GN1010

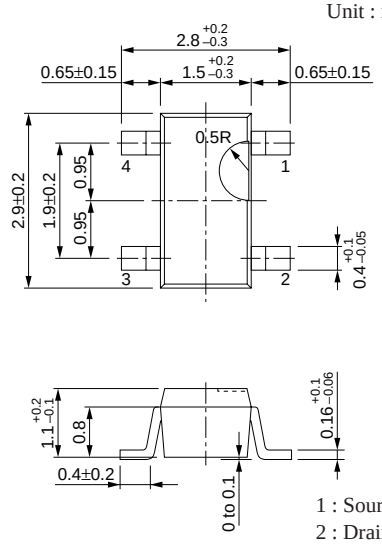
GaAs N-Channel MES IC

For high-output high-gain amplification

■ Features

- General-use wide-band amplifier
- Low noise
- With bandwidth control pin

Unit : mm

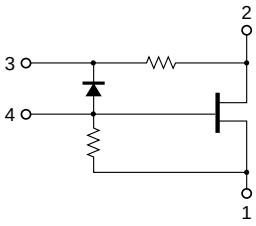


Mini Type Package (4-pin)

■ Absolute Maximum Ratings (Ta = 25˚C)

Parameter	Symbol	Rating	Unit
Power supply voltage	V_{DS}	6	V
	V_{GS}	– 4	V
Drain current	I_D	45	mA
Gate current	I_G	3	mA
Allowable power dissipation	P_D	200	mW
Channel temperature	T_{ch}	150	˚C
Storage temperature	T_{stg}	– 55 to +150	˚C

■ Equivalent Circuit



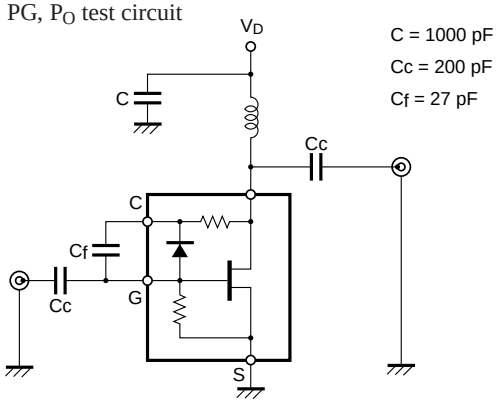
■ Electrical Characteristics (Ta = 25˚C)

Parameter	Symbol	Condition	Min	Typ	Max	Unit
Drain current	I_{DD} *1	V_{DS}= 3V	5	30	45	mA
Noise figure	NF *2	V_{DS}= 3V, f= 0.5GHz		2	3	dB
		V_{DS}= 3V, f=1.8GHz				
Power gain	PG *2	V_{DS}= 3V, f= 0.5GHz	5	10		dB
		V_{DS}= 3V, f=1.8GHz		9		
I_{dB} compression output	P_O *2	V_{DS}= 3V, f= 0.5GHz	8	15		dBm
		V_{DS}= 3V, f=1.8GHz				

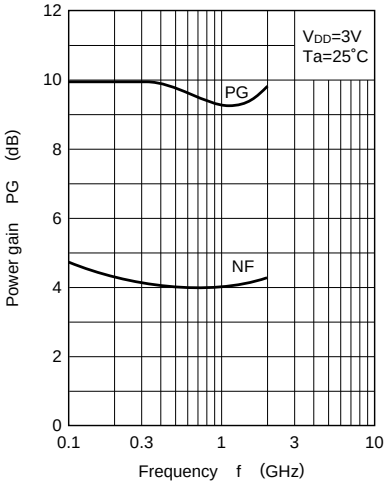
*1 I_{DD} rank classification

Rank	P	Q	R
I_{DD}(mA)	5 to 20	15 to 30	25 to 45

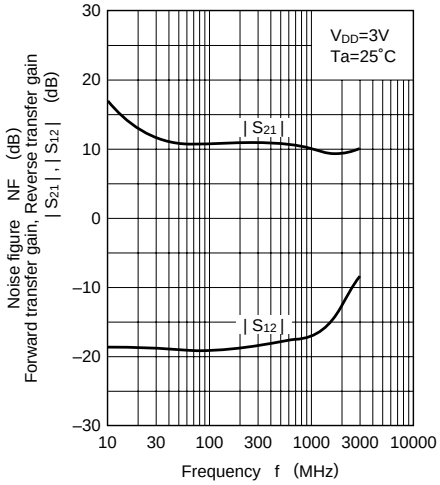
*2 NF, PG, P_O test circuit



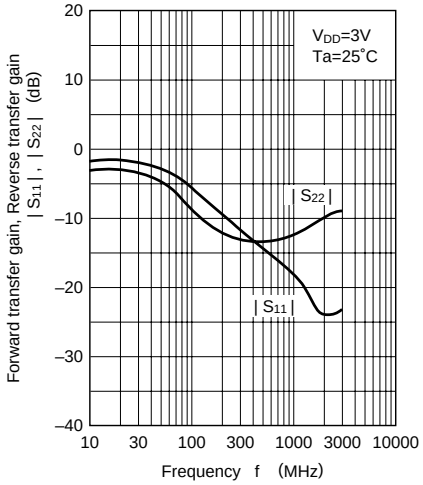
PG, NF – f



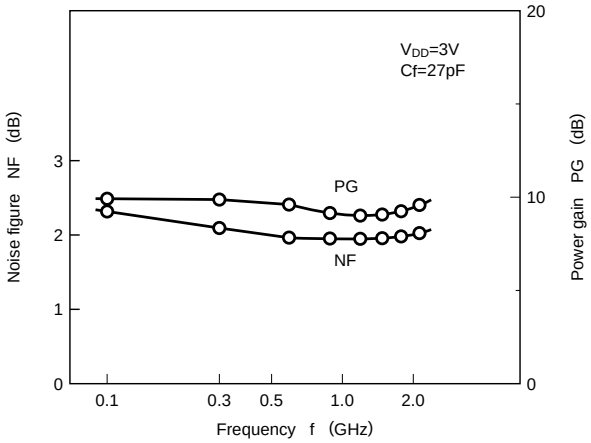
| S_{21} |, | S_{12} | – f



| S_{11} |, | S_{22} | – f



NF, PG – f



P_{out}, IM_2, IM_3 – P_{in}