

# GN01068B

## GaAs IC (with built-in ferroelectric)

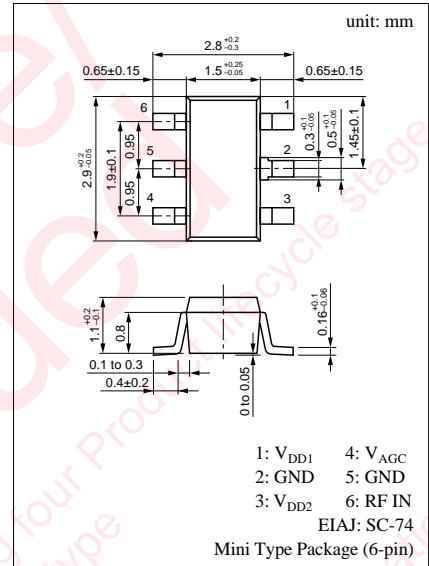
For preamplifier of the PDC transmitting section

### ■ Features

- Gain control amplifier for 1.5GHz
- Low distortion
- Small package: Mini 6pin

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

Parameter	Symbol	Ratings	Unit
Power supply voltage	V <sub>DD</sub>	8	V
Gate control voltage	V <sub>AGC</sub>	0 to 3	V
Circuit current	I <sub>DD</sub>	80	mA
Max input power	P <sub>in</sub>	-5	dBm
Allowable power dissipation	P <sub>D</sub>	200	mW
Operating ambient temperature	T <sub>opr</sub>	-30 to +90	°C
Storage temperature	T <sub>stg</sub>	-40 to +120	°C



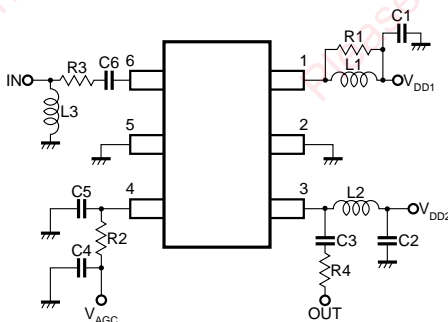
### ■ Electrical Characteristics (V<sub>DD1</sub> = 3.0V, V<sub>DD2</sub> = 3.5V, f = 1441MHz, Ta = 25 ± 3°C)

Parameter	Symbol	Conditions	min	typ	max	Unit
Circuit current	I <sub>DD</sub> <sup>*1</sup>	V <sub>AGC</sub> = 2V, P <sub>in</sub> = -20dBm		35	45	mA
Power gain 1	PG <sub>1</sub> <sup>*1</sup>	V <sub>AGC</sub> = 2V, P <sub>in</sub> = -20dBm	23	26		dB
Power gain 2	PG <sub>2</sub> <sup>*1</sup>	V <sub>AGC</sub> = 0.5V, P <sub>in</sub> = -20dBm		-13	-10	dB
Dynamic range	DR	PG <sub>1</sub> - PG <sub>2</sub>	33	39		dB
Modulation distortion 1	DM <sub>1</sub> <sup>*1,2</sup>	P <sub>in</sub> = -8dBm, P <sub>out</sub> = 10dBm ±50kHz Detuning, 21kHz Bandwidth		-60	-55	dBc
Modulation distortion 2	DM <sub>2</sub> <sup>*1,2</sup>	P <sub>in</sub> = -8dBm, P <sub>out</sub> = 9dBm ±50kHz Detuning, 21kHz Bandwidth		-65	-60	dBc

<sup>\*1</sup> Measurement circuit is shown in the following diagram.

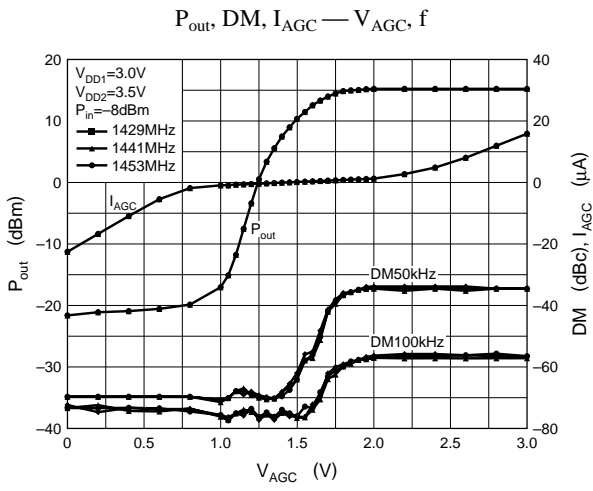
<sup>\*2</sup> Sampling guaranteed items. (AQL = 0.65%)

### ■ Measurement Circuit



(Component values)

C1 = 100pF + 47nF	L1 = 1.5nH	R1 = 33kΩ
C2 = 100pF + 1000pF	L2 = 33nH	R2 = 4.7kΩ
C3 = 10pF	L3 = 12nH	R3 = 20Ω
C4 = 1000pF		R4 = 10Ω
C5 = 6pF		
C6 = 10pF		



# 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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