

GN1010

GaAs N-Channel MES IC

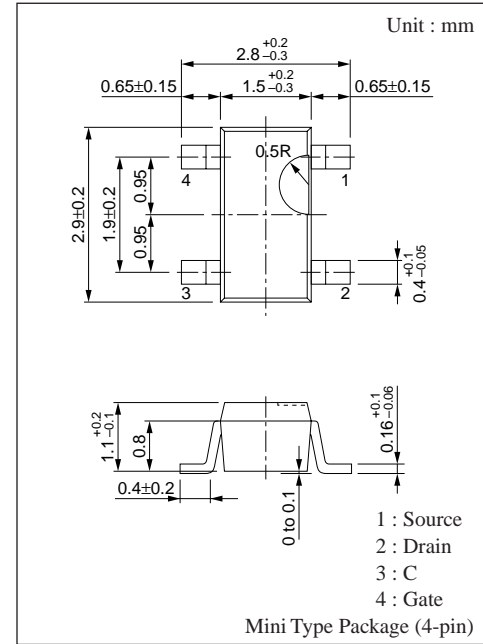
For high-output high-gain amplification

■ Features

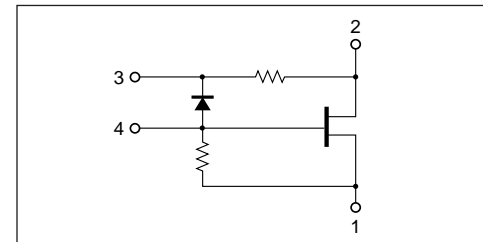
- General-use wide-band amplifier
- Low noise
- With bandwidth control pin

■ 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



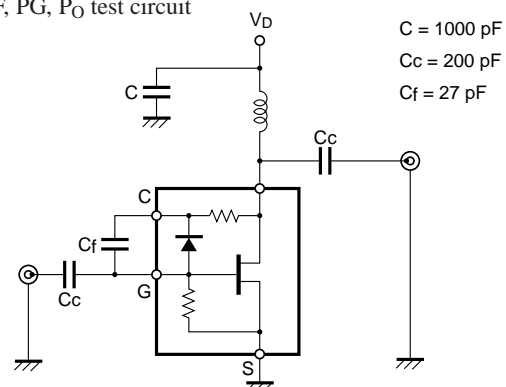
■ Electrical Characteristics (Ta = 25°C)

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				

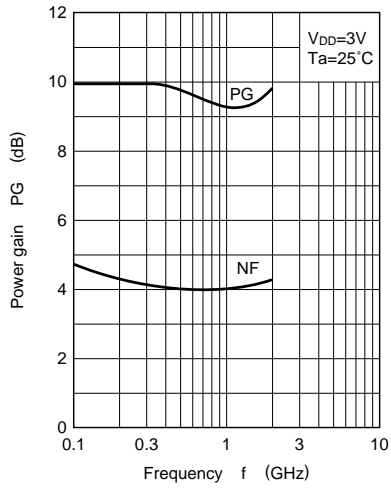
* 1 I_{DD} rank classification

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

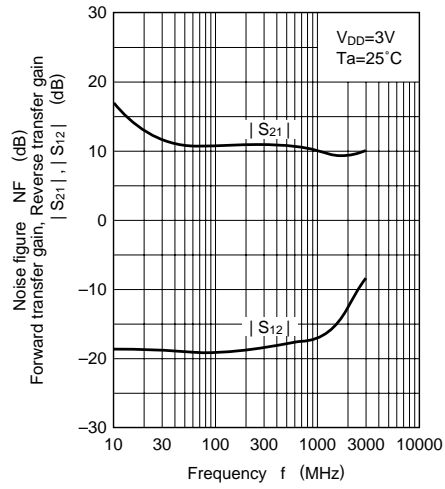
* 2 NF, PG, P_O test circuit



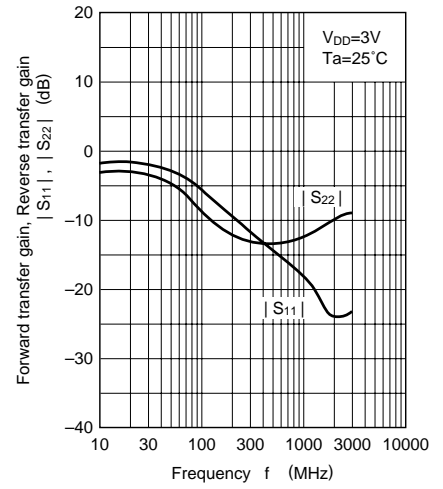
PG, NF – f



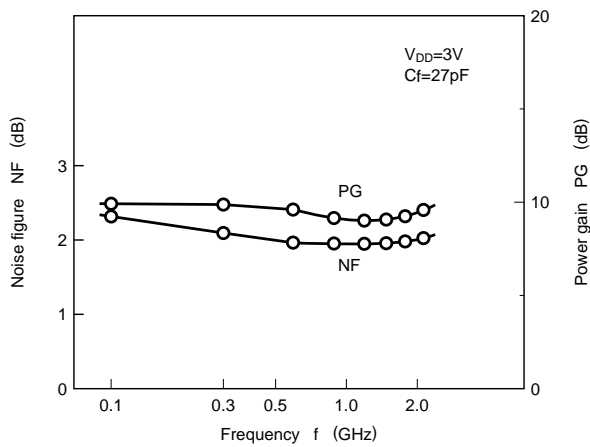
$|S_{21}|, |S_{12}| - f$



$|S_{11}|, |S_{22}| - f$



NF, PG – f



$P_{out}, IM_2, IM_3 - P_{in}$

