

# GN1042

## GaAs N-Channel MES IC

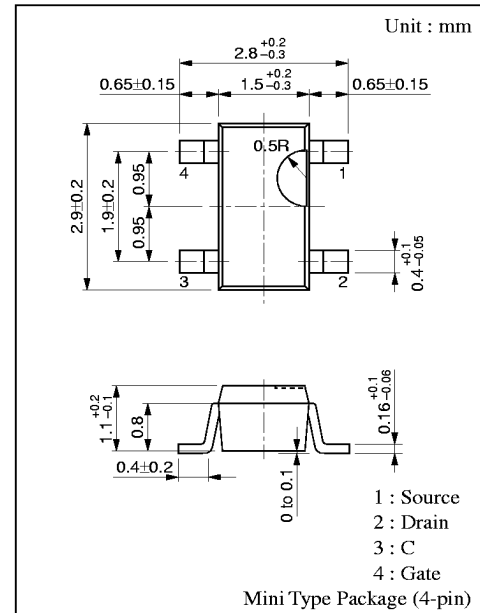
For VHF/UHF wide-band low-noise RF-amplification

### ■ Features

- Superior in 2nd harmonics distortion
- Automatic mounting is possible with emboss tapping.

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

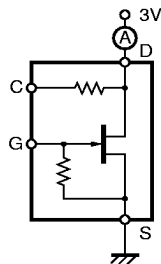
Parameter	Symbol	Rating	Unit
Power supply voltage	V <sub>DS</sub>	6	V
	V <sub>GS</sub>	-4	V
Drain current	I <sub>D</sub>	60	mA
Gate current	I <sub>G</sub>	3	mA
Allowable power dissipation	P <sub>D</sub>	200	mW
Channel temperature	T <sub>ch</sub>	150	°C
Storage temperature	T <sub>stg</sub>	-55 to +150	°C



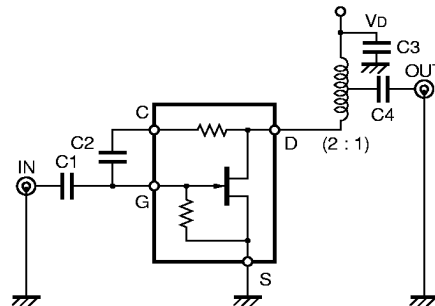
### ■ Electrical Characteristics (Ta = 25°C)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain current	I <sub>DD</sub> *1	V <sub>DS</sub> =3V	28	45	60	mA
Noise figure	NF <sub>1</sub> *2	V <sub>DS</sub> =3V, f=50MHz		2.5	4	dB
	NF <sub>2</sub> *2	V <sub>DS</sub> =3V, f=600MHz		2.2	4	dB
Power gain	PG <sub>1</sub> *2	V <sub>DS</sub> =3V, f=50MHz	7	10		dB
	PG <sub>2</sub> *2	V <sub>DS</sub> =3V, f=600MHz	7	10		dB
2nd harmonics distortion	IM <sub>2</sub> *2	V <sub>DS</sub> =3V, f=439.25MHz f <sub>in</sub> =55.25 to 439.25MHz (64 wave) V <sub>in</sub> =+5dBmV	55			dBm

\*1 I<sub>DD</sub> test circuit



\*2 NF, PG, IM<sub>2</sub> test circuit

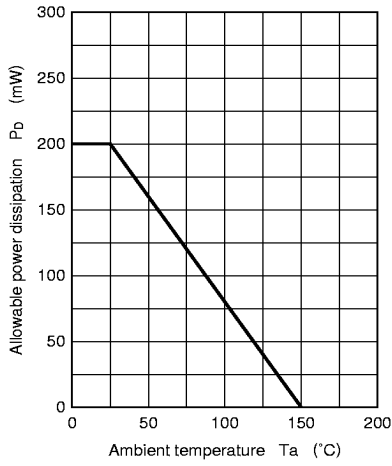


C<sub>1</sub>, C<sub>2</sub>, C<sub>4</sub>: 2200pF

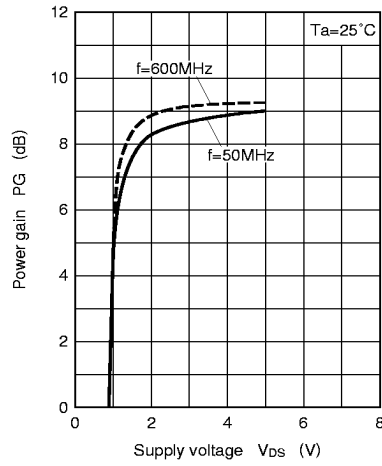
C<sub>3</sub>: 100pF

Transformer ratio of balancer 2 : 1

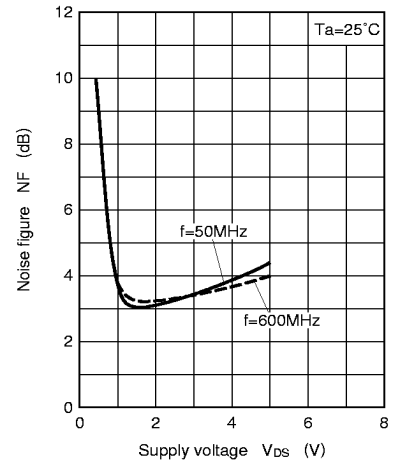
$P_D - T_a$



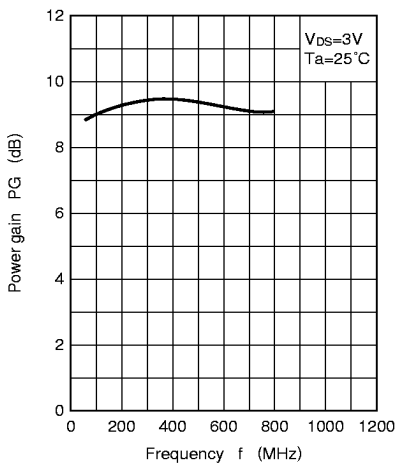
$PG - V_{DS}$



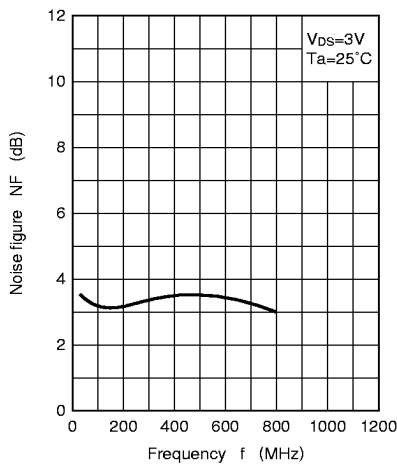
$NF - V_{DS}$



$PG - f$



$NF - f$



$IM_2 - V_{DS}$

