

OPERATION TEST REPORT ON TDK CERAMIC RESONATOR

(CCR8.0MXC8)

IC R5F21258SNFP-LOW
(Renesas Technology)

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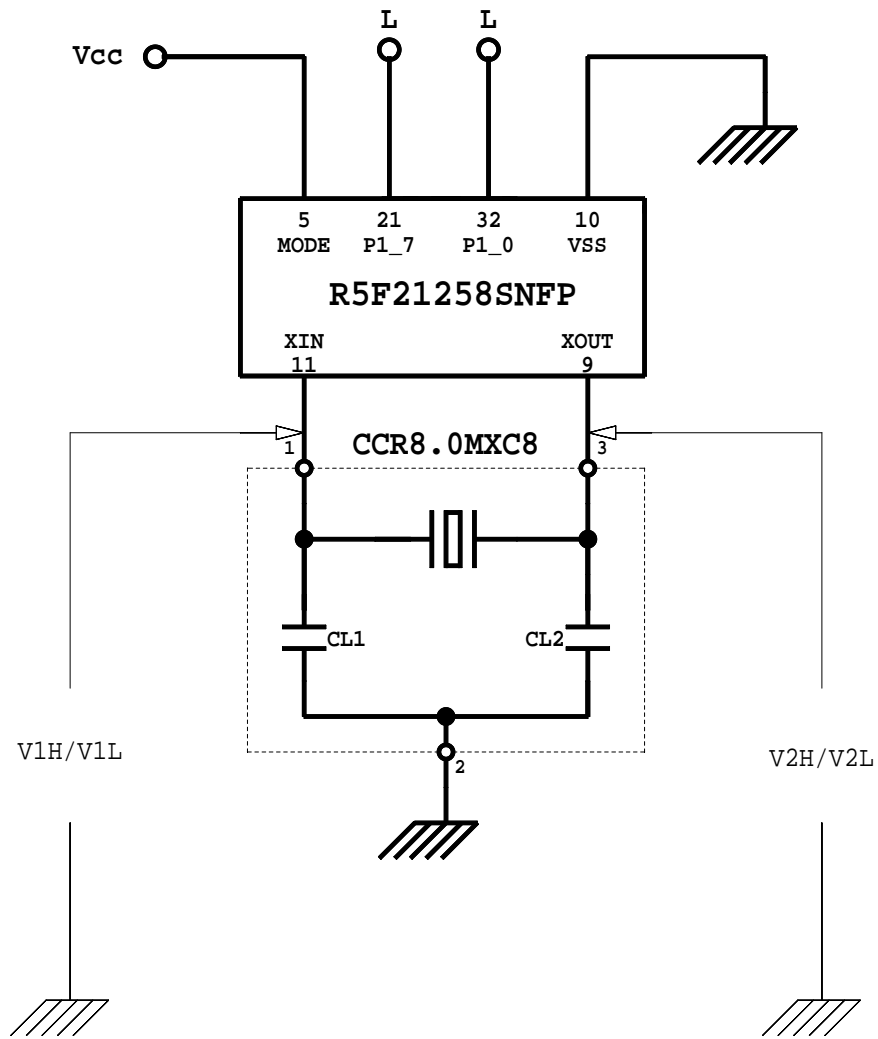
2.Test Conditions

IC	:	R5F21258SNFP-LOW (Renesas Technology)
Ceramic Resonator	:	CCR8.0MXC8 (Typical and worst sample are tested)
Power Supply Voltage range	:	2.2(V) ~ 5.5(V)
Temperature Range	:	-45(degC) ~ +90(degC)

3.Conclusions and recommendable circuit constant

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

Power Supply Voltage range	:	2.3(V) ~ 5.5(V)
Temperature Range	:	-45(degC) ~ +90(degC)
Load capacitance(CL1/CL2)	:	Built-in [18(pF)]
Damping resistance(Rd)	:	short (0ohm)
Feedback resistance(Rf)	:	Built-in(IC side)



*BUILT-IN LOADING CAPACITOR
 CL1/CL2=18/18pF +/-20%

Oscillating circuit for evaluation

IC dependence of oscillating characteristics

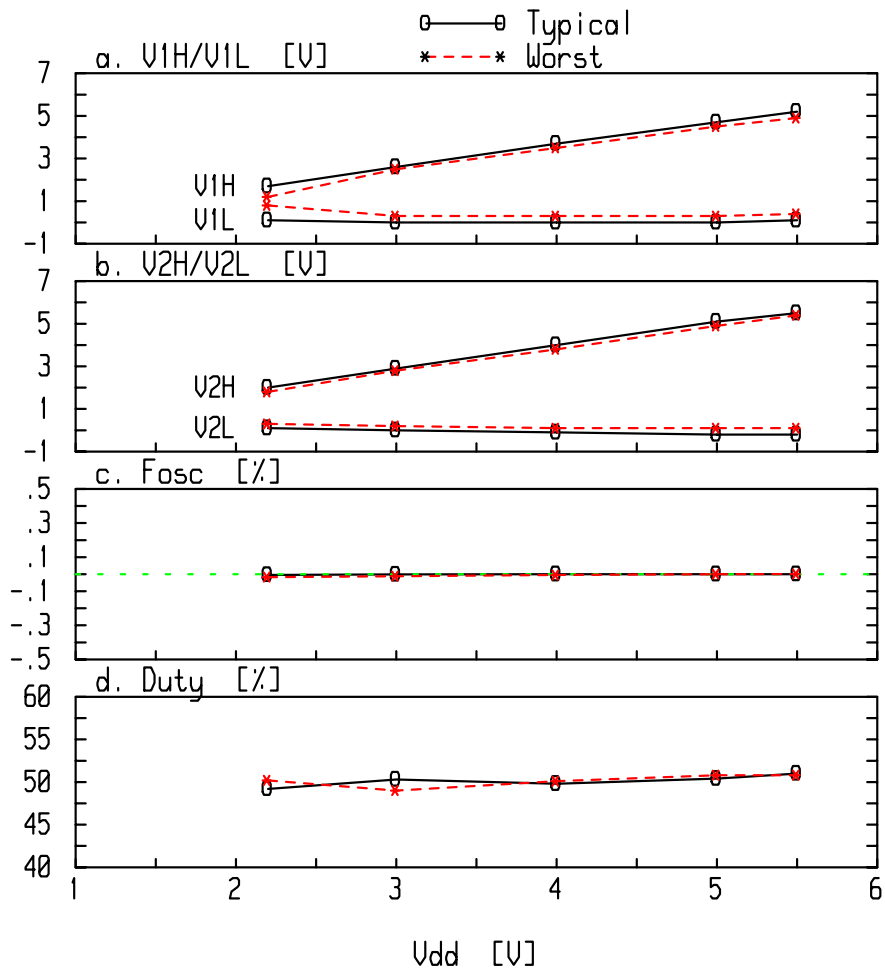
R5F21258SNFP
CCR8.0MXC8 - S

Room Temp.
Vdd [V] 5 (item a~e)

item IC NO	a. [V] V1H/V1L	b. [V] V2H/V2L	c. [MHz] Fosc	d. [uS] Trise	e. [%] Duty	f. [V] Ustart	g. [V] Uhold
LL	4.7 0	5.1 -.1	8.01234		50.4	1.63	1.63
LH	4.7 .1	5.2 0	8.01204		50.3	1.72	1.72
TYP	4.7 0	5.1 -.2	8.0114		50.4	1.74	1.73
HL	4.7 .1	5.1 -.1	8.01208		50.4	1.75	1.75
HH	4.6 0	5.1 -.1	8.01198		50.6	1.83	1.82

R5F21258SNFP - TYP(LOW)

CCR8.0MXC8
 $T_a = 25$ [deg]



e. V_{start} [V]
 Typical = 1.74
 Worst = 1.95

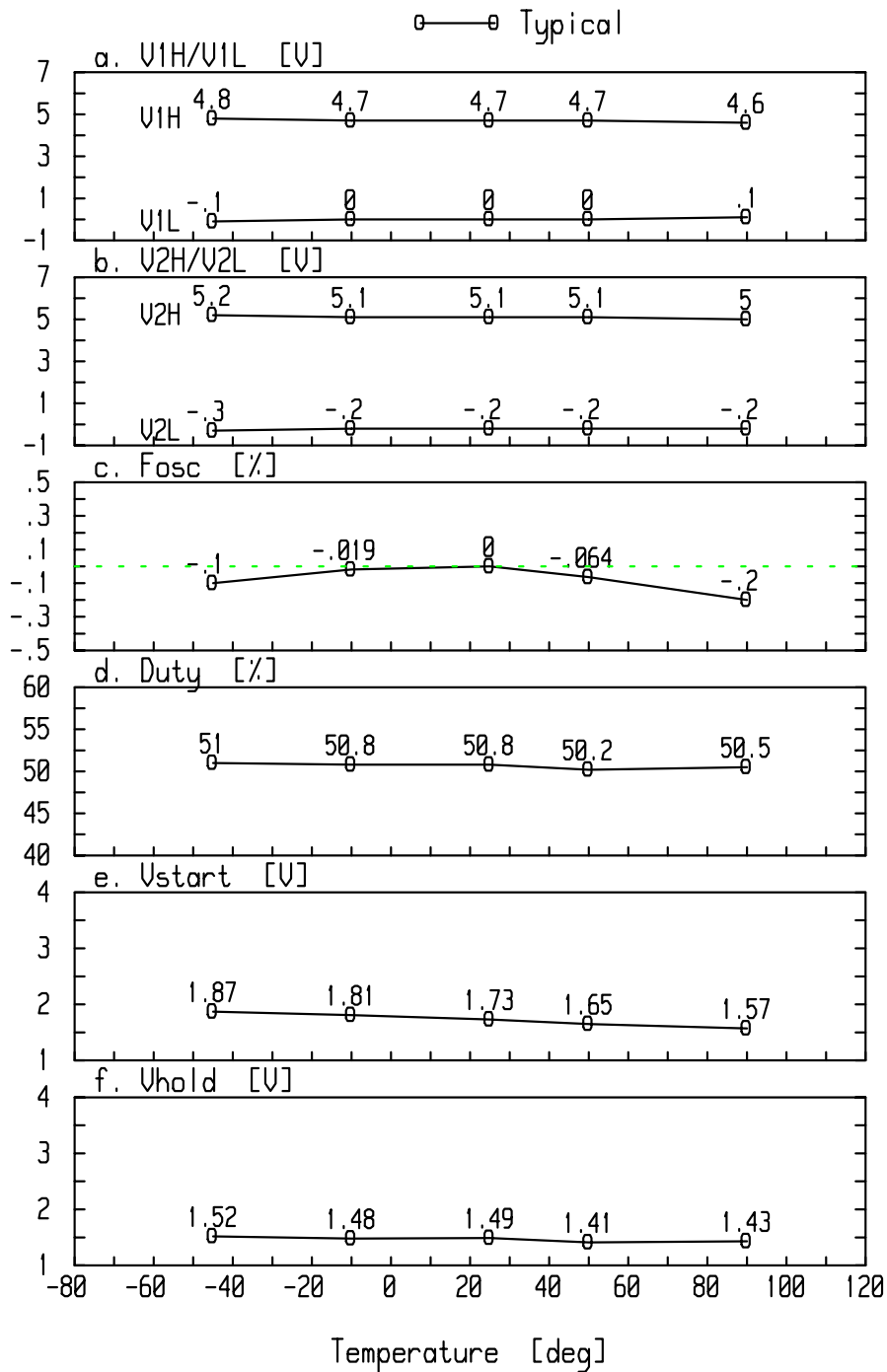
f. V_{hold} [V]
 Typical = 1.73
 Worst = 1.95

Power supply voltage dependence of oscillating characteristics

R5F21258SNFP - TYP(LOW)

CCR8.0MXC8

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

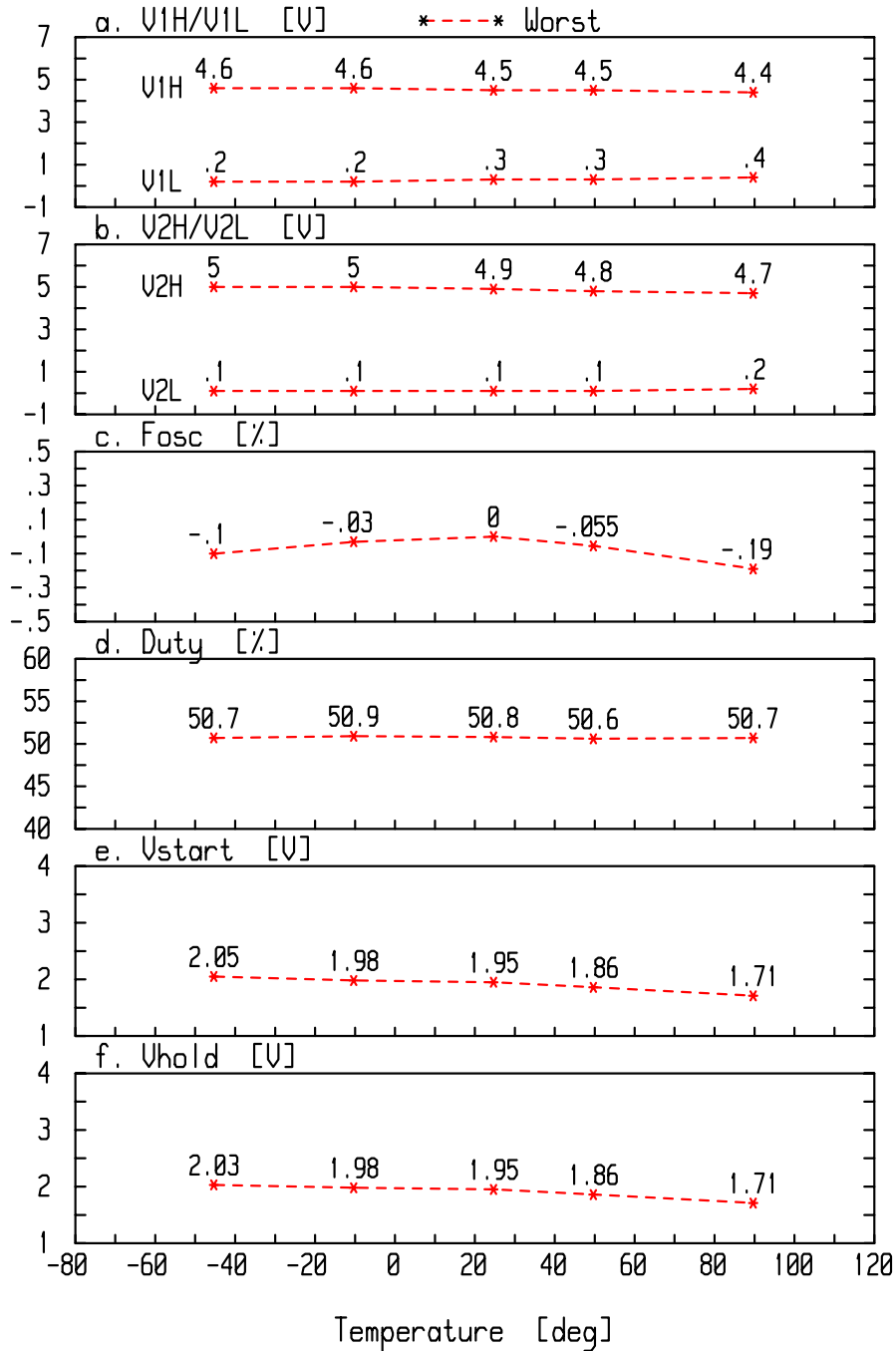


Temperature dependence of oscillating characteristics

R5F21258SNFP - TYP(LOW)

CCR8.0MXC8

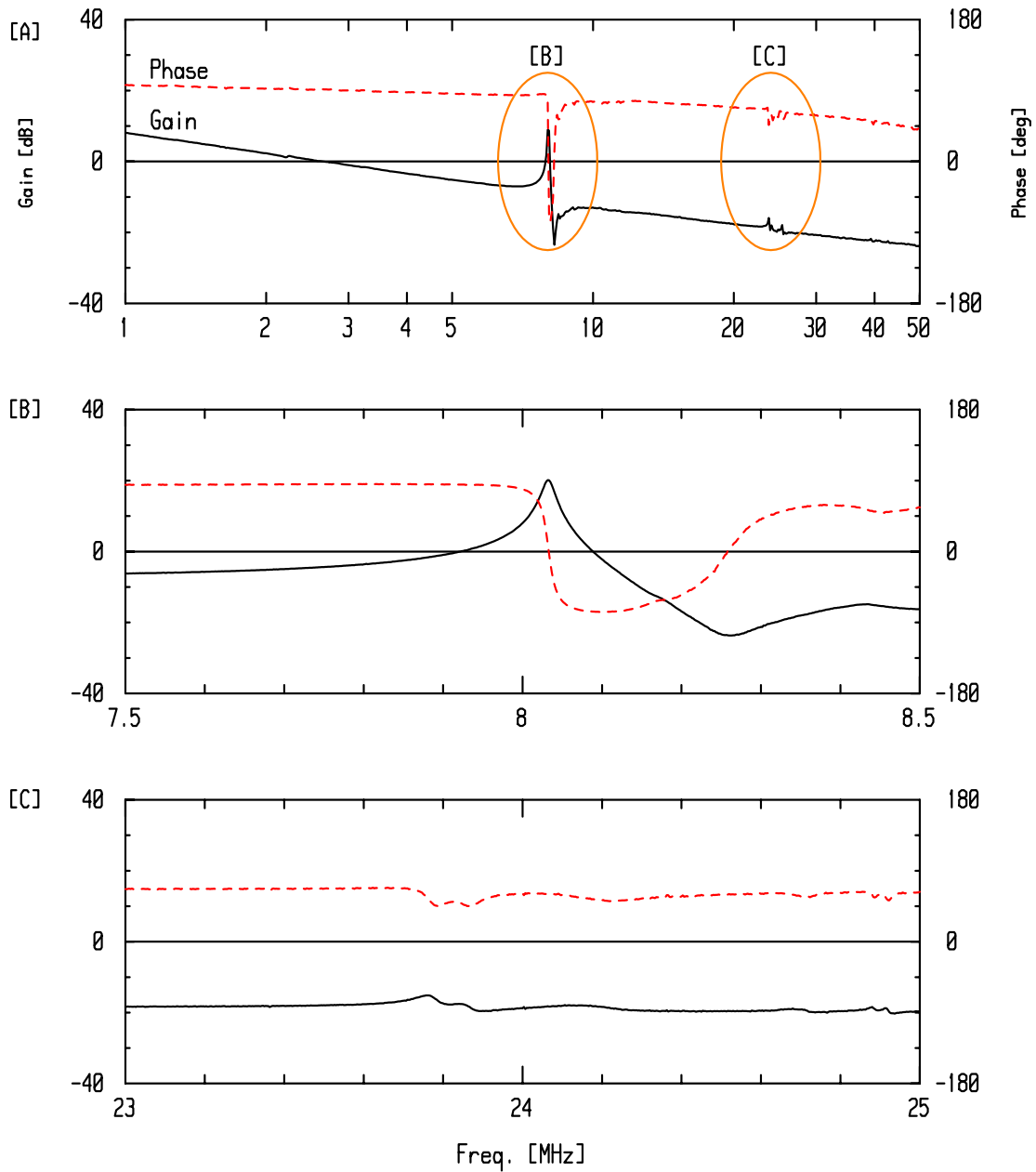
V_{dd}= 5 [V] (Fig.a~e)



Temperature dependence of oscillating characteristics

R5F21258SNFP - TYP(LOW)
 CCR8.0MXC8 - Typical
 Vdd [V] 5

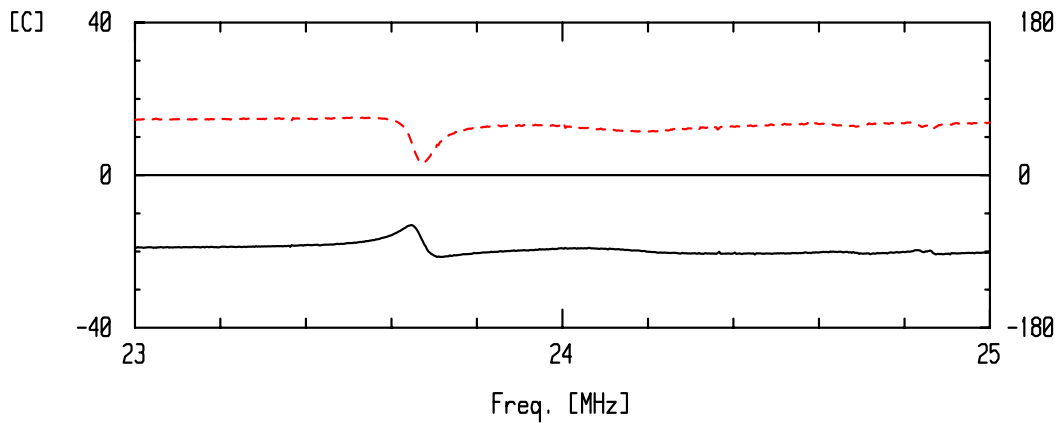
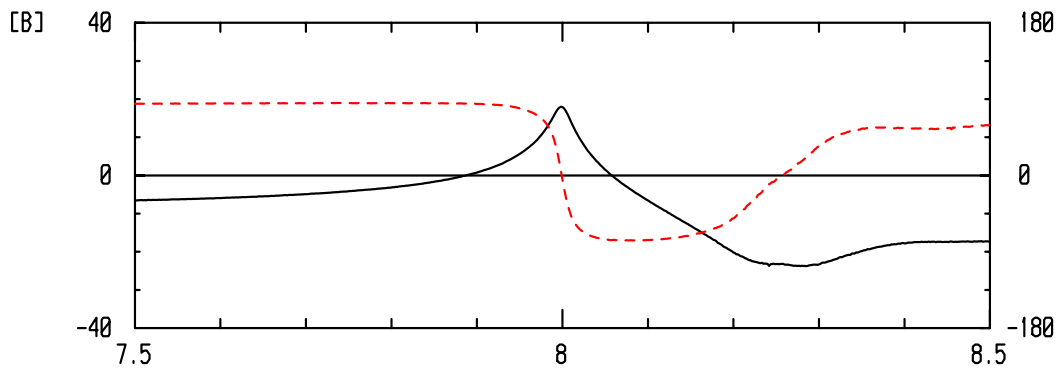
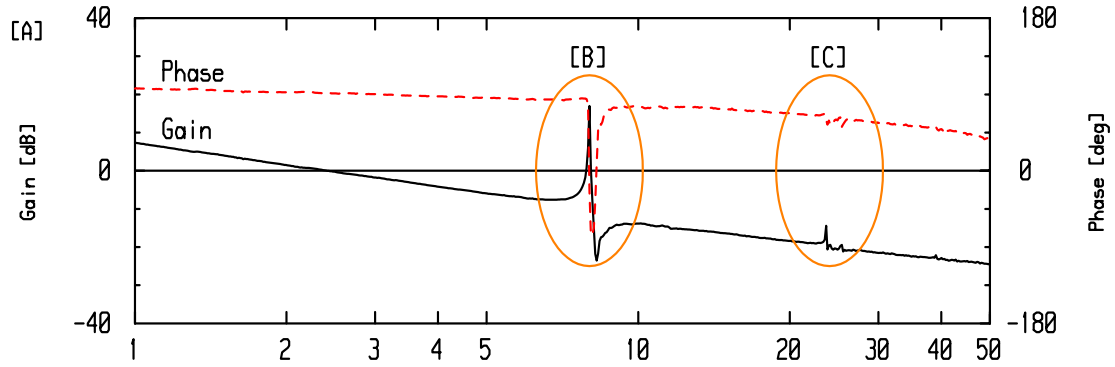
	[B]	[C]
Gmax [dB]	20.1	-15.1
LGM [dB]	20.1	0
FLGM [MHz]	8.0338	0
LPM [deg]	-76.1	53.7



Open loop characteristics (Typical Sample)

R5F21258SNFP - TYP(LOW)
 CCR8.0MXC8 - Worst
 Vdd [V] 5

	[B]	[C]
Gmax [dB]	18	-13.1
LGM [dB]	18	0
FLGM [MHz]	8	0
LPM [deg]	-76.4	53.1



Open loop characteristics (Worst Sample)