

SAMSUNG

OPERATION TEST REPORT ON TDK CERAMIC RESONATOR

(FCR24.0M2G)

IC S3F84BBXZZ(SAMSUNG)

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APPROVED	CHECKED	CHECKED
I.Katoh		

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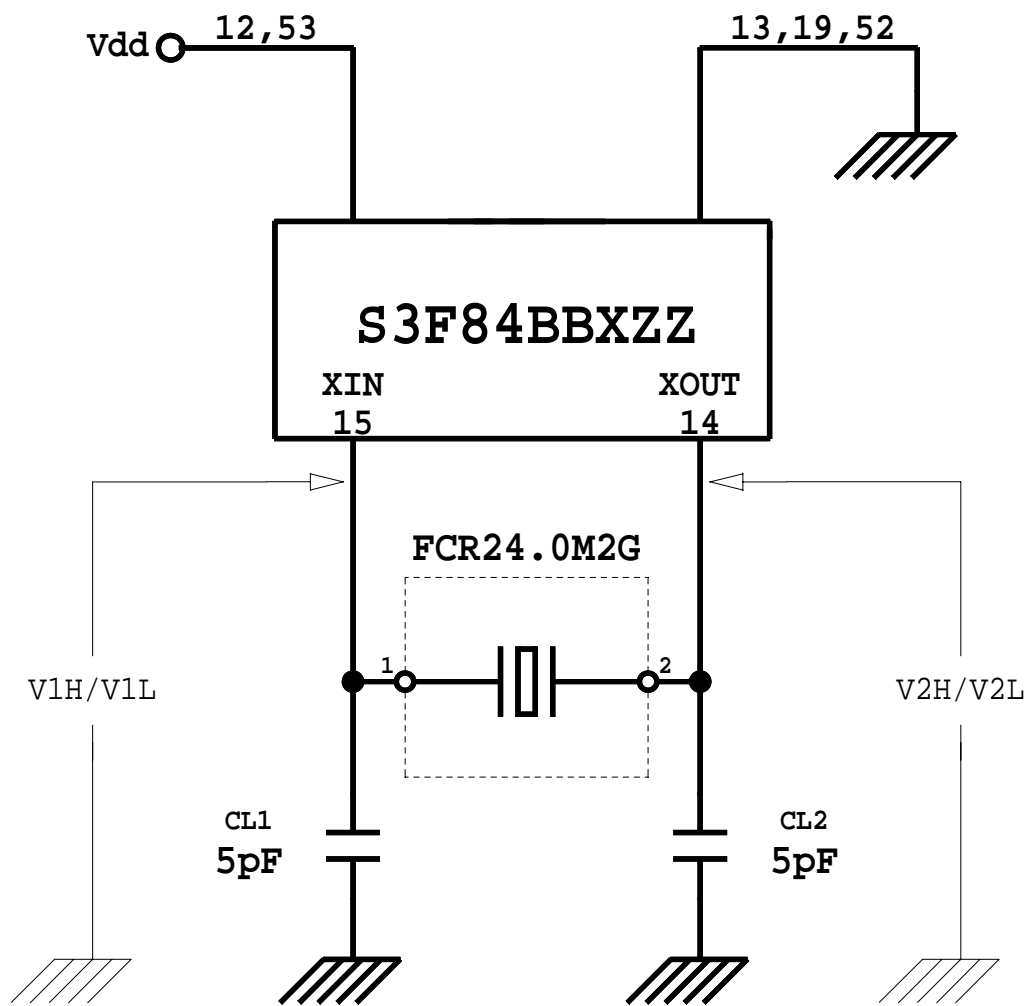
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2.Conclusions

We could confirm the operation satisfactory under
the following test conditions.

Test Conditions

IC	:	S3F84BBXZZ (SAMSUNG)
Ceramic Resonator	:	FCR24.0M2G (Typical and worst sample are tested)
Power Supply Voltage	:	2.7(V) ~ 5.5(V)
Temperature Range	:	-25() ~ 85()
Loading capacitance(CL1=CL2)	:	5(pF)



Oscillating circuit for evaluation

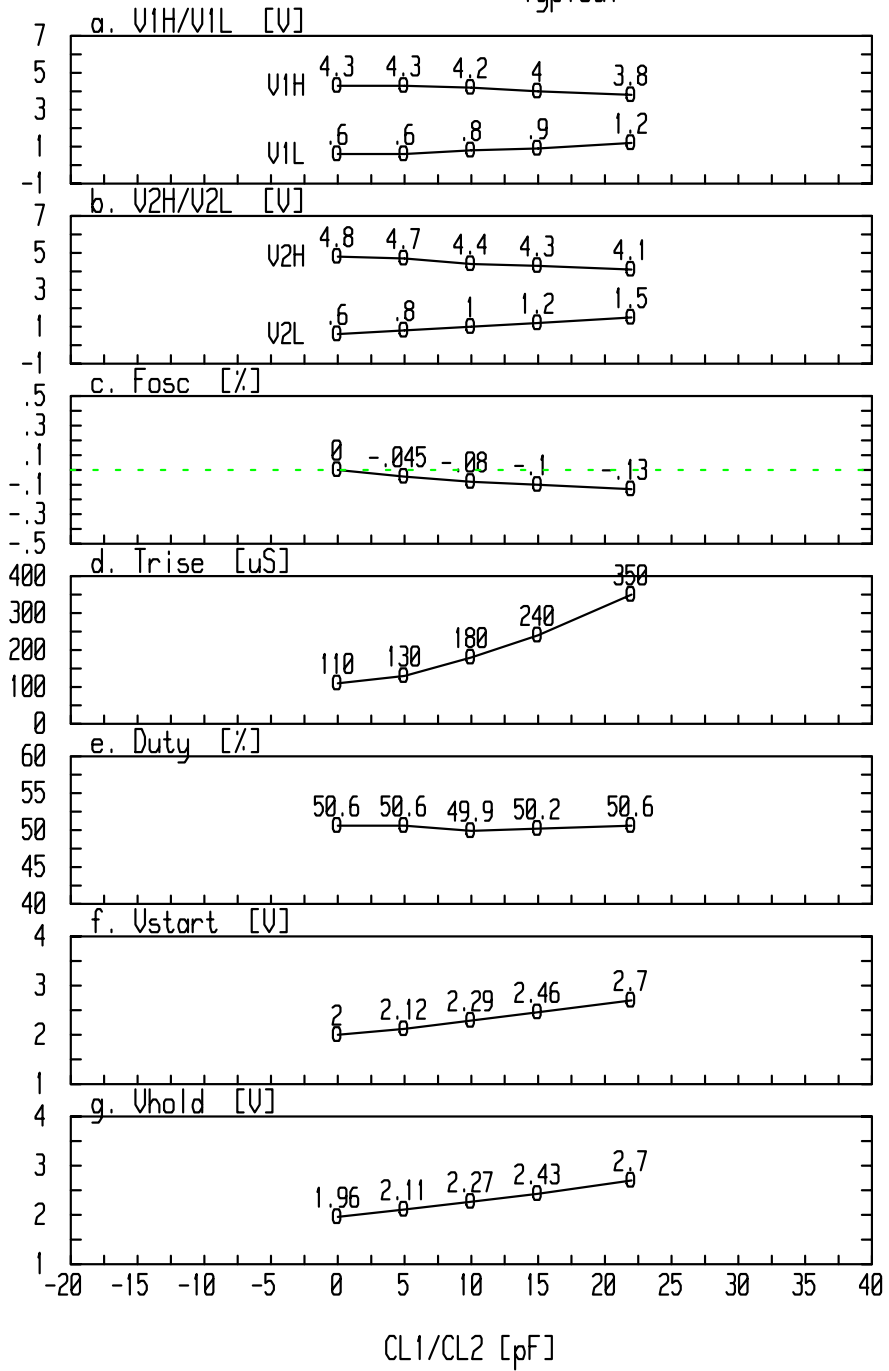
S3F84BBXZZ - 1

FCR24.0M2G

$V_{dd} = 5$ [V] (Fig. a~d)

$T_a = 20$ [deg]

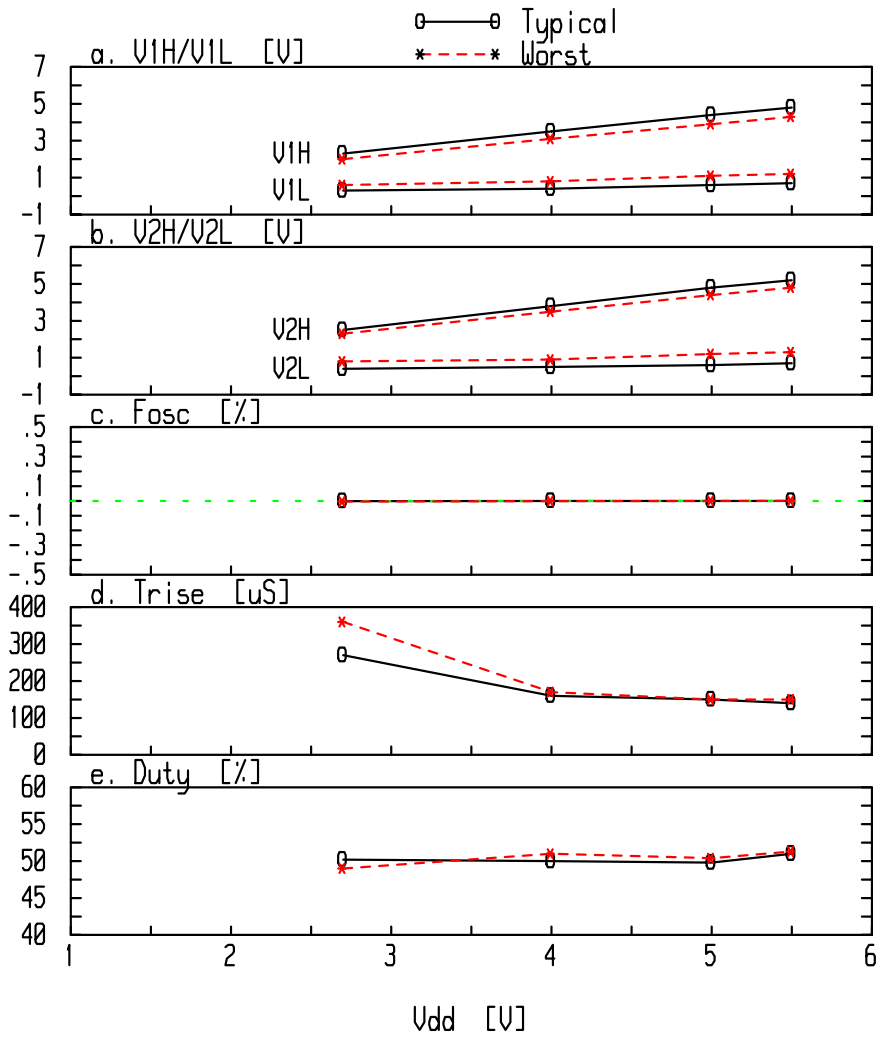
○—○ Typical



Loading capacitance dependence of oscillating characteristics (CL1=CL2)

S3F84BBXZZ - 1
 CL1/CL2 [pF] 5 / 5

FCR24.0M2G
 Ta= 20 [deg]



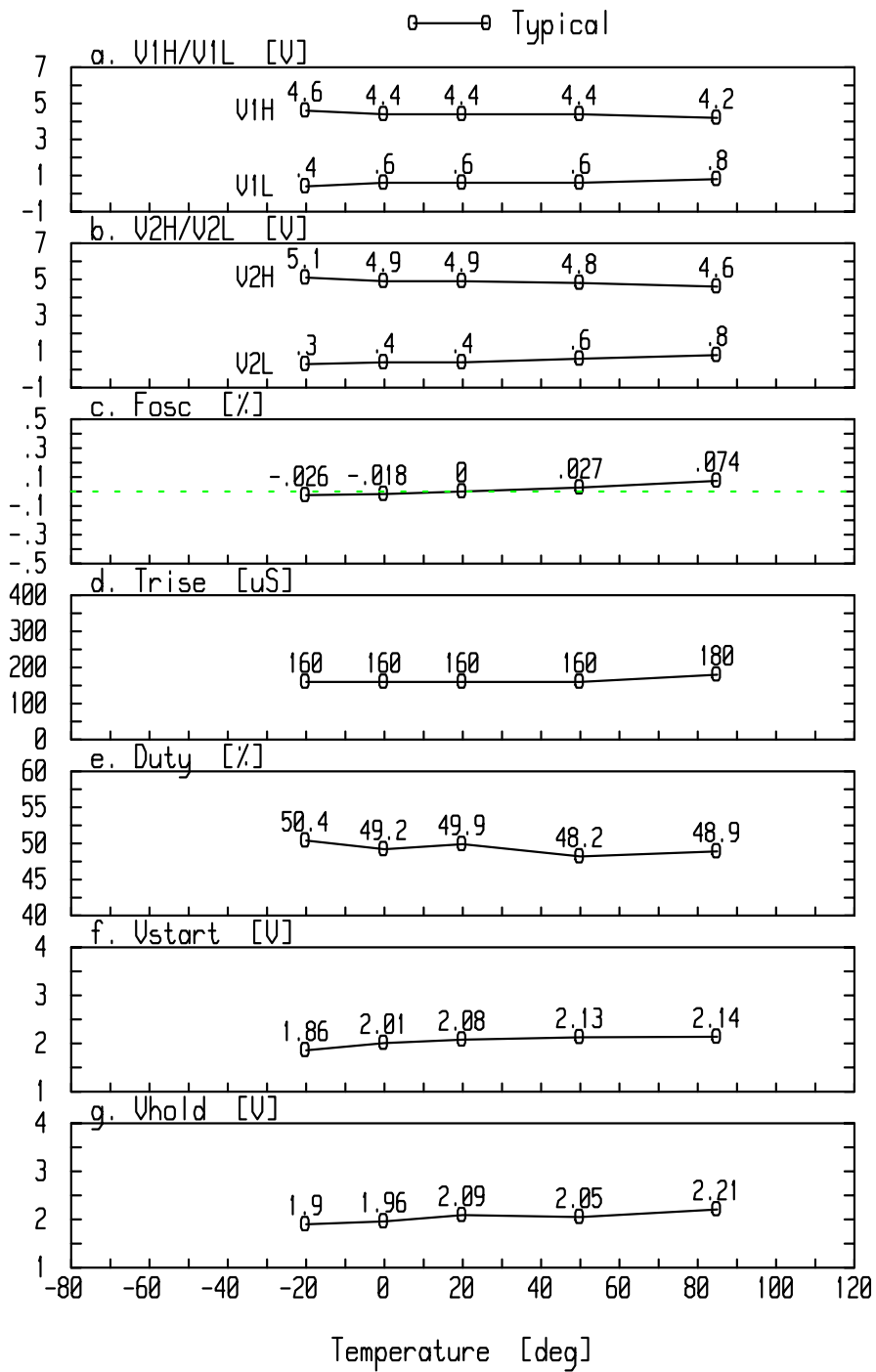
f. V_{start} [V]
 Typical = 2.07
 Worst = 2.5

g. V_{hold} [V]
 Typical = 2.06
 Worst = 2.46

Power supply voltage dependence of oscillating characteristics

S3F84BBXZZ - 1
 CL1/CL2 [pF] 5 / 5

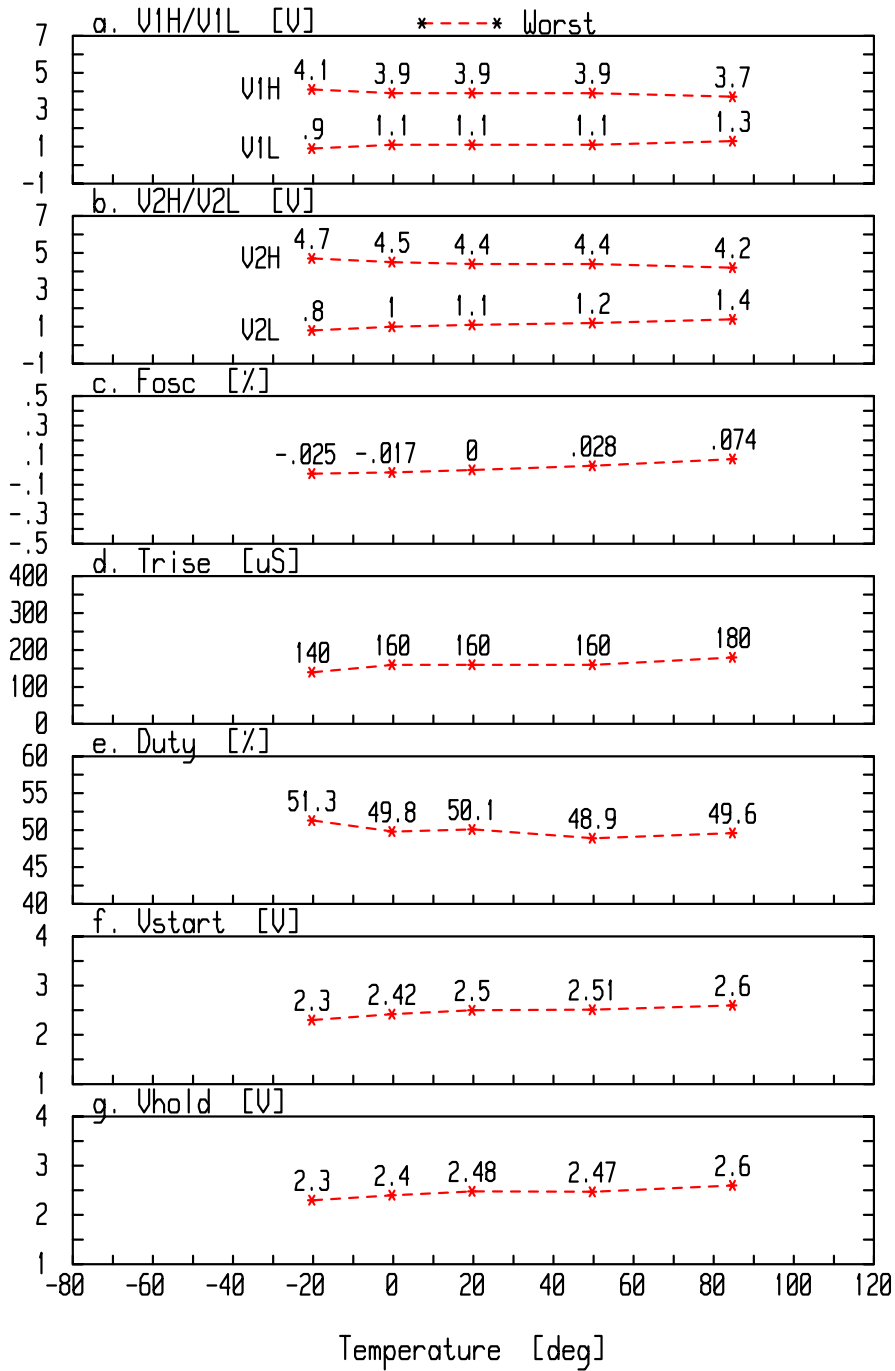
FCR24.0M2G
 U_{dd} = 5 [V] (Fig. a~e)



Temperature dependence of oscillating characteristics

S3F84BBXZZ - 1
 CL1/CL2 [pF] 5 / 5

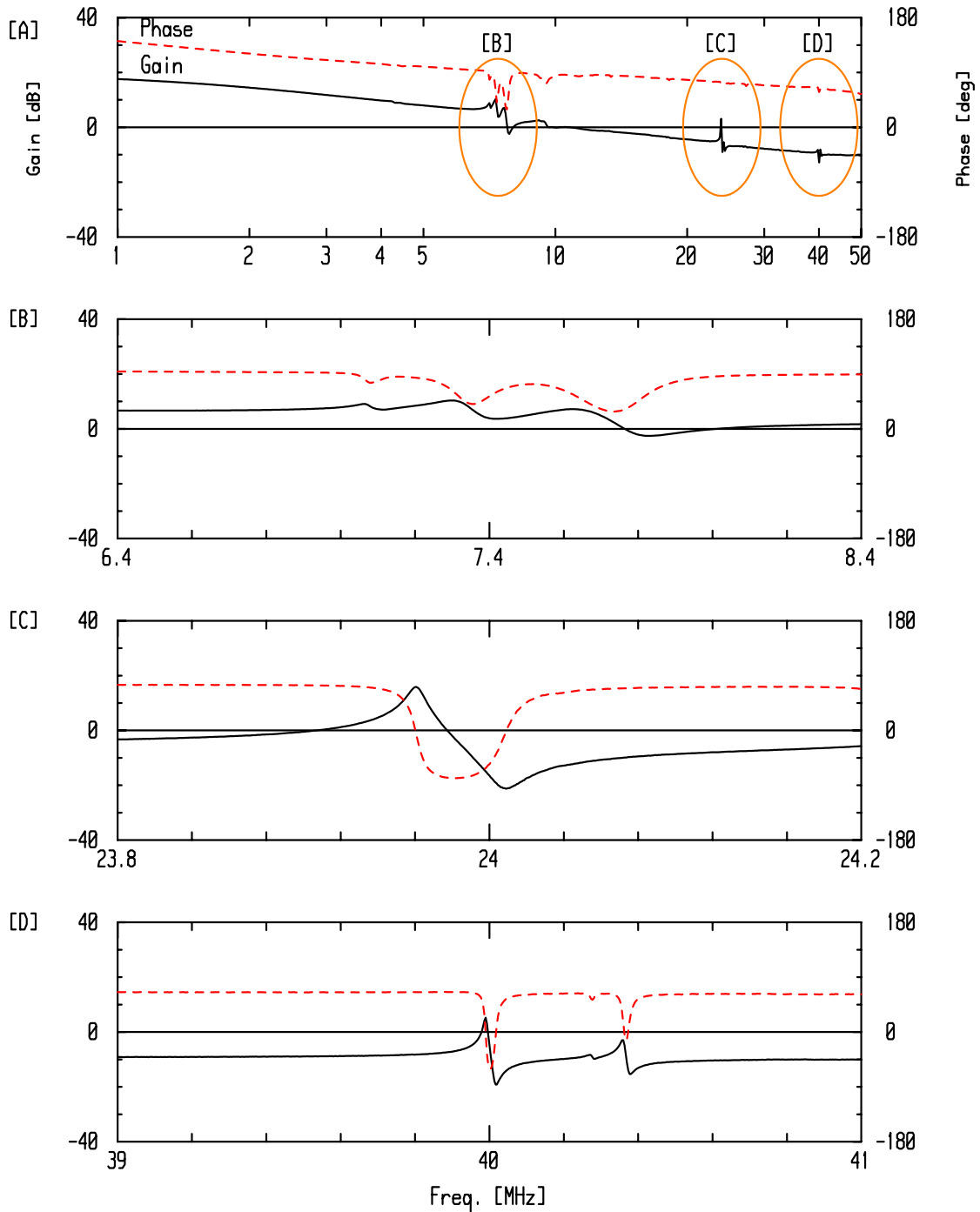
FCR24.0M2G
 U_{dd}= 5 [V] (Fig. a~e)



Temperature dependence of oscillating characteristics

S3F84BBXZZ - 1
 FCR24.0M2G - Typical
 Vdd [V] 5
 CL1/CL2 [pF] 5 / 5

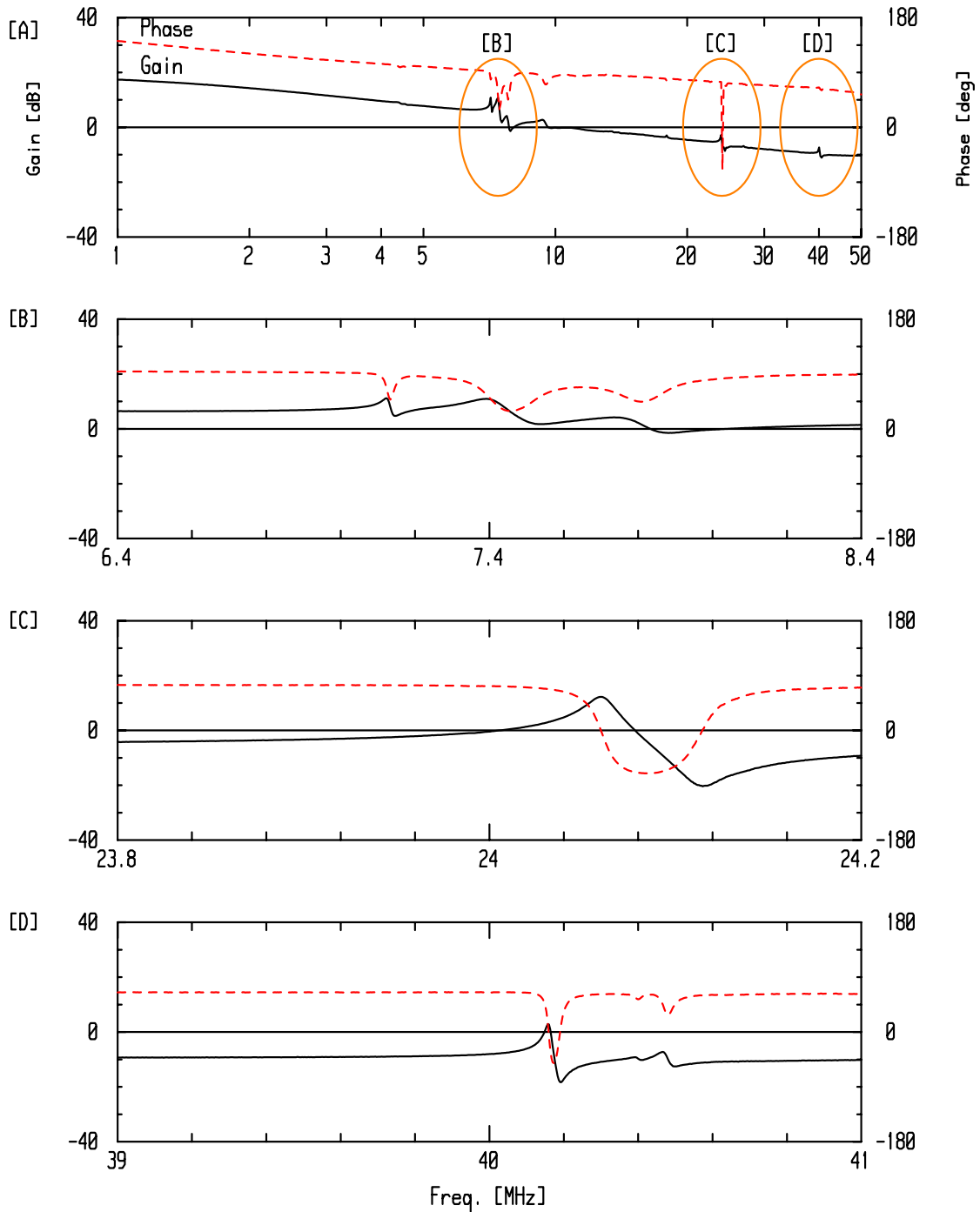
	[B]	[C]	[D]
Gmax [dB]	10.36	15.85	5.23
LGM [dB]	0	15.84	4.28
Pmin [deg]	28.42	-78.37	-60.62
LPM [deg]	28.42	-77.24	-35.46



Open loop characteristics (Typical Sample)

S3F84BBXZZ - 1
 FCR24.0M2G - Worst
 Vdd [V] 5
 CL1/CL2 [pF] 5 / 5

	[B]	[C]	[D]
Gmax [dB]	11.17	12.24	2.89
LGM [dB]	0	12.22	2.85
Pmin [deg]	29.4	-70.49	-51.13
LPM [deg]	29.4	-68.52	-29.28



Open loop characteristics (Worst Sample)