

Technical Data of Ceramic Resonator

Type CSA8.00MTZ

CST8.00MTW

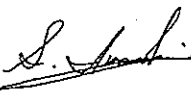
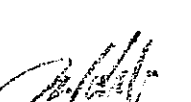
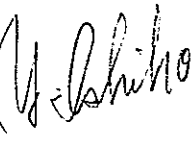
Applied to μ PD780032A

TOYAMA MURATA MANUFACTURING CO., LTD.

Product Engineering Service Section I

Engineering Service Department

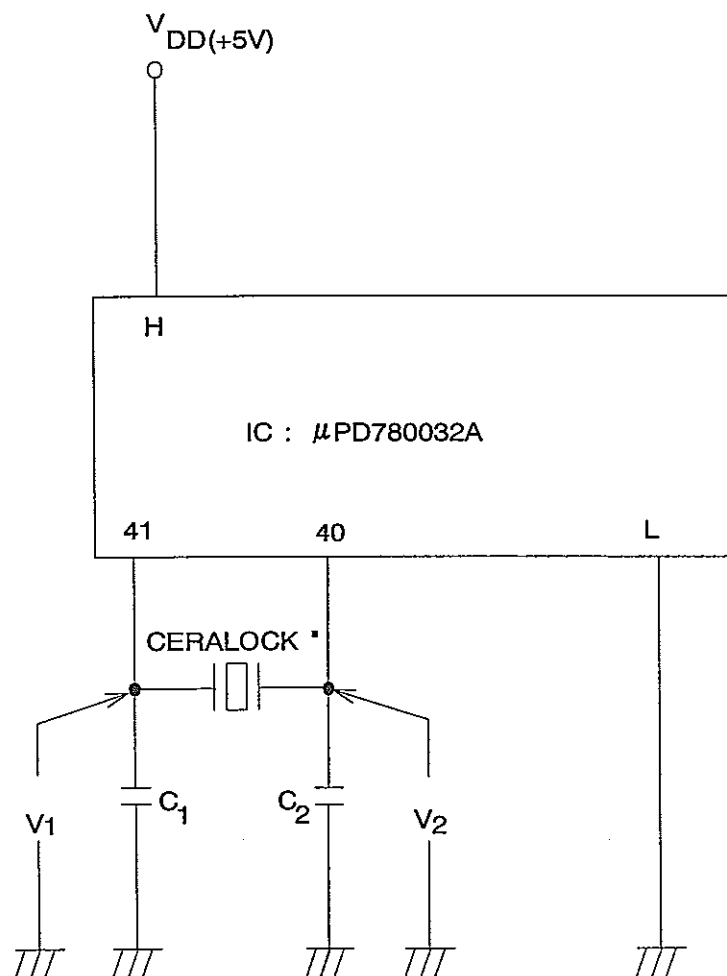
Piezoelectric Components Group

Approved by	Checked by	Checked by	Issued by	Issued Date	TCD No.
 S.Iwasaki	 K.Kuramoto	 M.Kurosaka	 Y.Ishiho	Feb 1, 1999	TCD-99-6A21

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Test Circuit



H:10,24,35,36,38

L:9,25 ~34,39,42

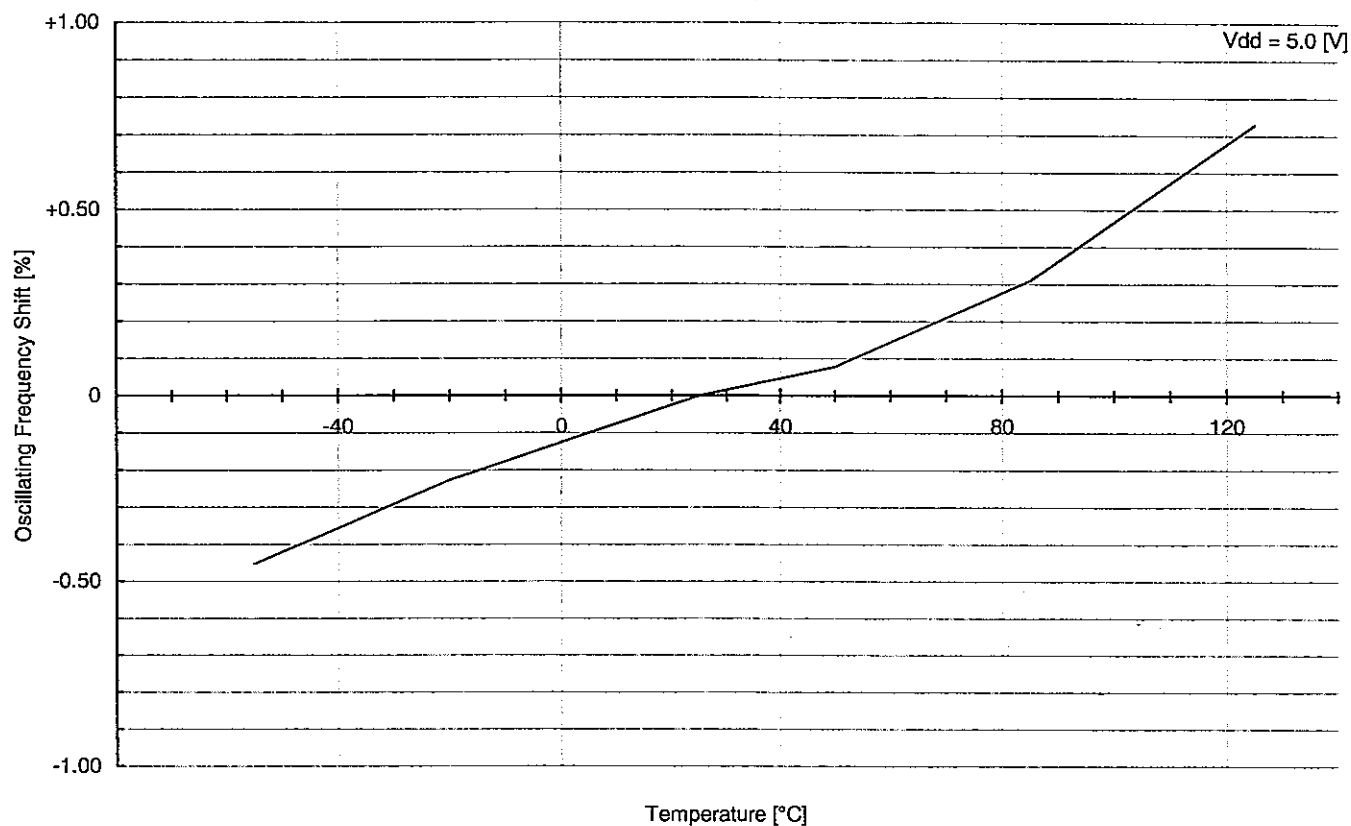
Recommendable Value

CERALOCK® : CSA8.00MTZ

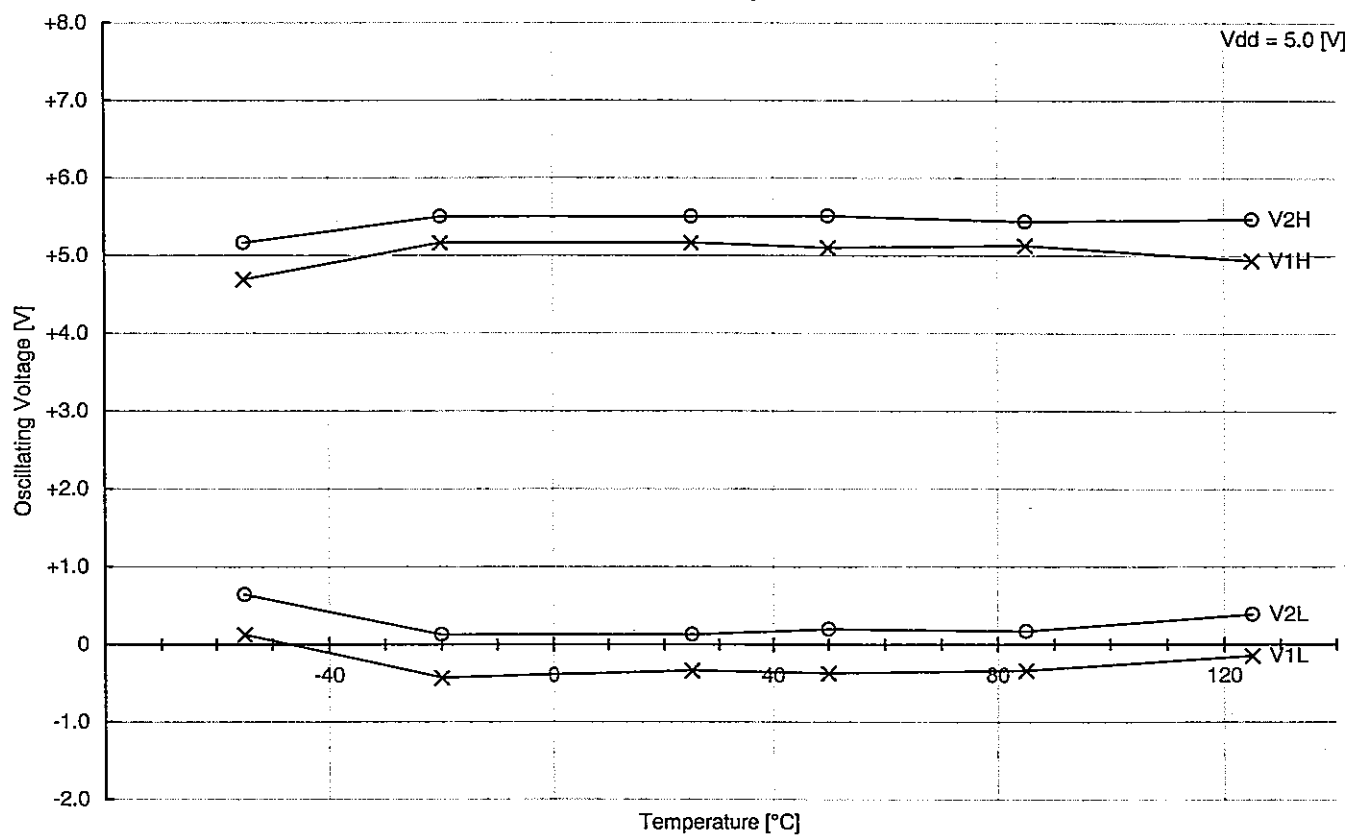
C1 = 30 [pF]

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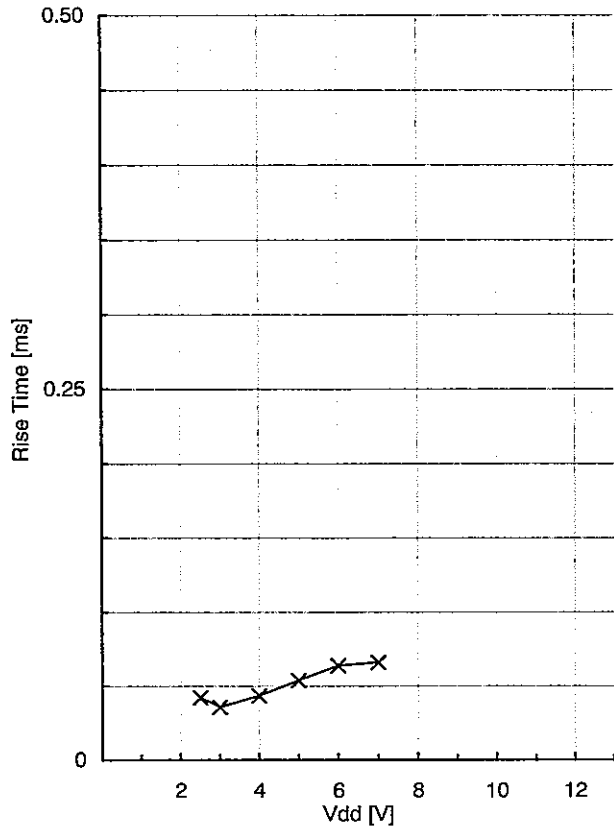
Temperature Characteristics of Oscillating Frequency
MODEL : CSA8.00MTZ with μ PD780032A



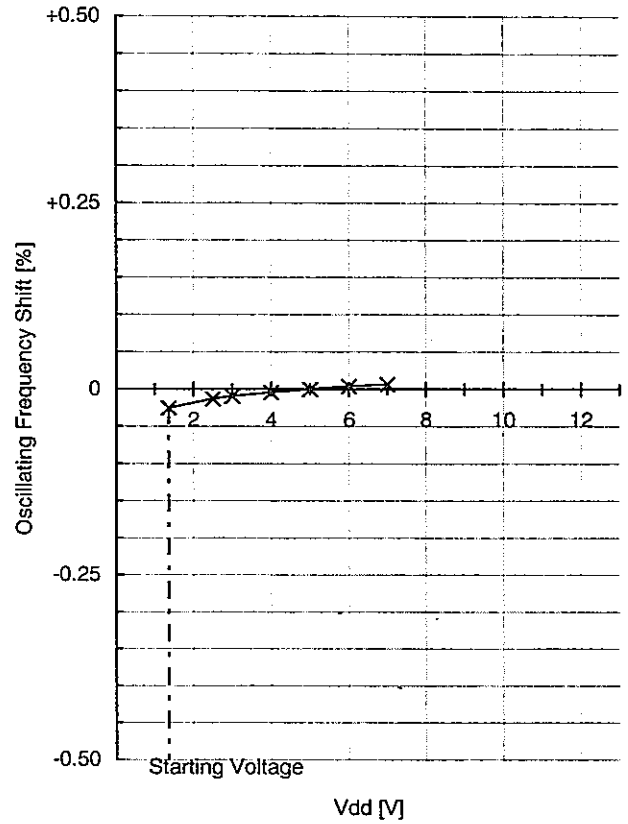
Temperature Characteristics of Oscillating Voltage
MODEL : CSA8.00MTZ with μ PD780032A



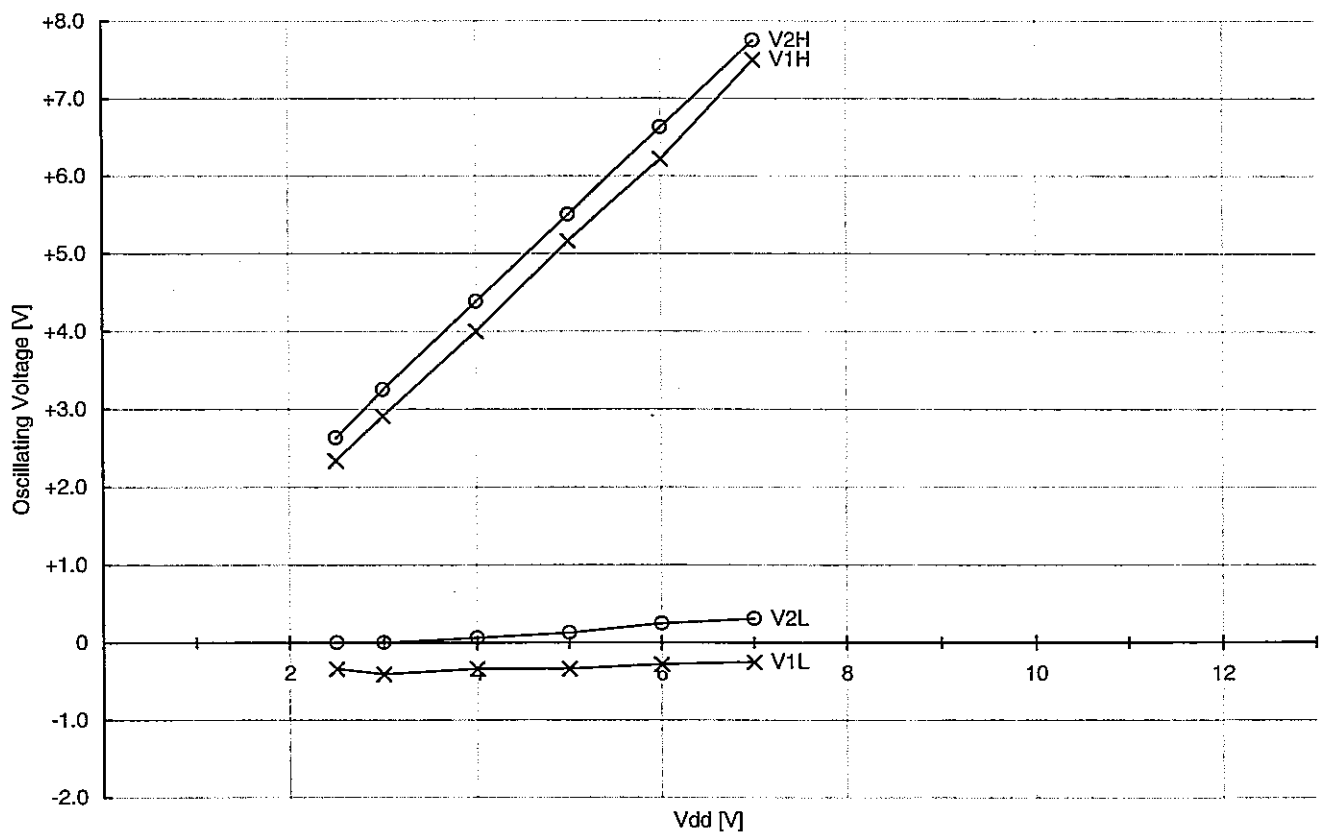
Rise Time vs Vdd Characteristics
MODEL : CSA8.00MTZ with μ PD780032A



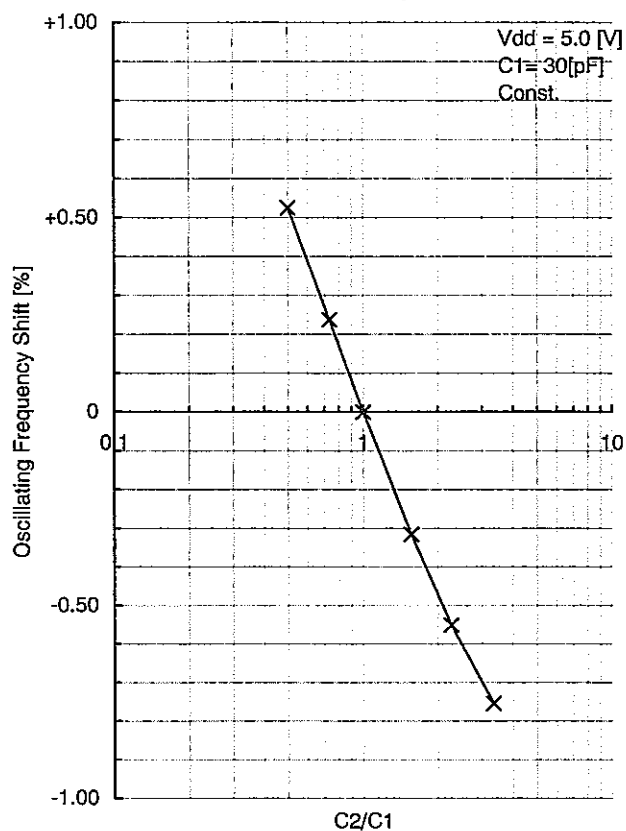
Oscillating Frequency vs Vdd Characteristics
MODEL : CSA8.00MTZ with μ PD780032A



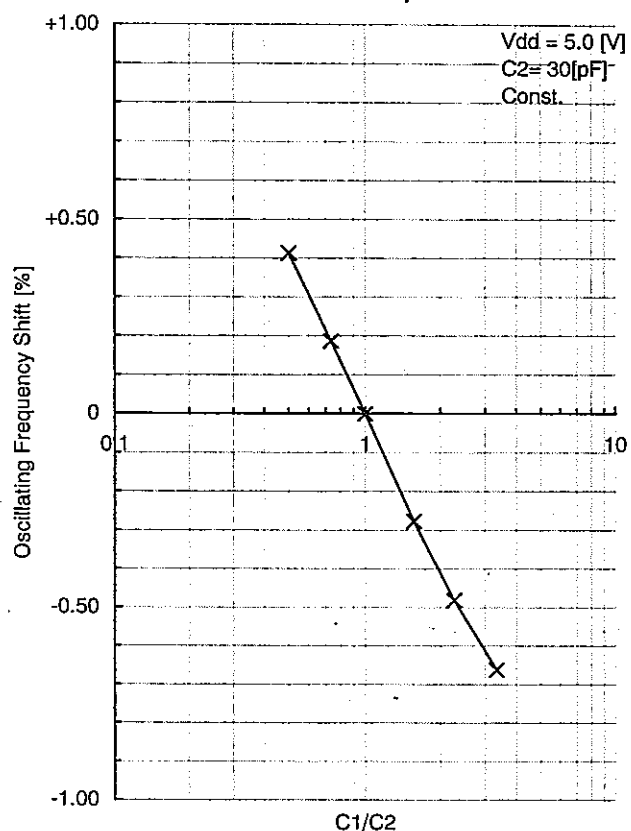
Oscillating Voltage vs Vdd Characteristics
MODEL : CSA8.00MTZ with μ PD780032A



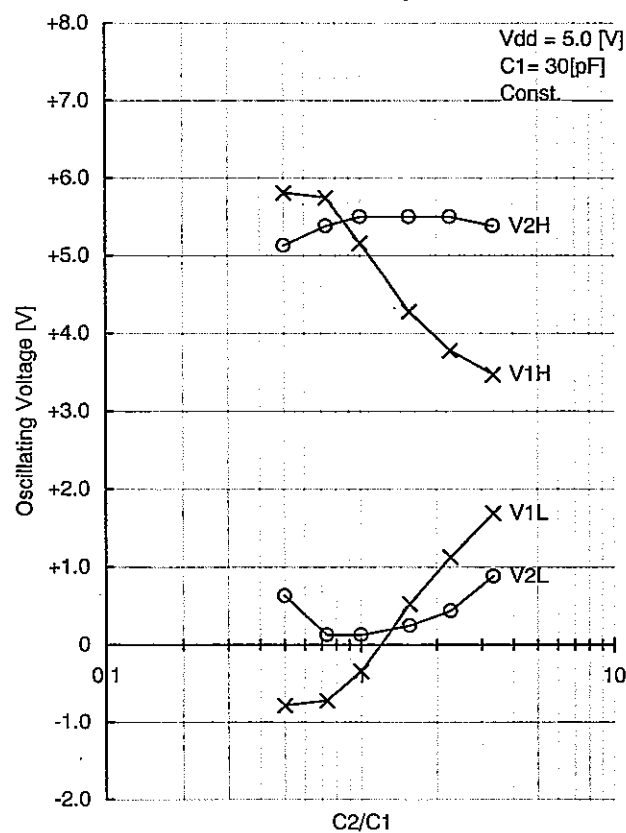
Oscillating Frequency vs (C1,C2) Characteristics
MODEL : CSA8.00MTZ with μ PD780032A



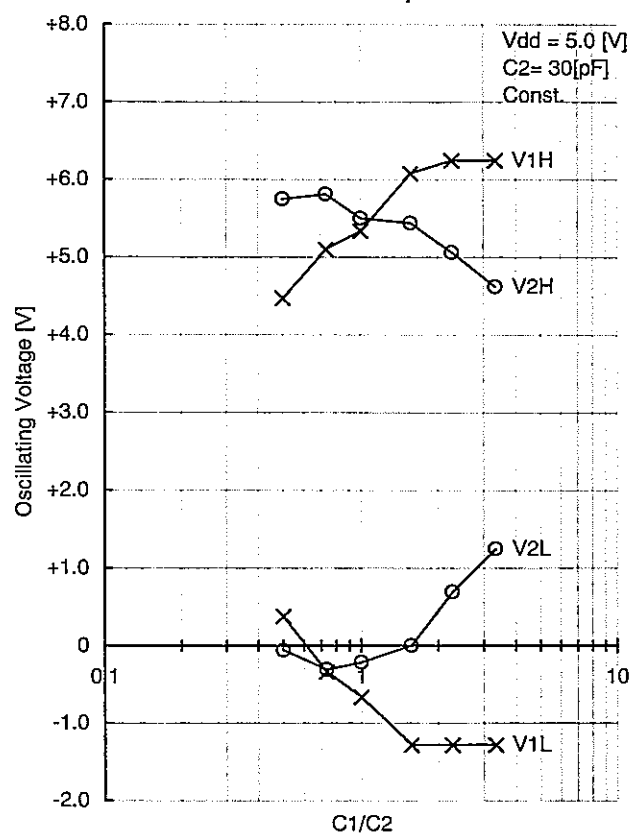
Oscillating Frequency vs (C1,C2) Characteristics
MODEL : CSA8.00MTZ with μ PD780032A



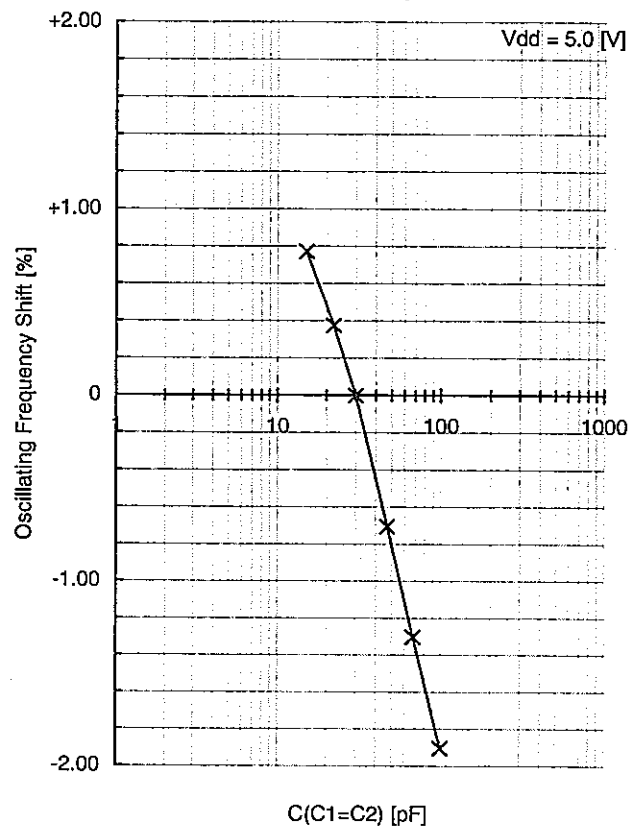
Oscillating Voltage vs (C1,C2) Characteristics
MODEL : CSA8.00MTZ with μ PD780032A



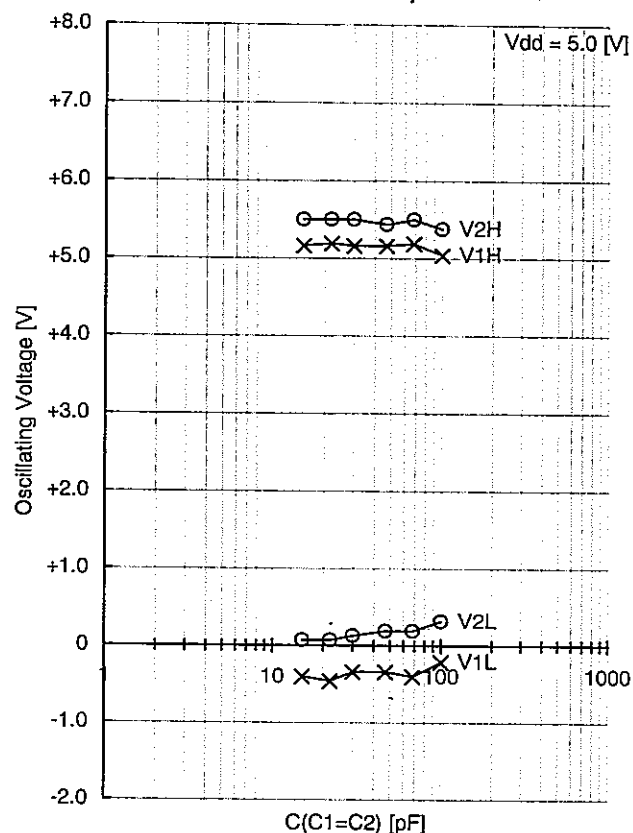
Oscillating Voltage vs (C1,C2) Characteristics
MODEL : CSA8.00MTZ with μ PD780032A



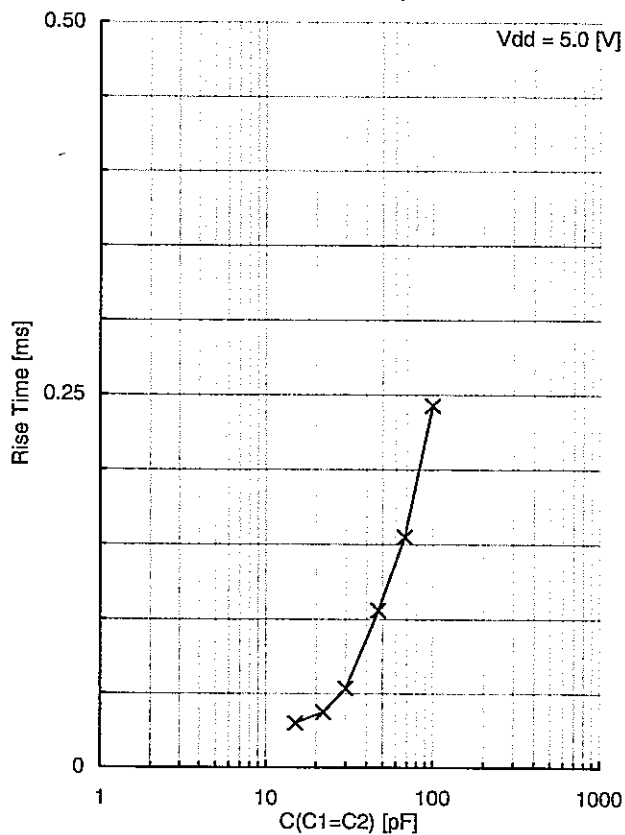
Oscillating Frequency vs C(C1=C2) Characteristics
MODEL : CSA8.00MTZ with μ PD780032A



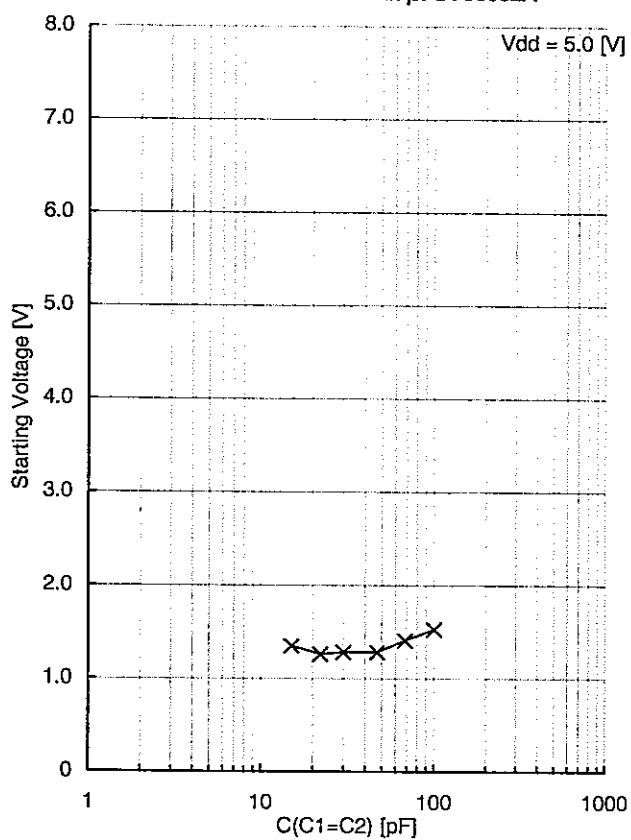
Oscillating Voltage vs C(C1=C2) Characteristics
MODEL : CSA8.00MTZ with μ PD780032A



Rise Time vs C(C1=C2) Characteristics
MODEL : CSA8.00MTZ with μ PD780032A



Starting Voltage vs C(C1=C2) Characteristics
MODEL : CSA8.00MTZ with μ PD780032A



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Comparison Table

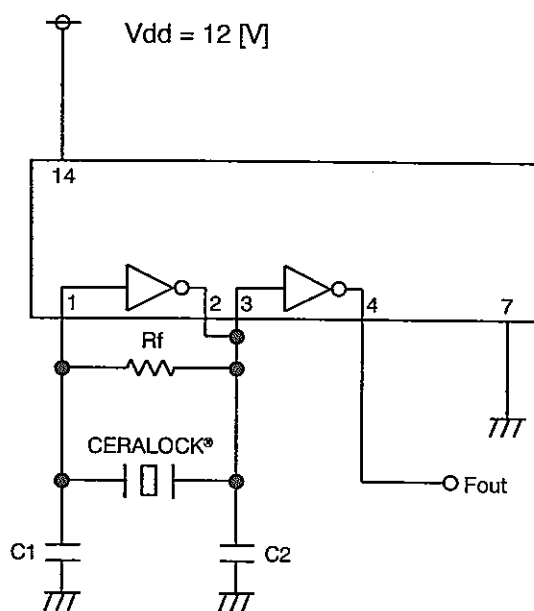
IC : No	V1H [V]	V1L [V]	V1p-p [V]	V2H [V]	V2L [V]	V2p-p [V]	Fosc [kHz]	Trise [ms]	Vstart [V]
W03	5.13	-0.40	5.53	5.50	0.13	5.37	8152.114	0.048	1.35
W05	5.16	-0.34	5.50	5.50	0.19	5.31	8152.219	0.059	1.26
W07	5.09	-0.40	5.49	5.50	0.06	5.44	8152.367	0.050	1.48
W09	5.16	-0.28	5.44	5.56	0.19	5.37	8152.315	0.064	1.24
W15	5.16	-0.34	5.50	5.50	0.13	5.37	8152.075	0.055	1.37

Ref.

Performance described page 2 to 5 were measured with IC No. W15

Frequency Correlation Data

Sample No.	μ PD780032A Fosc [kHz]	CD4069UBE Fosc [kHz]	Shift [%]
1	8154.454	8120.285	0.4208
2	8137.874	8105.432	0.4003
3	8148.982	8116.523	0.3999
4	8165.681	8133.015	0.4016
5	8144.321	8111.520	0.4044
$\bar{X}$	8150.262	8117.355	0.4054

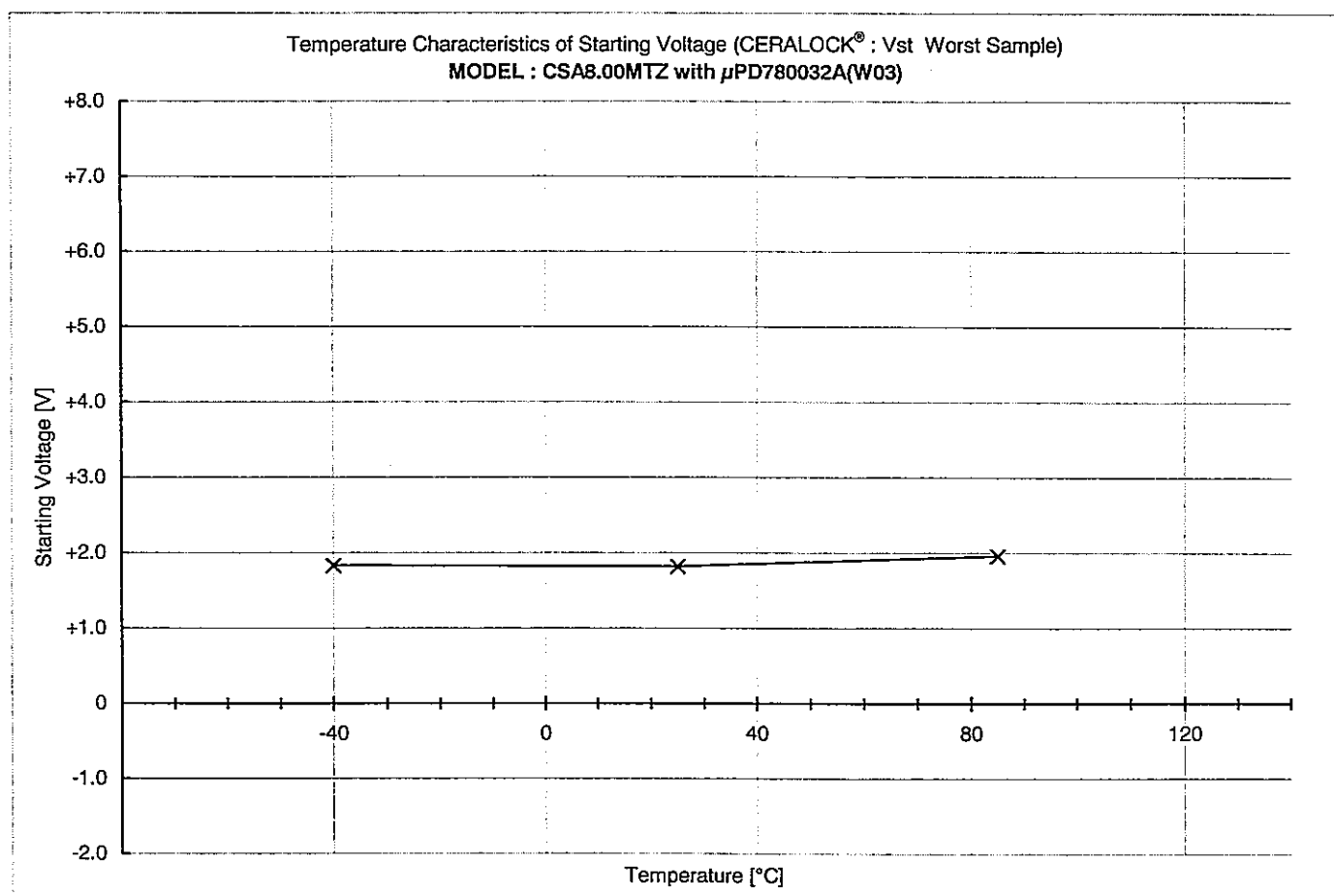
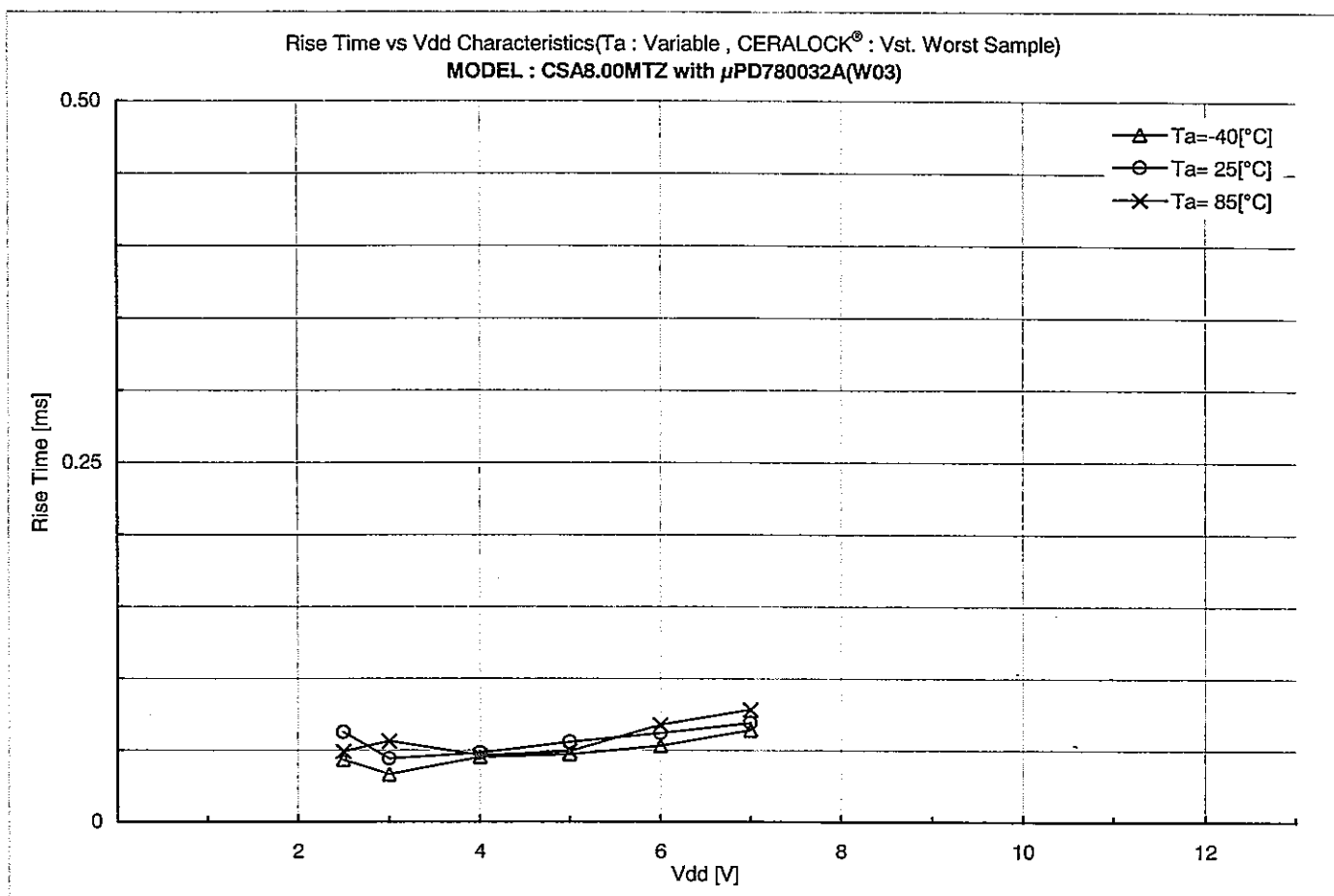
muRata Standard Circuit

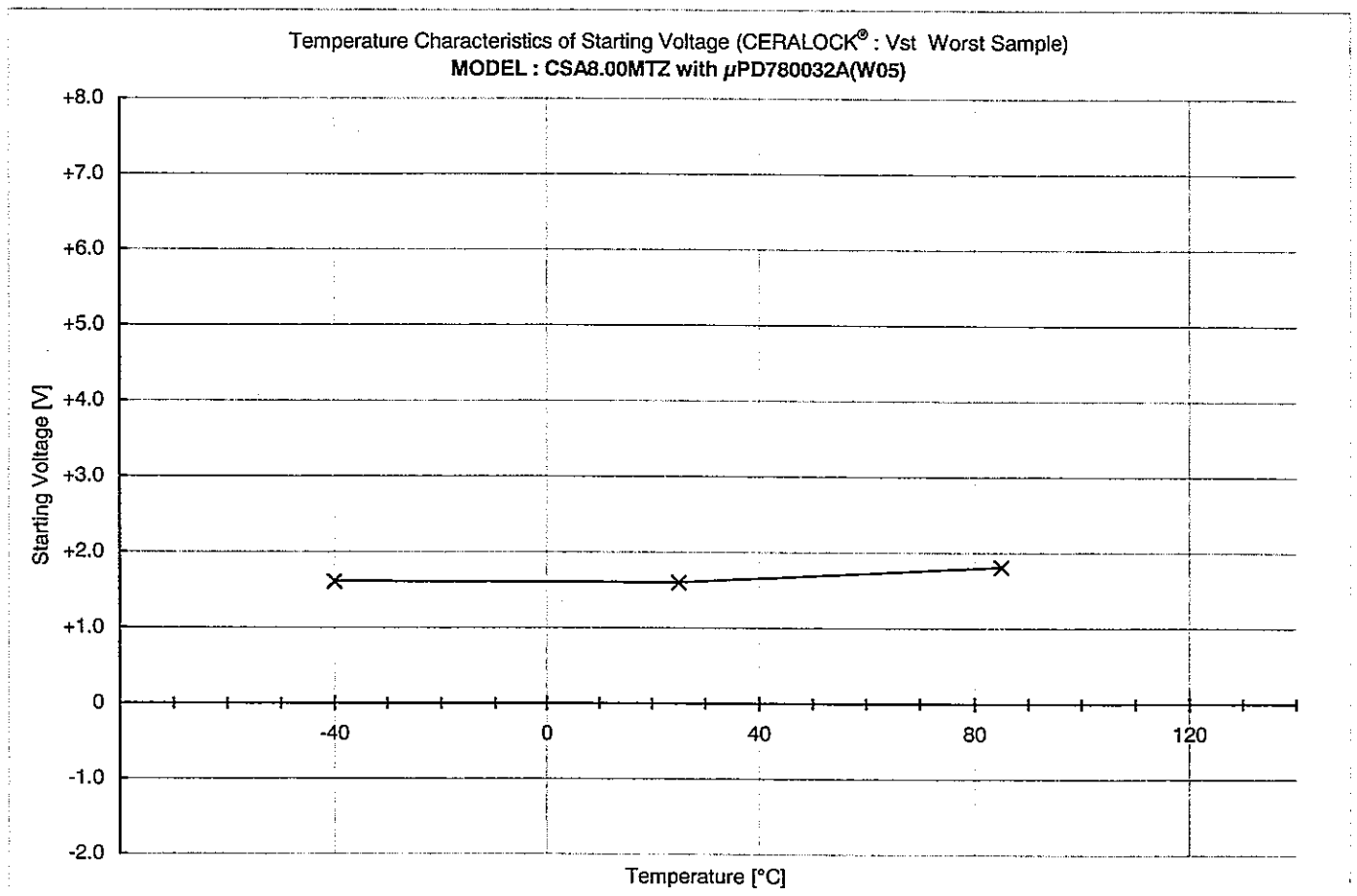
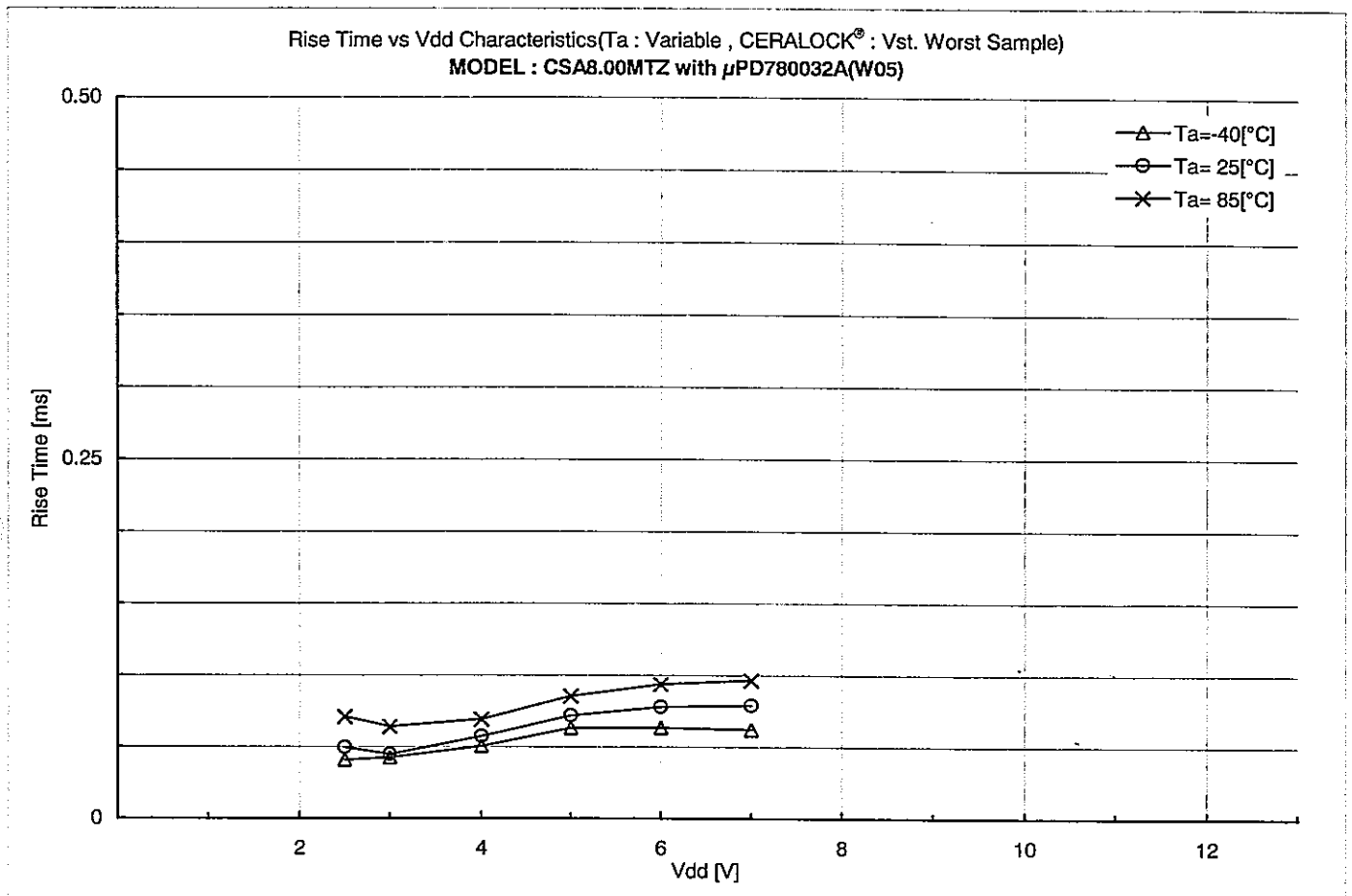
CERALOCK® : CSA8.00MTZ

C1 = 30 [pF]

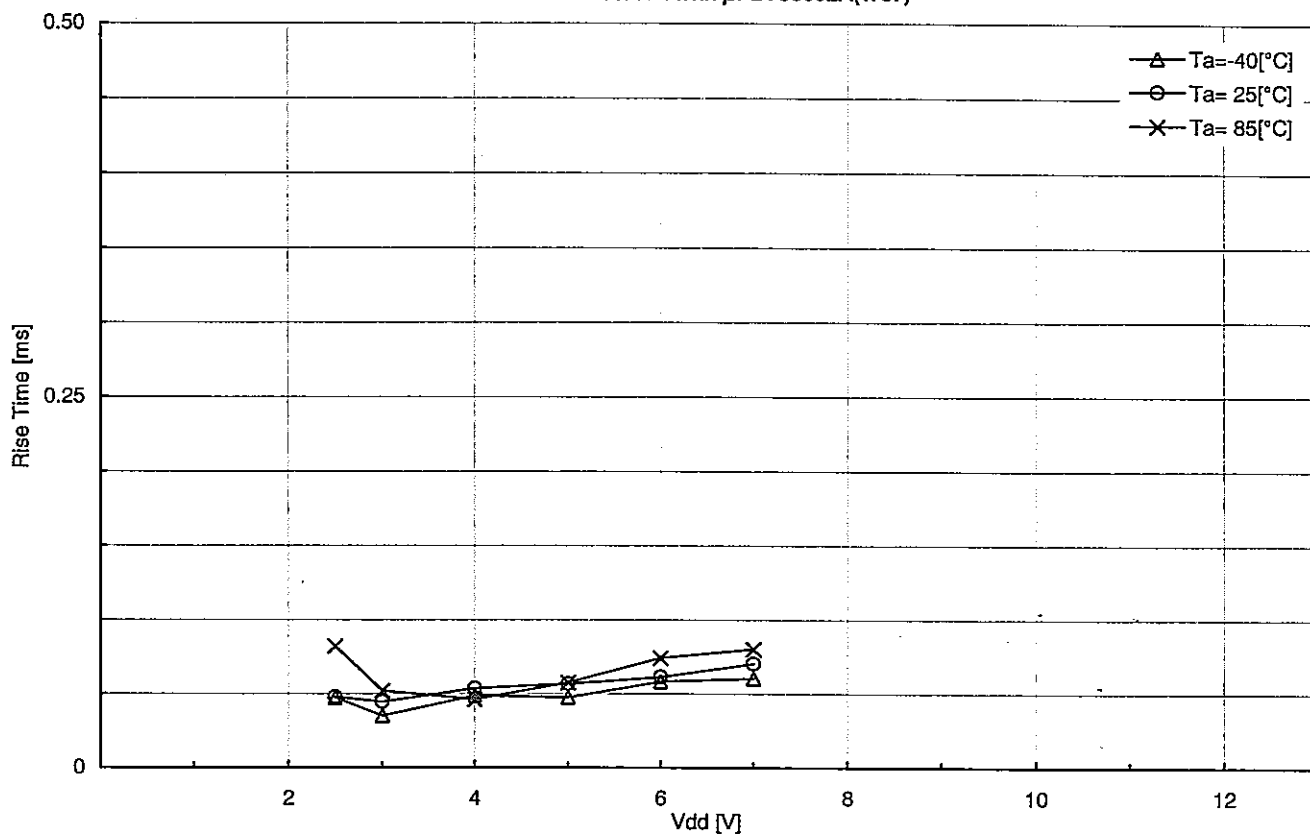
C2 = 30 [pF]

Rf = 1 [Mohm]

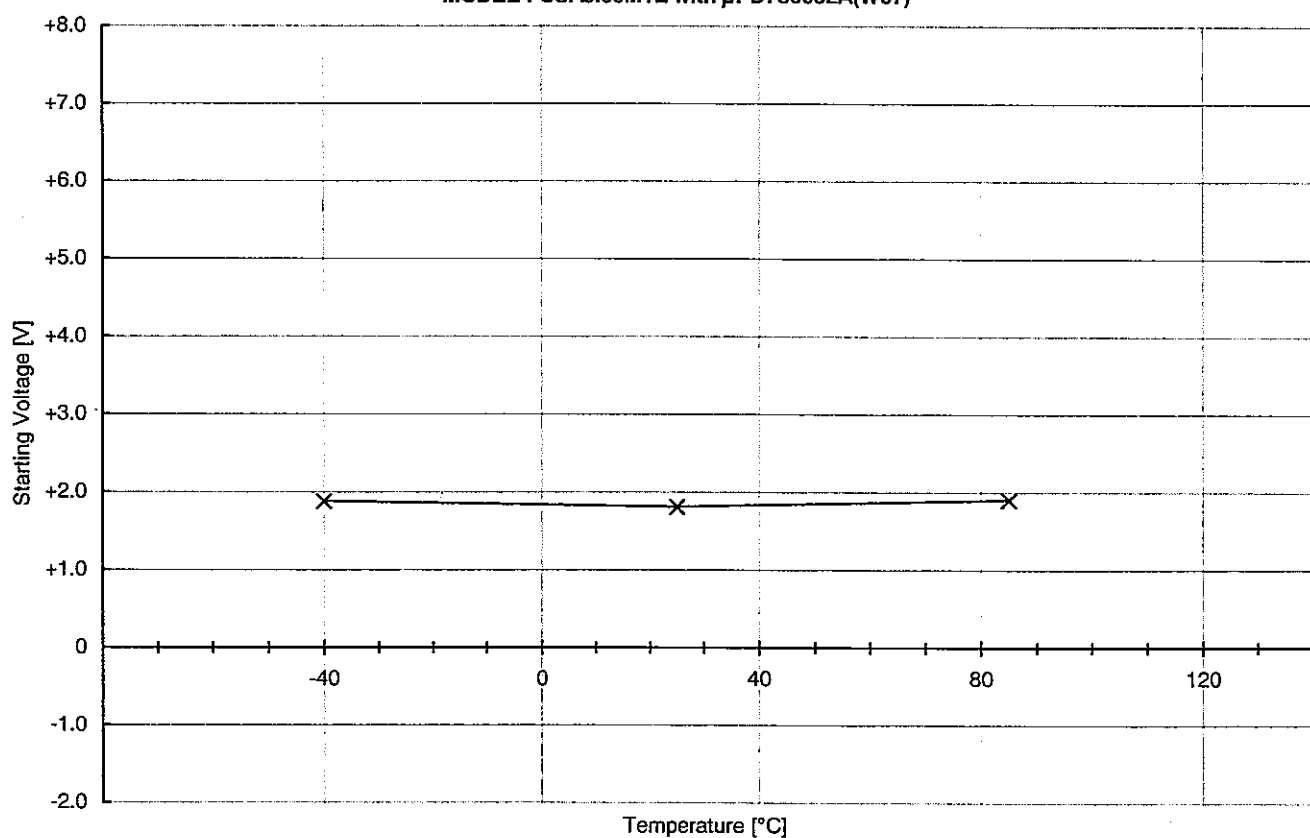




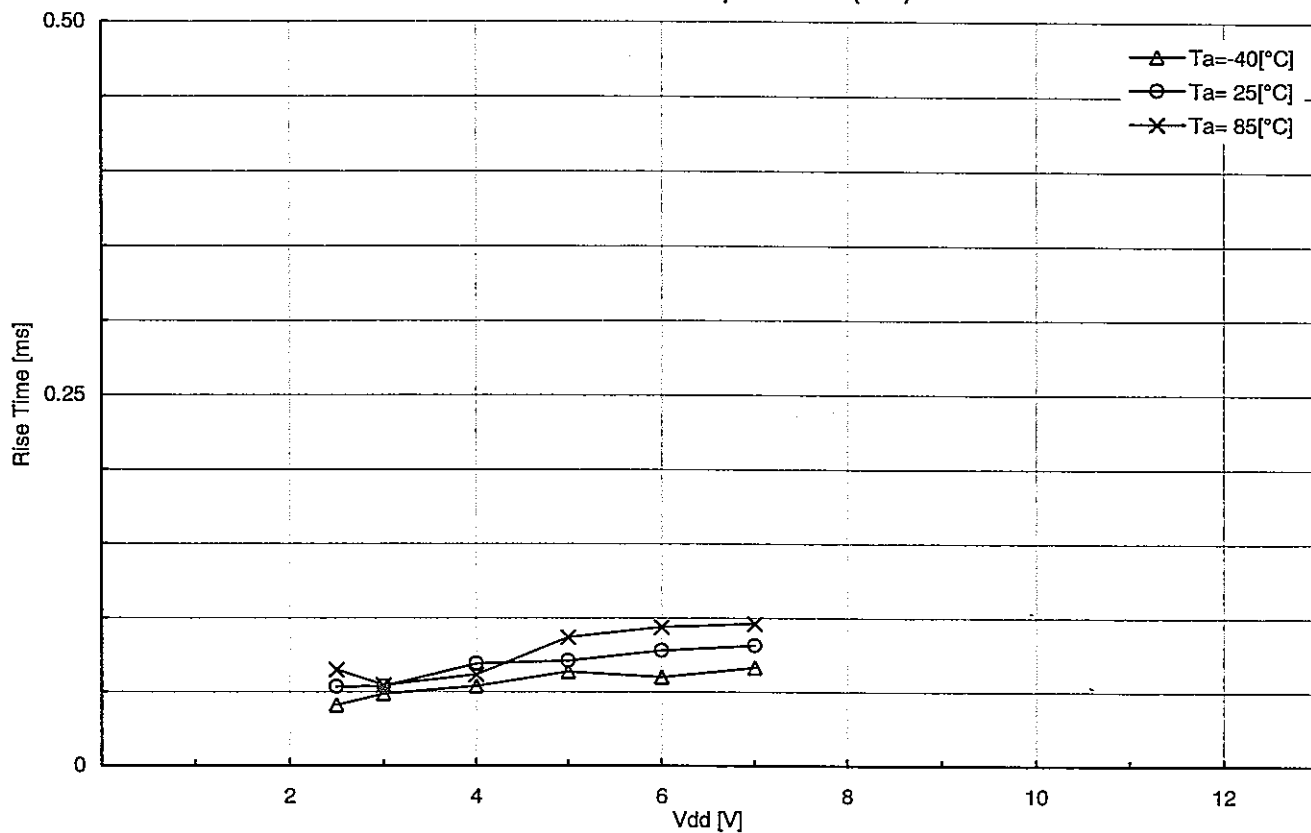
Rise Time vs Vdd Characteristics (Ta : Variable , CERALOCK® : Vst. Worst Sample)
MODEL : CSA8.00MTZ with μ PD780032A(W07)



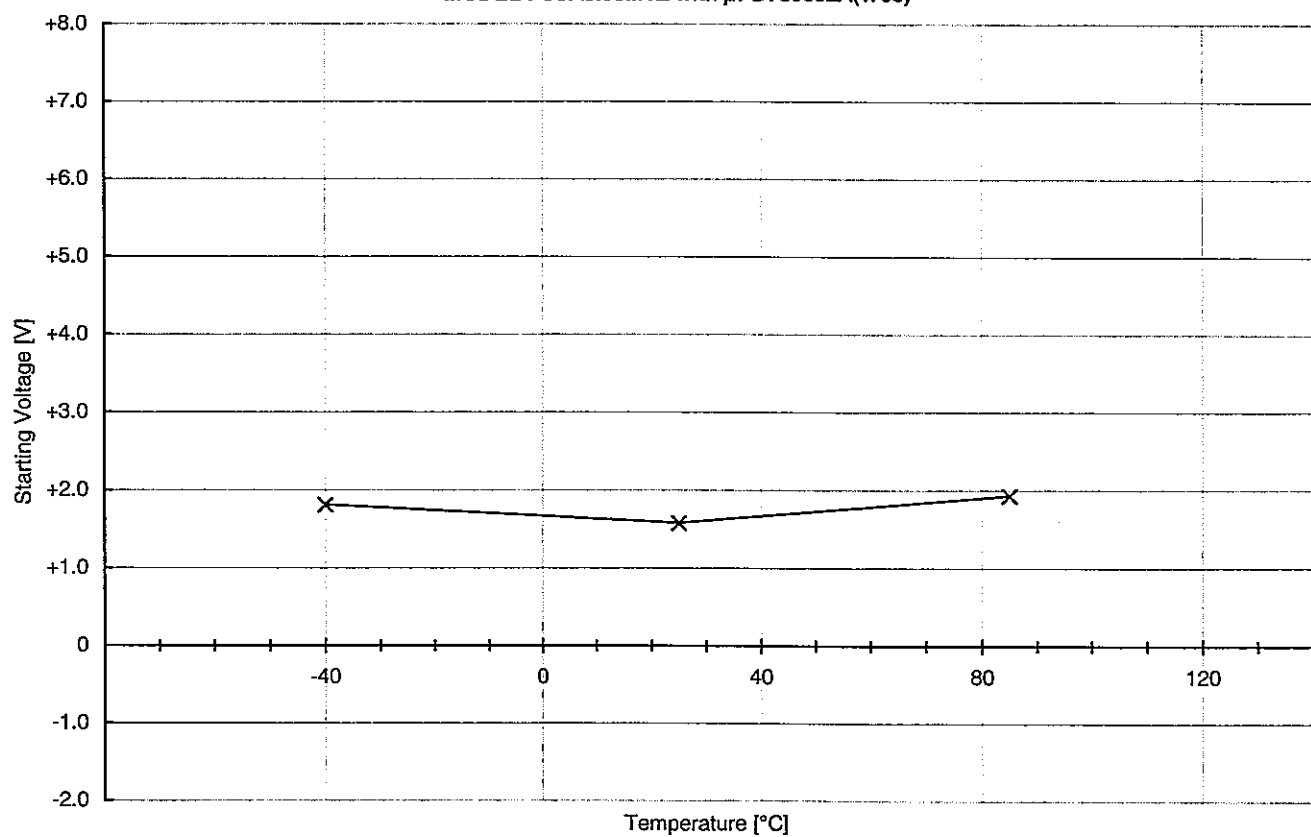
Temperature Characteristics of Starting Voltage (CERALOCK® : Vst. Worst Sample)
MODEL : CSA8.00MTZ with μ PD780032A(W07)

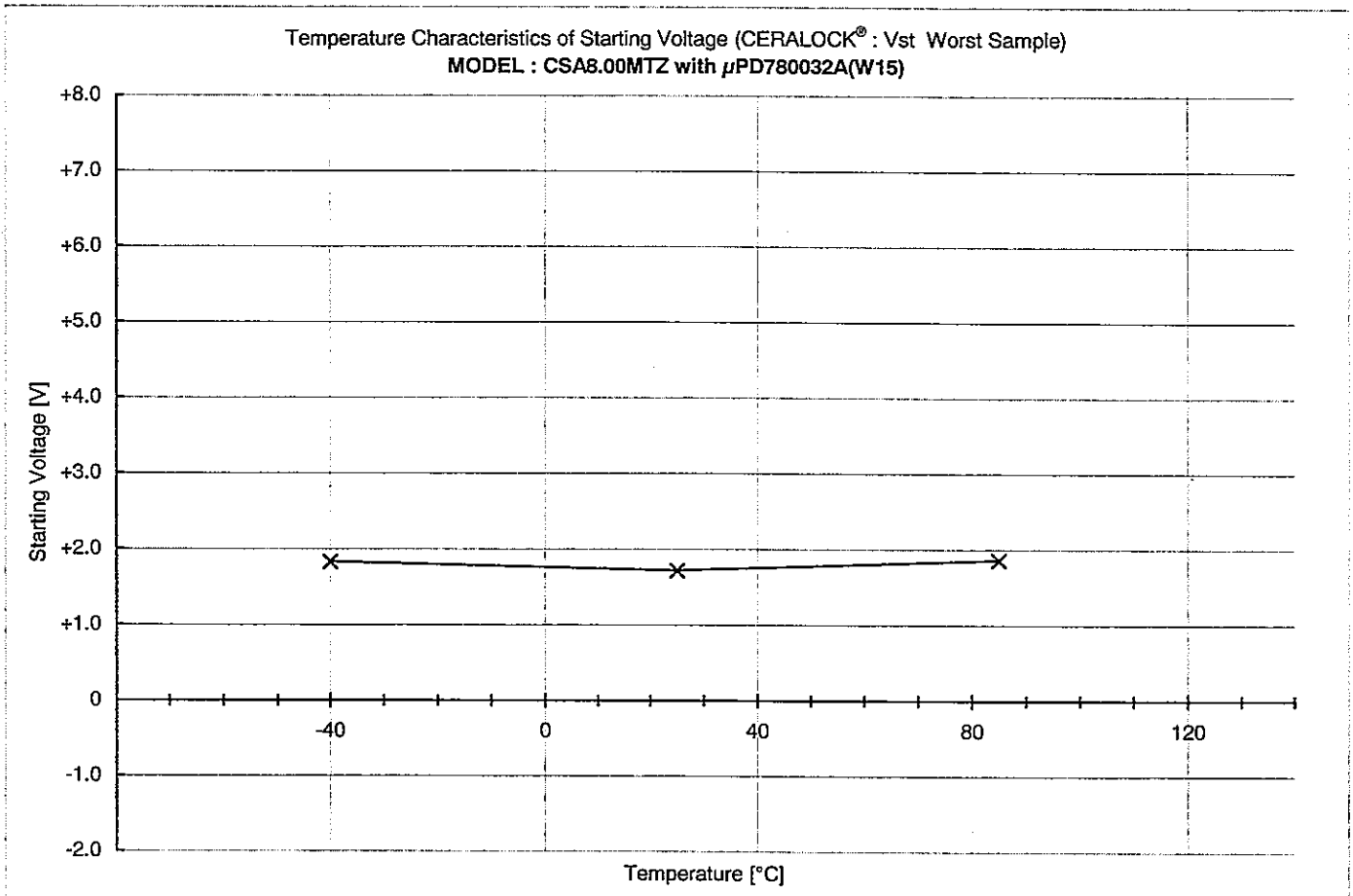
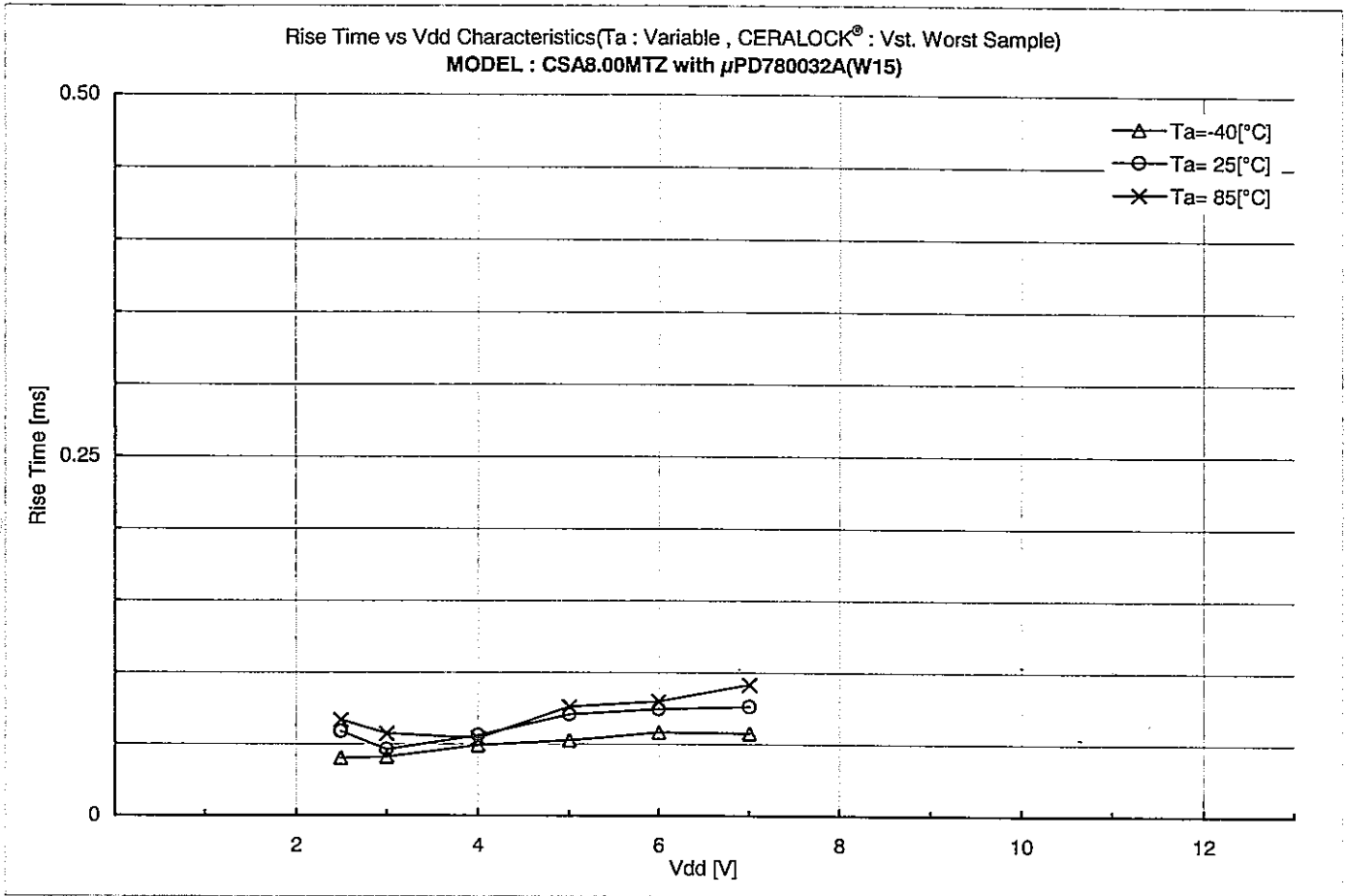


Rise Time vs Vdd Characteristics (Ta : Variable , CERALOCK[®] : Vst. Worst Sample)
MODEL : CSA8.00MTZ with μ PD780032A(W09)

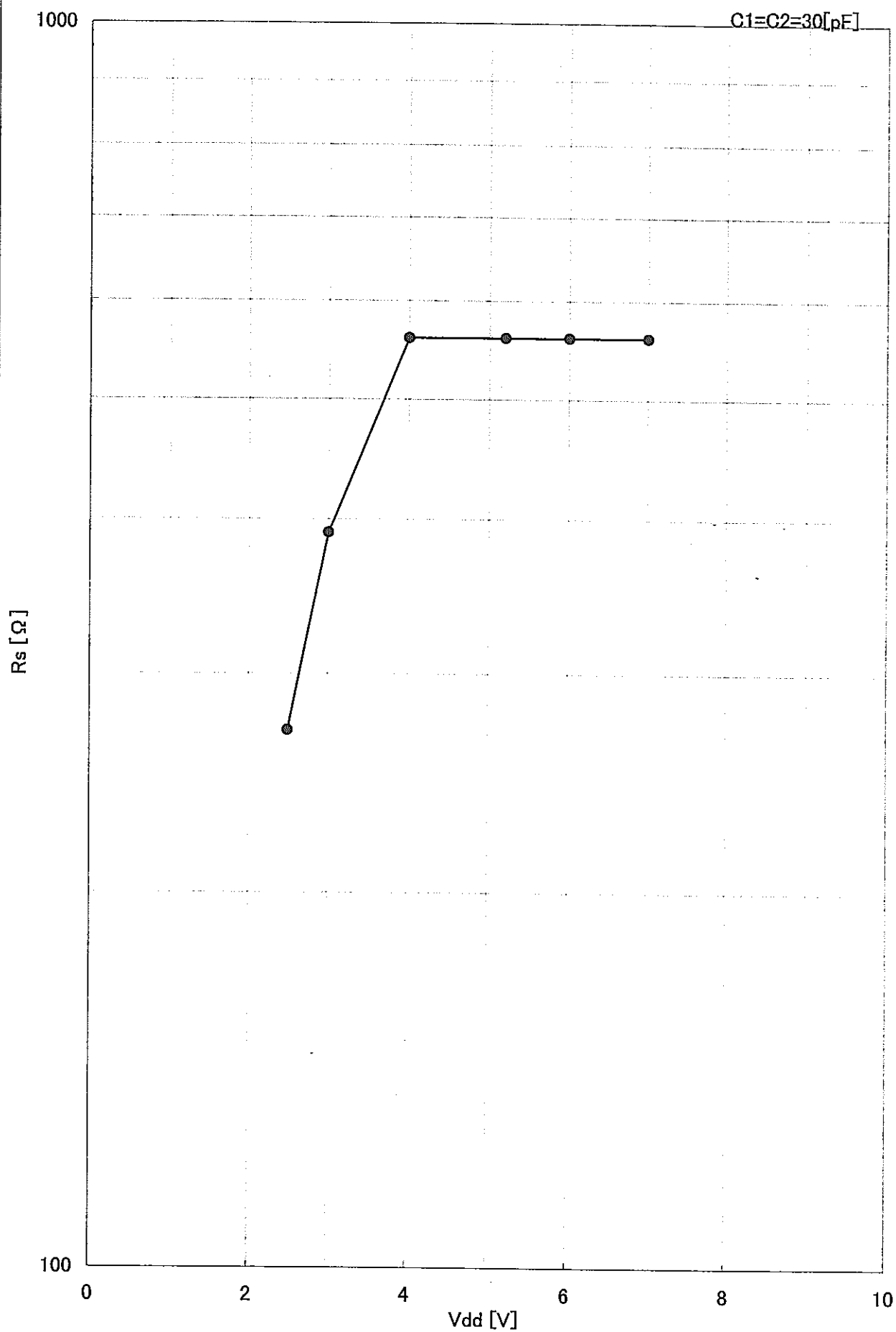


Temperature Characteristics of Starting Voltage (CERALOCK[®] : Vst. Worst Sample)
MODEL : CSA8.00MTZ with μ PD780032A(W09)





Rs vs Vdd Characteristics
MODEL : CSA8.00MTZ with uPD780032A



Rs vs C(C1=C2) Characteristics

MODEL : CSA8.00MTZ with uPD780032A

Vdd=+5.0V

