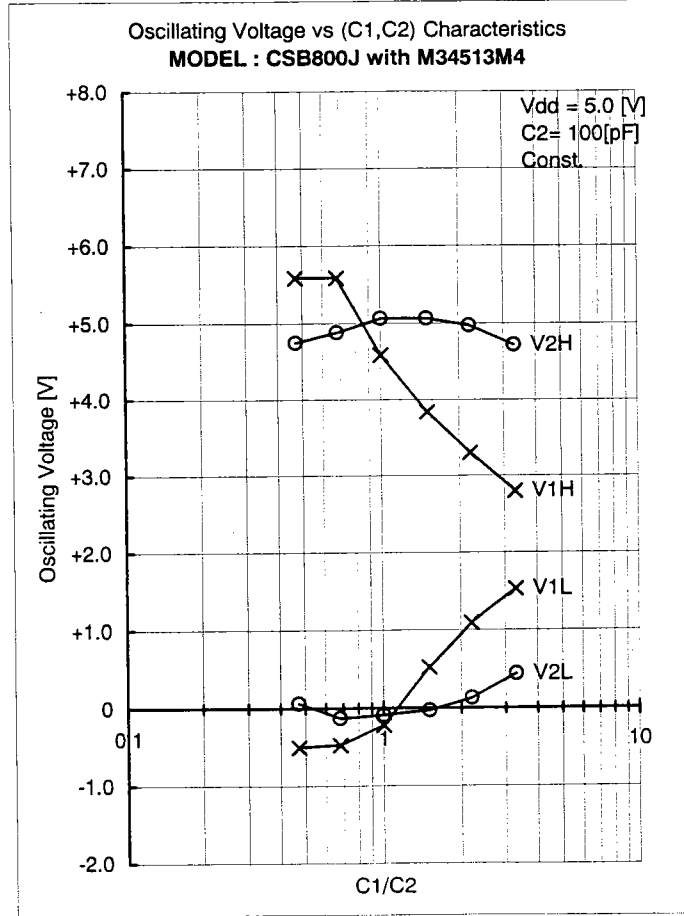
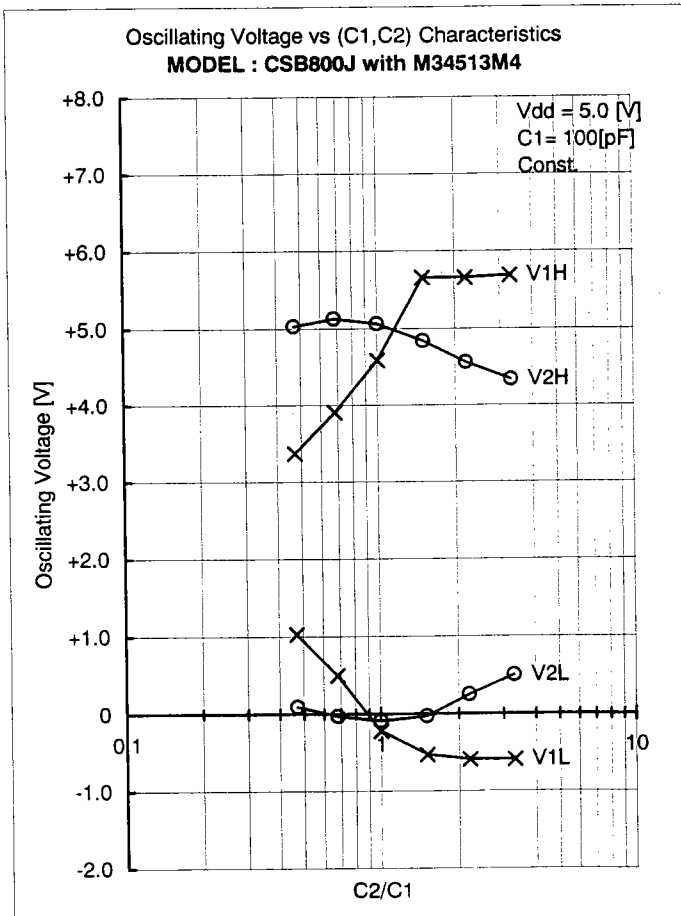
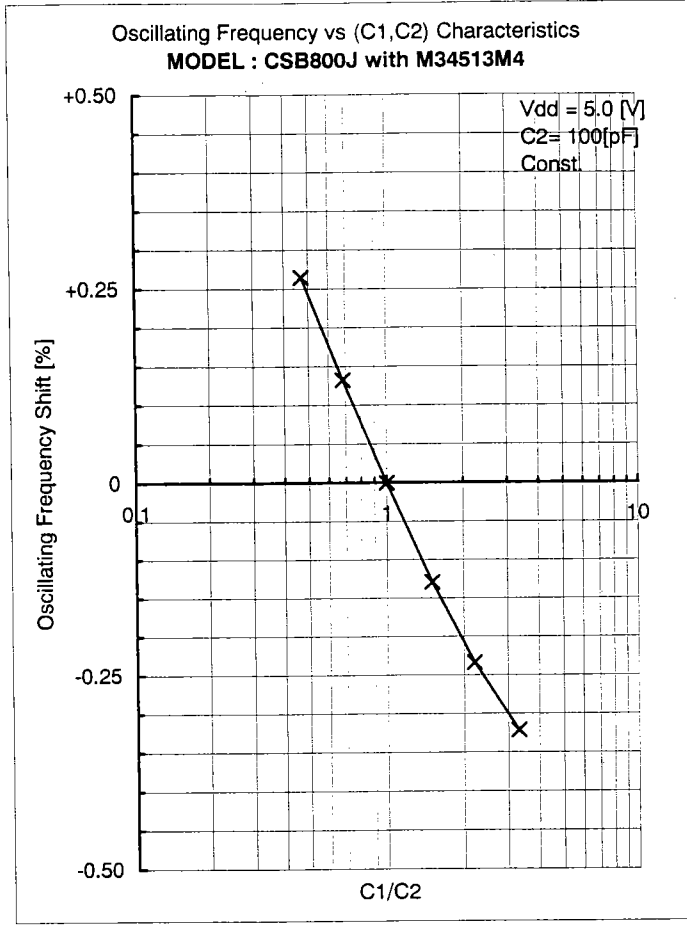
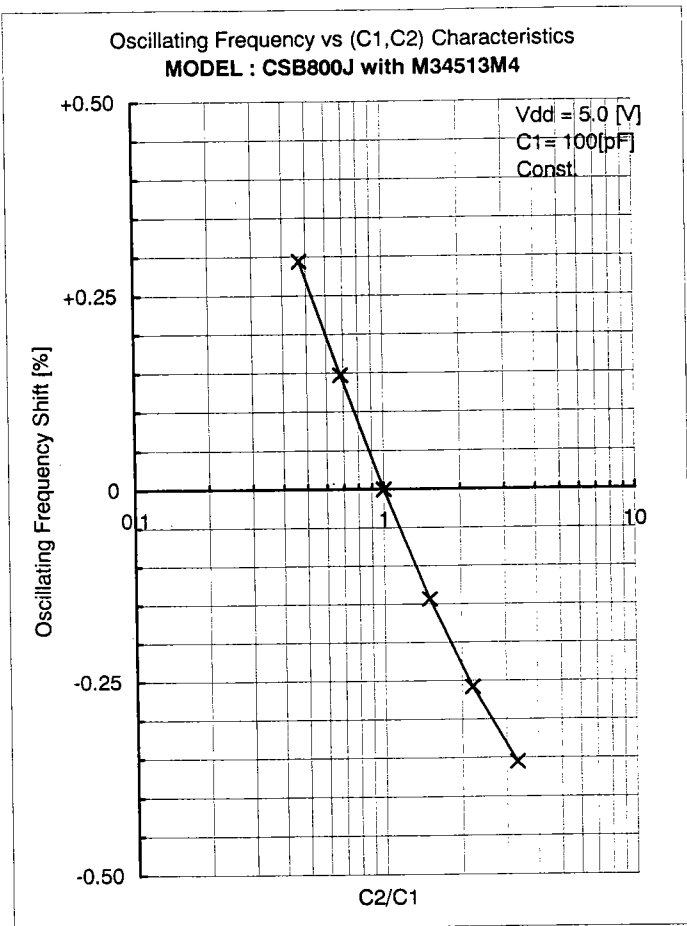
Temperature Characteristics of Oscillating Frequency
MODEL : CSB800J with M34513M4

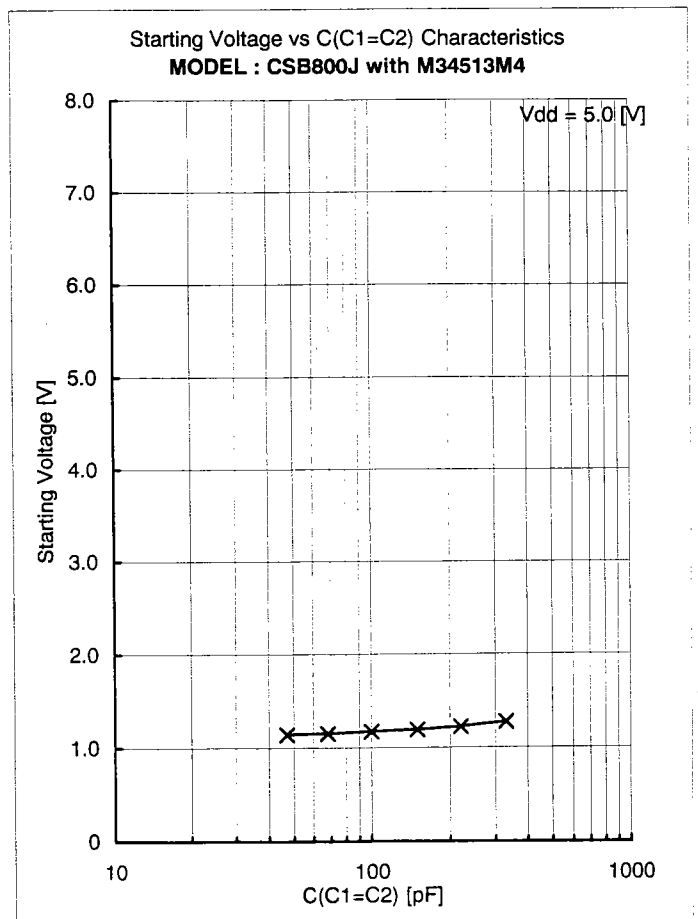
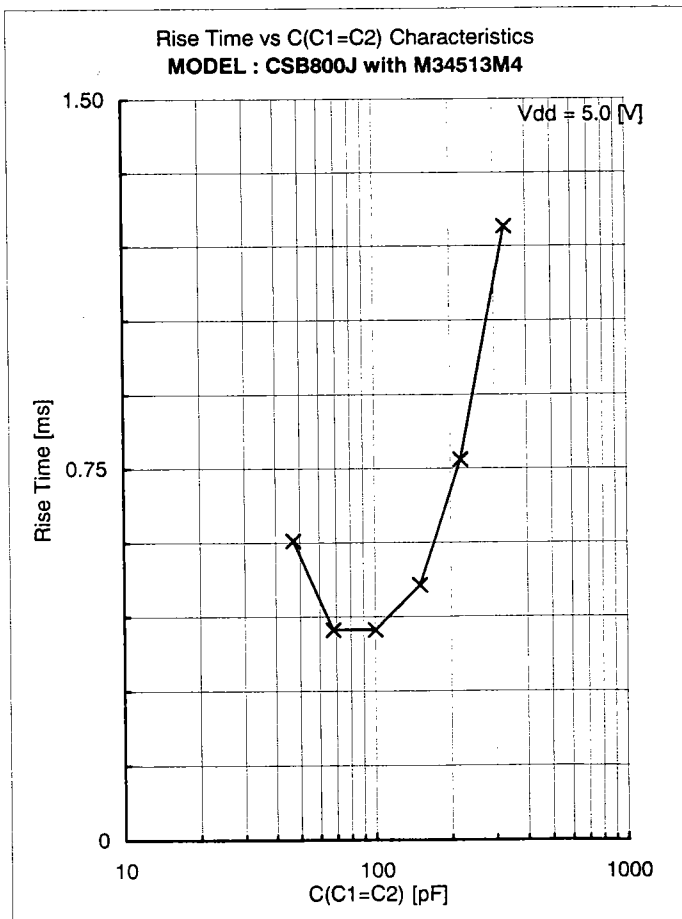
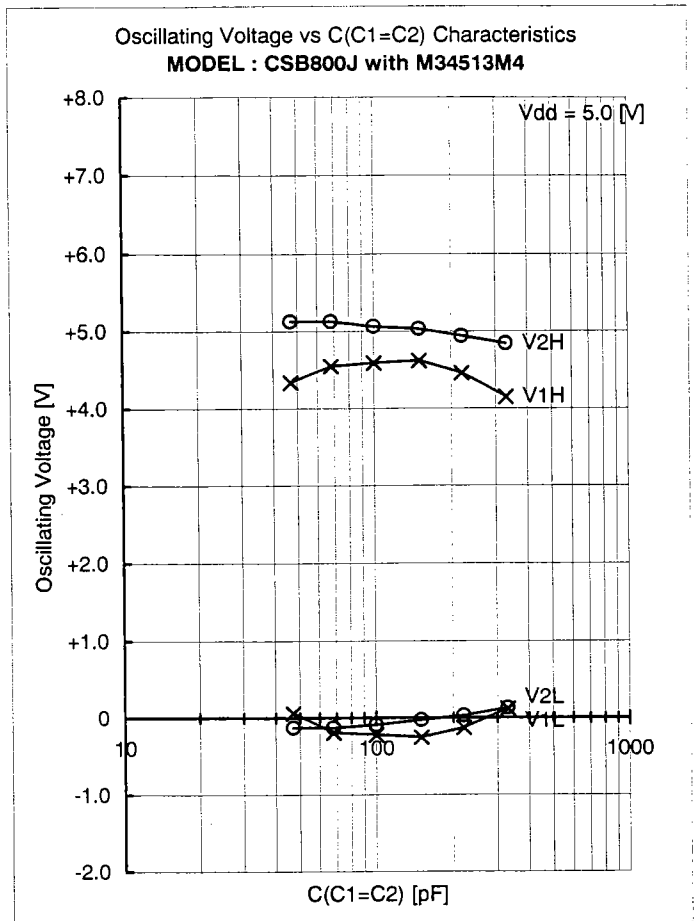
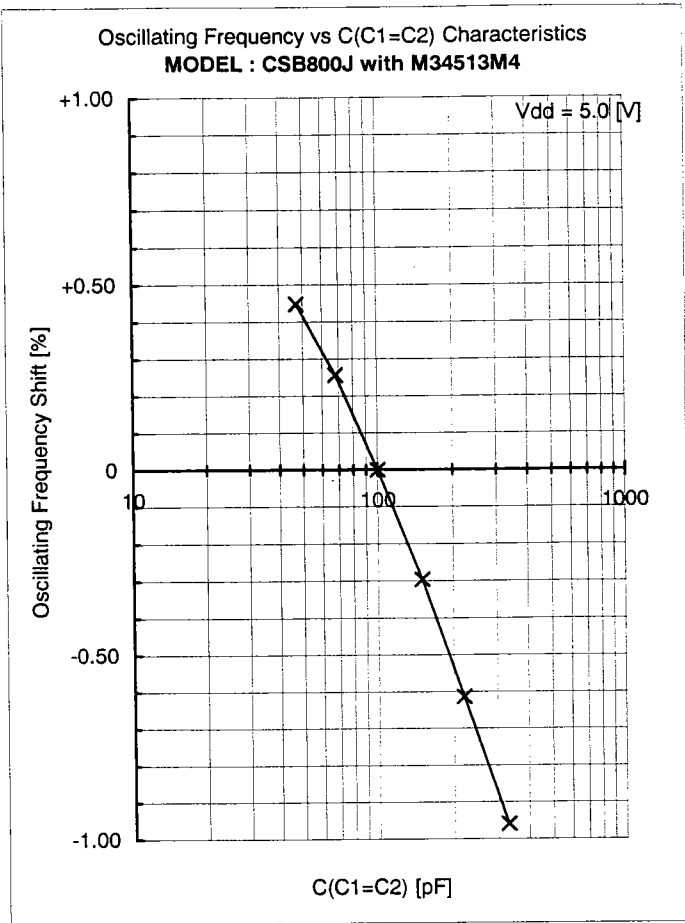


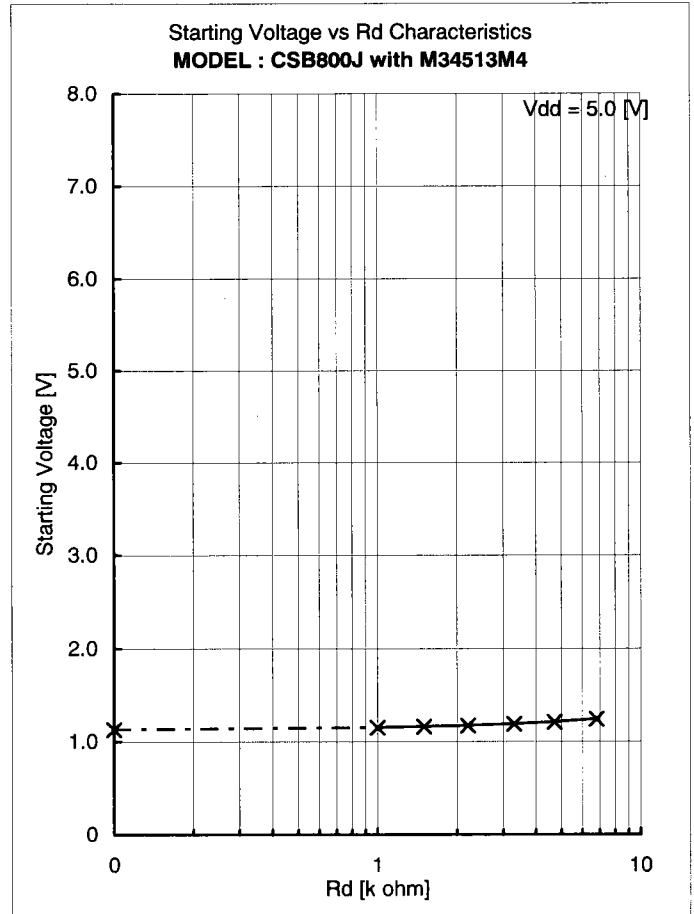
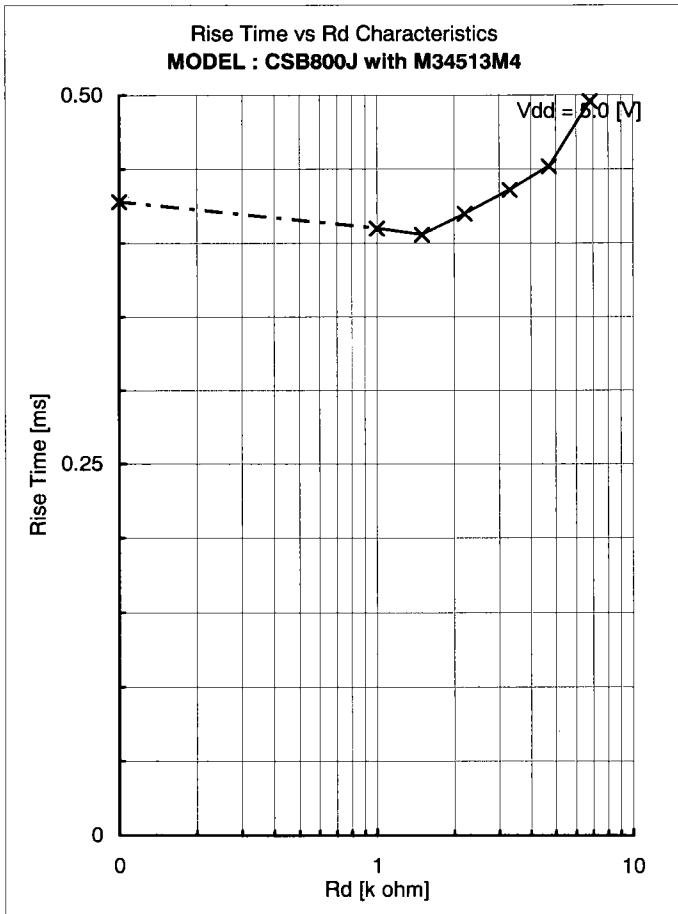
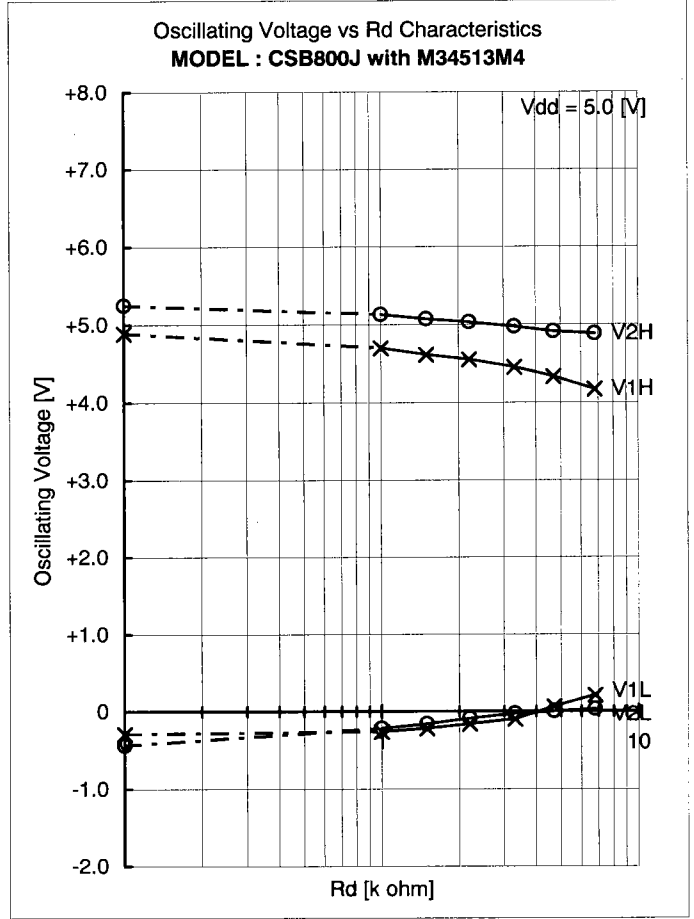
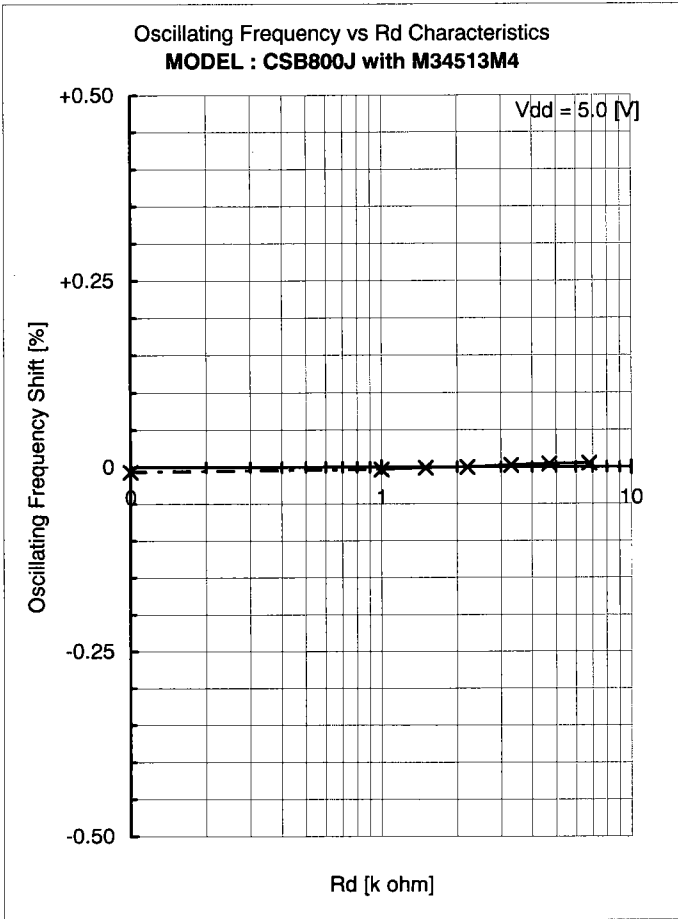
Temperature Characteristics of Oscillating Voltage
MODEL : CSB800J with M34513M4











Appendixes

7.	Comparison Table	7
8.	Frequency Correlation Data	8

Comparison Table

IC : No	V1H [V]	V1L [V]	V1p-p [V]	V2H [V]	V2L [V]	V2p-p [V]	Fosc [kHz]	Trise [ms]	Vstart [V]
HL	4.47	-0.28	4.75	5.06	-0.13	5.19	799.123	0.376	1.19
MM	4.55	-0.16	4.71	5.03	-0.09	5.12	799.125	0.422	1.17
LH	4.66	-0.09	4.75	5.09	-0.06	5.15	799.126	0.480	1.01

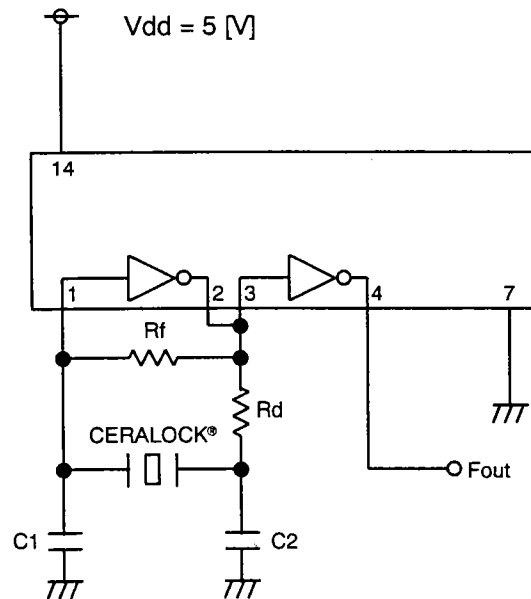
Ref.

Performance described page 2 to 6 were measured with IC No. MM

Frequency Correlation Data

Sample No.	M34513M4 Fosc [kHz]	CD4069UBE Fosc [kHz]	Shift [%]
1	799.120	799.045	0.0094
2	799.858	799.799	0.0074
3	799.431	799.370	0.0077
4	798.941	798.874	0.0084
5	800.297	800.244	0.0066
\bar{X}	799.529	799.466	0.0079

muRata Standard Circuit



CERALOCK® : CSB800J

C1 = 100 [pF]

C2 = 100 [pF]

Rf = 1 [Mohm]

Rd = 5.6 [kohm]