

# GN01046B(Tentative)

## GaAs N-Channel IC

For front end of cellular phone

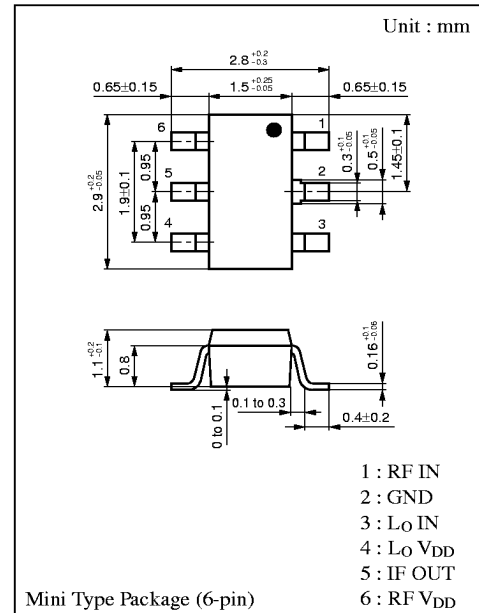
For front-end of PHS

### ■ Features

- Mixer with low-noise amplifier and local amplifier
- High conversion gain
- Low current operation  $f=1.9\text{GHz}$

### ■ Absolute Maximum Ratings (Ta= 25°C)

Parameter	Symbol	Rating	Unit
Power supply voltage	V <sub>DD</sub>	5	V
Circuit current	I <sub>DD</sub>	10	mA
Allowable power dissipation	P <sub>D</sub>	200	mW
Operating temperature	T <sub>opr</sub>	- 30 to + 90	°C
Storage temperature	T <sub>stg</sub>	-10 to +120	°C

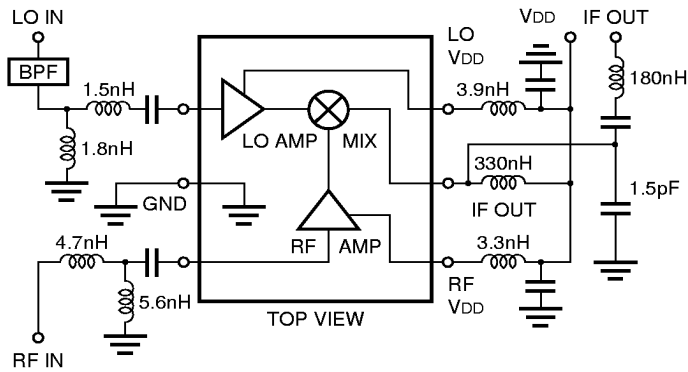


### ■ Electrical Characteristics (Ta = 25°C)

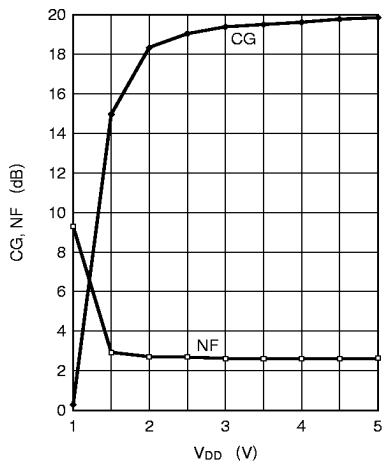
Parameter	Symbol	Condition	Min	Typ	Max	Unit
Circuit current	I <sub>DD</sub>	V <sub>DD</sub> = 3V		5	7	mA
Noise figure	NF	V <sub>DD</sub> = 3V, f <sub>RF</sub> =1.9GHz, f <sub>LO</sub> =1.66GHz, P <sub>LO</sub> = -10dBm		2.7	6	dB
Power gain	PG	V <sub>DD</sub> = 3V, f <sub>RF</sub> =1.9GHz, f <sub>LO</sub> =1.66GHz, P <sub>LO</sub> = -10dBm	15	20		dB
Third harmonics mutual modulation distortion	IP3	V <sub>DD</sub> = 3V, f <sub>RF</sub> =1.9GHz, 1.901GHz, P <sub>RF</sub> = - 35dBm, f <sub>LO</sub> =1.66GHz, P <sub>LO</sub> = -10dBm		4		dBm

Note : This is the tentative development specification and may be changed without notice.  
Refer to the update product specification when final design is to be established.

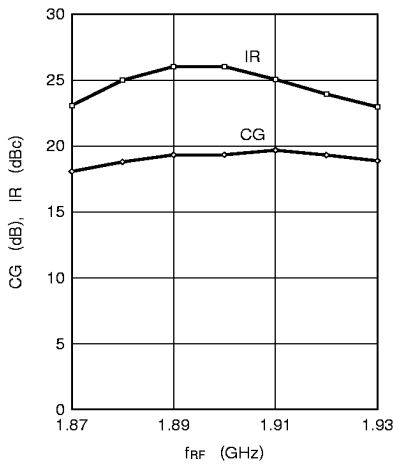
■ Measurement Circuit



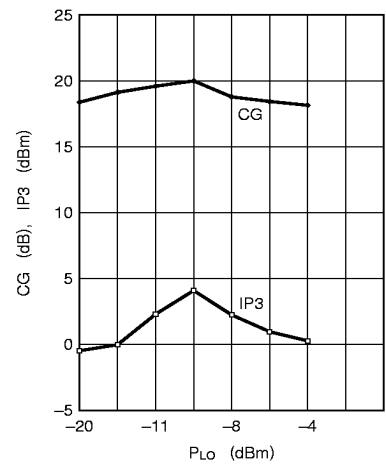
$V_{DD} - CG, NF$



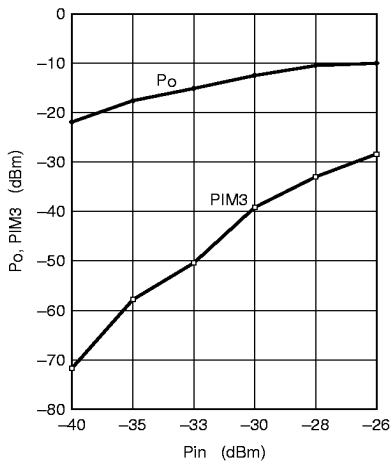
$f_{RF} - CG, IR$



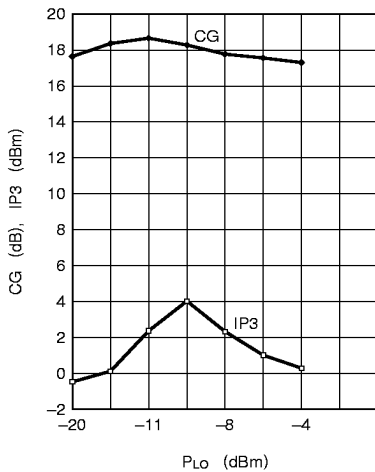
$CG, IP3 - P_{LO}$



$P_{in} - P_o, PIM3$



$P_{LO} - CG, IP3$



$P_{LO} - CG, NF$

