

GN02019B

GaAs IC (with built-in ferroelectric)

Local amplifier for cellular phone

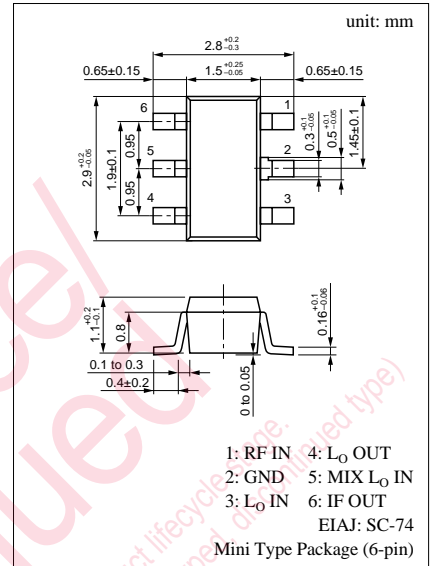
For a mixer amplifier

■ Features

- Wide band mixer
- Low consumption current
- Small package: Mini 6pin

■ Absolute Maximum Ratings (Ta = 25°C)

Parameter	Symbol	Ratings	Unit
Power supply voltage 1, 2	V _{DD1,2}	5	V
Circuit current 1, 2	I _{DD1,2}	10	mA
Max input power	P _{in}	10	dBm
Allowable power dissipation	P _D	100	mW
Channel temperature	T _{ch}	150	°C
Operating ambient temperature	T _{opr}	-30 to +35	°C
Storage temperature	T _{stg}	-55 to +150	°C



■ Electrical Characteristics (Ta = 25 ± 3°C)

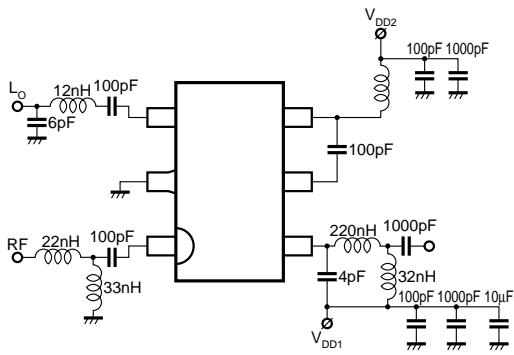
Marking Symbol: HT

Parameter	Symbol	Conditions	min	typ	max	Unit
Mixer current	I _{DD1}	V _{DD1} = 3V	1, 2	2.3	4.2	mA
Local amplifier current	I _{DD2}	V _{DD2} = 3V	0.6	1.6	2.6	mA
Conversion gain	CG ₁ ^{*1,2}	V _{DD1} = V _{DD2} = 3V f _{RF1} = 310MHz, f _{RF2} = 310.1MHz P _{RF1} = P _{RF2} = 30dBm f _{LO} = 1015MHz, P _{LO} = 10dBm f _{IF} = 130MHz, f _{IM3} = 130.1MHz	3	13		dB
	CG ₂ ^{*1,2}	V _{DD1} = V _{DD2} = 3V f _{RF1} = 885MHz, f _{RF2} = 335.1MHz P _{RF1} = P _{RF2} = -30dBm f _{LO} = 1015MHz, P _{LO} = -10dBm f _{IF} = 130MHz, f _{IM3} = 130.1MHz	8	12.5		dB
Output third harmonics mutual modulation distortion	OIP3-1 ^{*1,2}	V _{DD1} = V _{DD2} = 3V f _{RF1} = 810MHz, f _{RF2} = 310.1MHz P _{RF1} = P _{RF2} = -30dBm f _{LO} = 940MHz, P _{LO} = -10dBm f _{IF} = 130MHz, f _{IM3} = 130.1MHz	5	10		dBm
	OIP3-2 ^{*1,2}	V _{DD1} = V _{DD2} = 3V f _{RF1} = 885MHz, f _{RF2} = 335.1MHz P _{RF1} = P _{RF2} = -30dBm f _{LO} = 1015MHz, P _{LO} = -10dBm f _{IF} = 130MHz, f _{IM3} = 130.1MHz	5	10		dBm

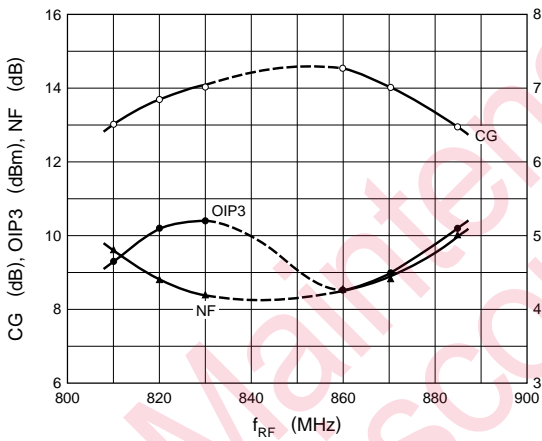
*1 Refer to measurement circuit.

*2 Sampling guaranteed items. (AQL = 0.65%)

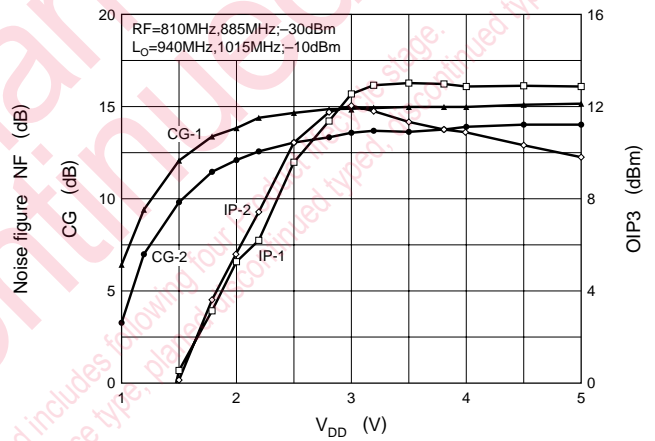
■ Measurement Circuit (CG, OIB3)



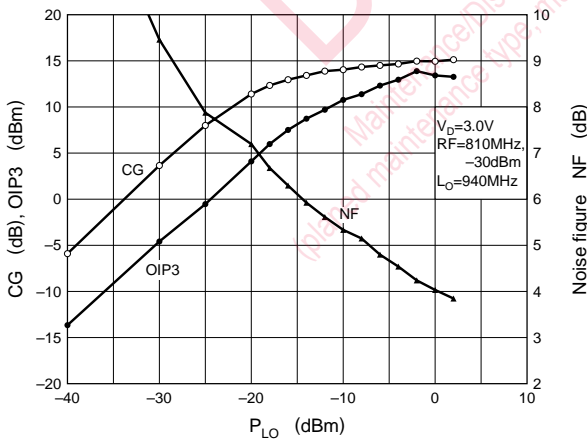
CG, OIP3, NF — f_{RF}



CG, OIP3 — V_{DD}



CG, OIP3, NF — P_{LO}



Caution for Safety

 **DANGER**

■ This product contains Gallium Arsenide (GaAs).

GaAs powder and vapor are hazardous to human health if inhaled or ingested. Do not burn, destroy, cut, cleave off, or chemically dissolve the product. Follow related laws and ordinances for disposal. The product should be excluded from general industrial waste or household garbage.

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