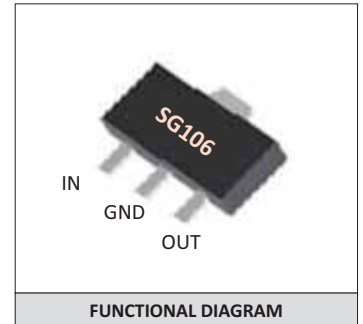


DESCRIPTION

The SG106 is a flat gain, high linearity, low noise, 21dB Gain Block with good OIP3 achieved through the use of 0.5um GaAs Enhancement-mode PHEMT process. The SG106 is designed as low cost drive amplifiers for many applications including FTTH, CATV System.

FEATURES

- > Wide band Flat Gain to 1GHz
- > Higher Gain: 21 typ.
- > Higher linearity: 32dBm @ 500MHz/5dBm 2tone
- > SOT-89 package
- > -60dBc CSO 135 Channels @ +15dBmV/ch
- > -80dBc CTB 135 Channels @ +15dBmV/ch
- > -83dBc XMD 135 Channels @ +15dBmV/ch



APPLICATIONS

- > Low Noise Amplifier for CATV, Satellite
- > Cable Modem
- > FTTH (G-PON, GE-PON)
- > Optical node

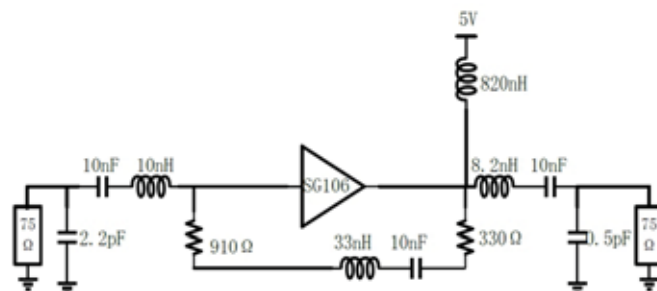
SPECIFICATIONS

PARAMETER		UNITS	MIN.	TYP.	MAX.	CONDITION
Frequency		MHz	5		1000	
Gain		dB		21		30~1000MHz 5~100MHz
Gain Flatness		dB		0.5		30~1000MHz
Input Return Loss		dB		-14		
Output Return Loss		dB		-16		
Output IP3		dBm		32		At 500MHz/5dBm 2tone
1dB Compression Point		dBm		17		At 500MHz
Noise Figure		dB		1	2	30~ 1000MHz
CSO CTB XMOD	30MHz ~ 1000MHz	dBc			-55 -75 -77	135 channel, +15dBmV/ch
DC Current		mA		54		Vdd = 5.0V

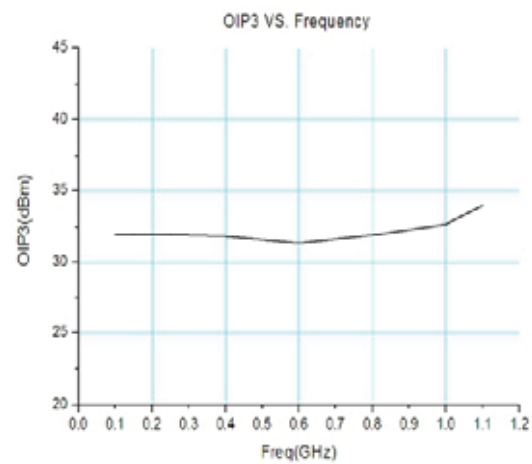
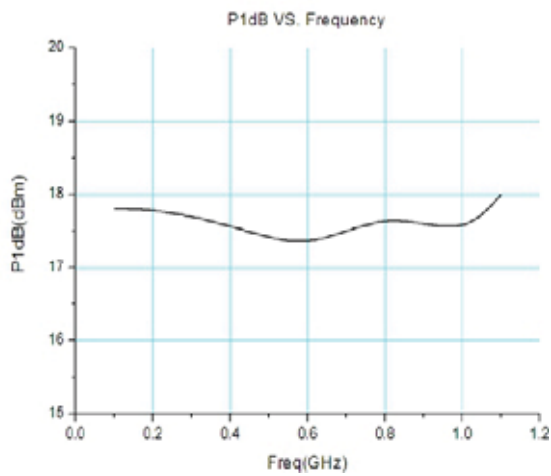
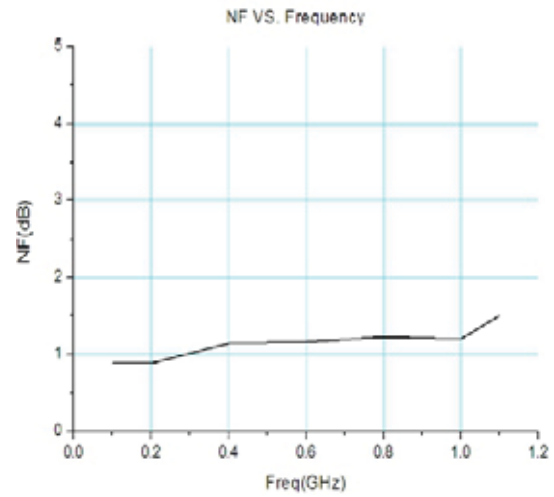
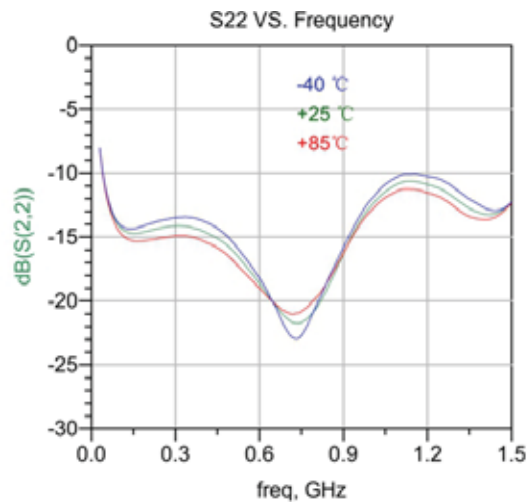
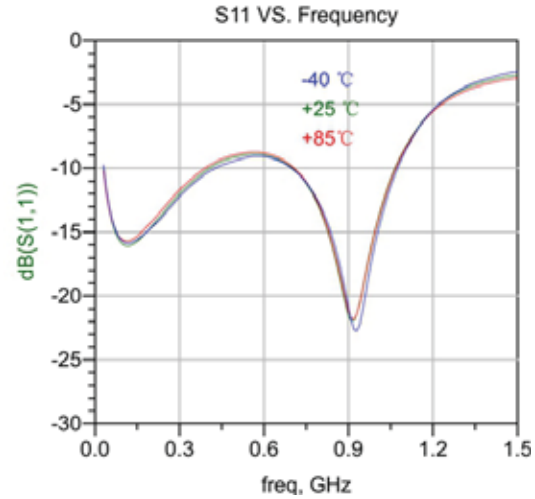
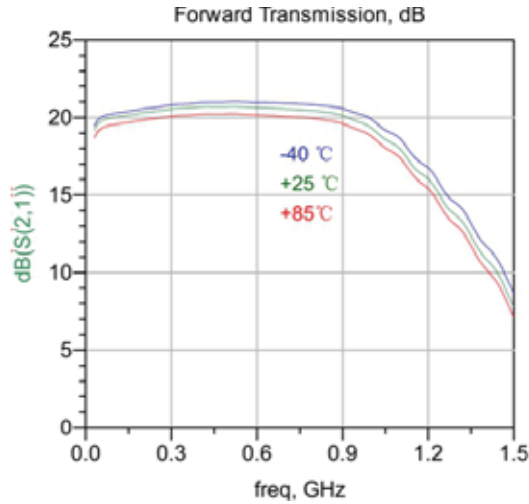
NOTE

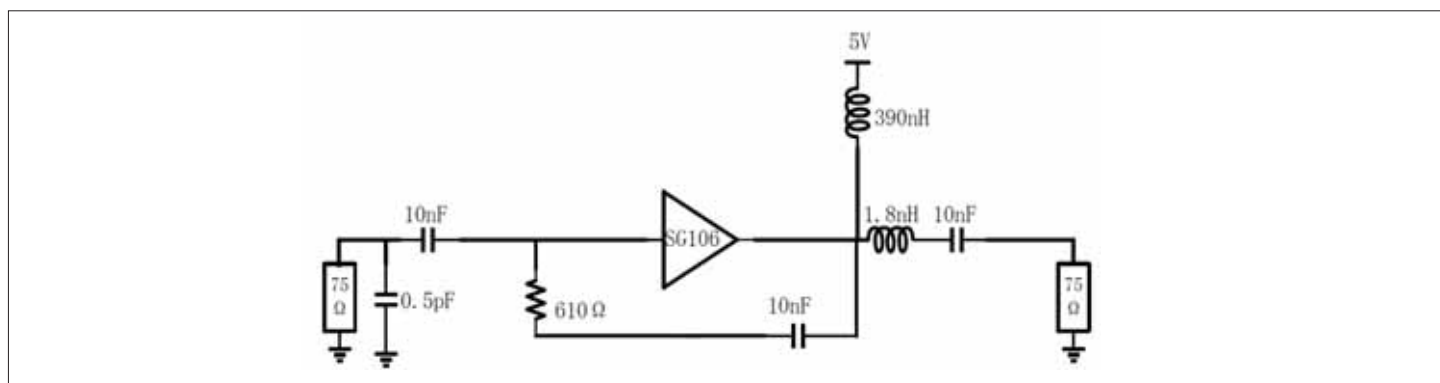
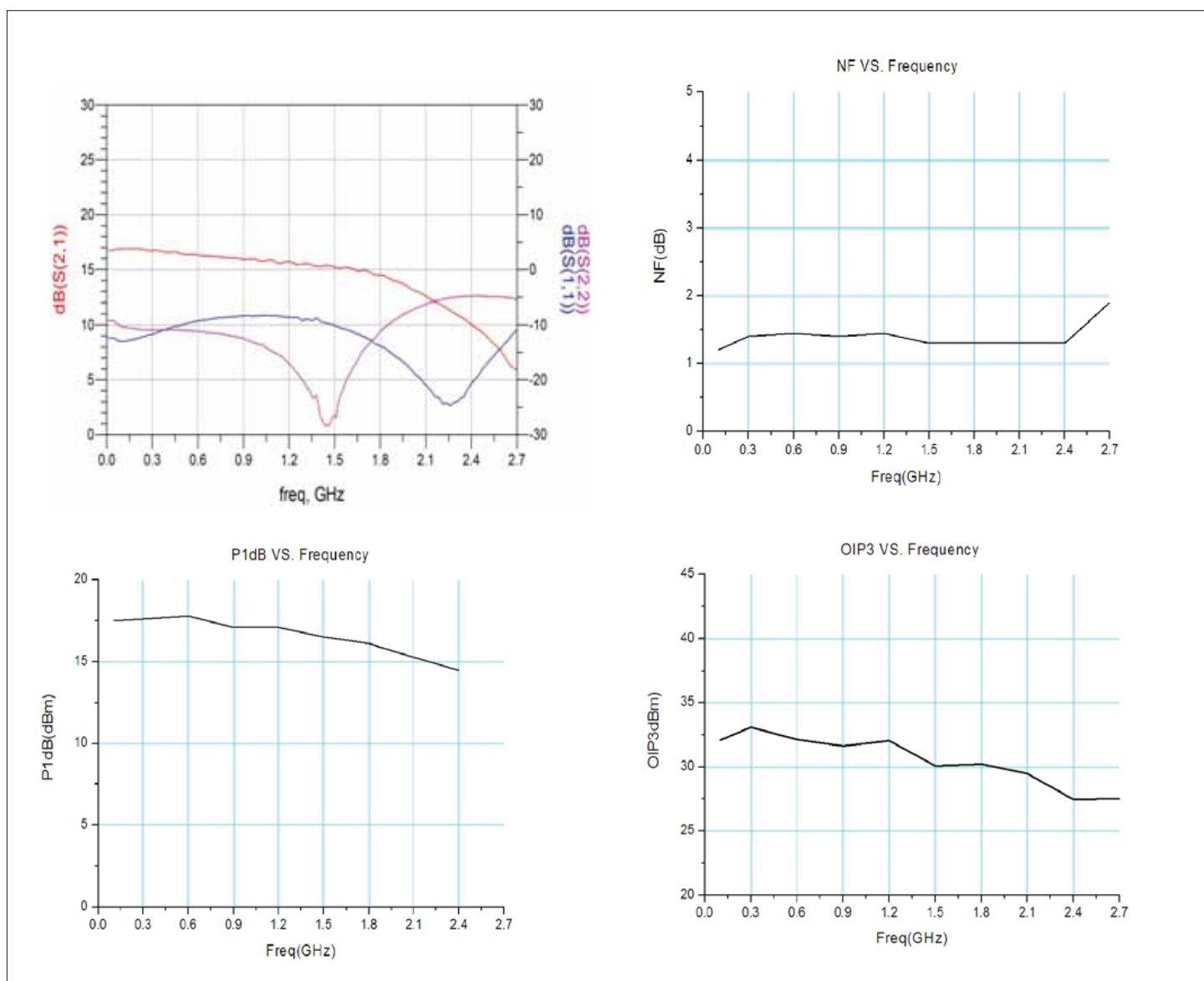
1. Test conditions: Test Freq = 500MHz, T=25°C, Vdd=5V, 75Ω system

APPLICATION CIRCUIT: 30MHZ-1000MHZ, 75OHM SYSTEM

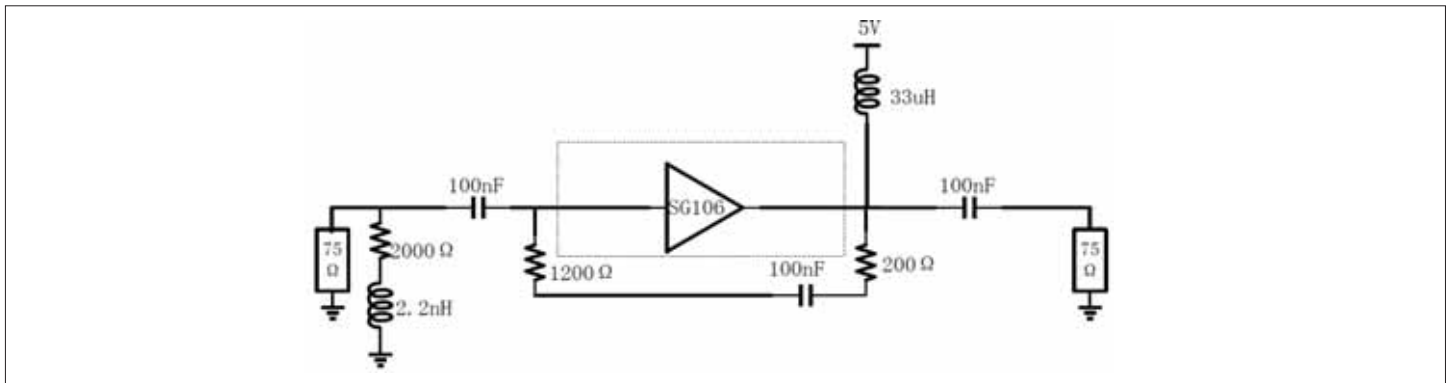


TYPICAL RF PERFORMANCE :V_{DD}=5V, I_{DS}=54MA, T=25°C,75OHM SYSTEM

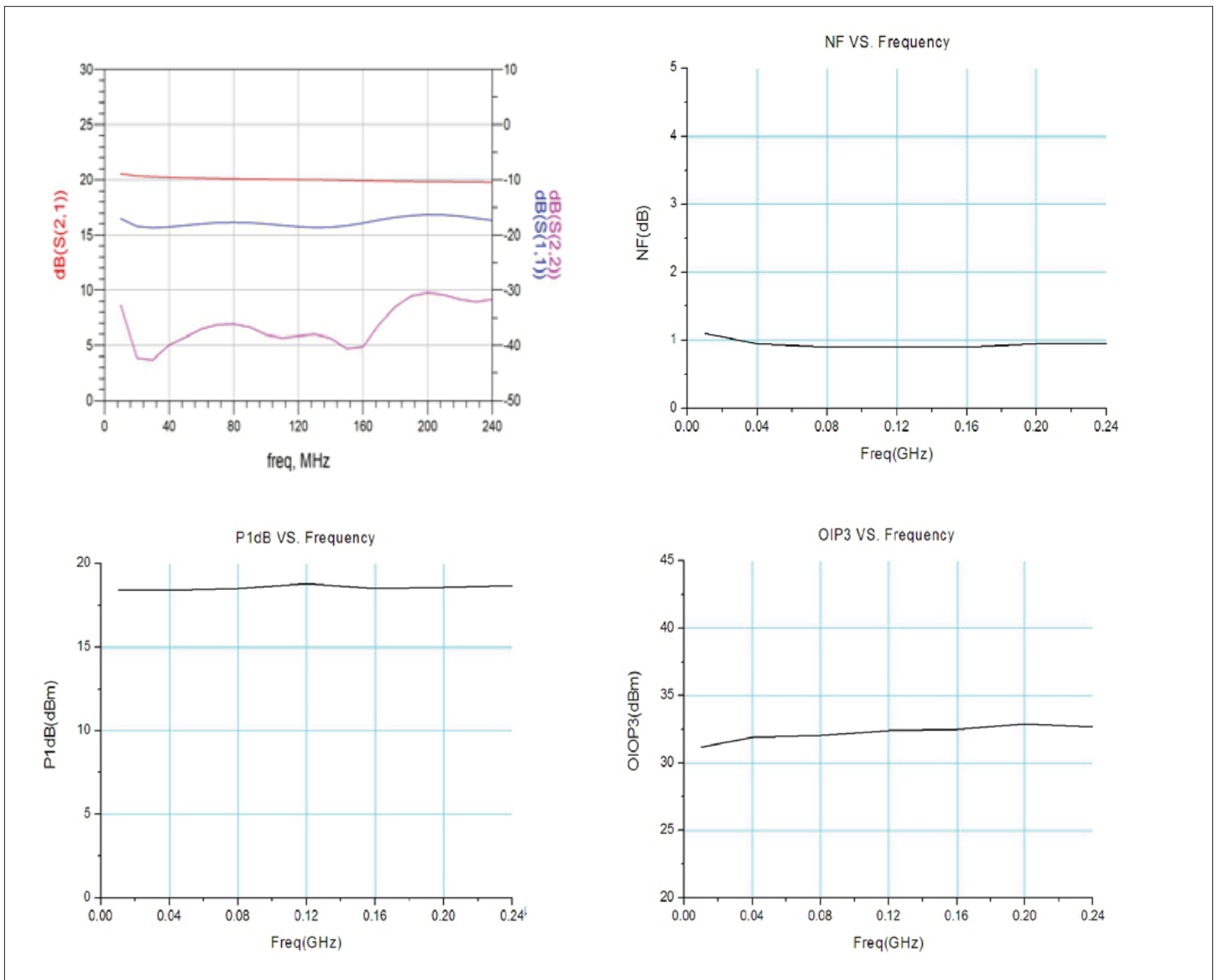


APPLICATION CIRCUIT:70MHZ-2665MHZ, 75OHM SYSTEM

TYPICAL RF PERFORMANCE : $V_{DD}=5V$, $I_{DS}=54MA$, $T=25^{\circ}C$,75OHM SYSTEM


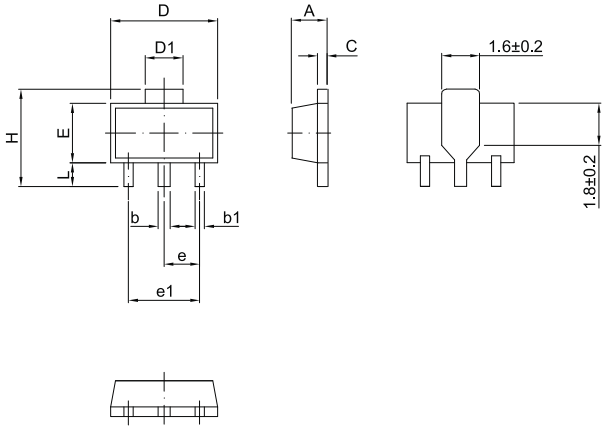
APPLICATION CIRCUIT:5MHZ-200MHZ, 75OHM SYSTEM



TYPICAL RF PERFORMANCE : $V_{DD}=5V$, $I_{DS}=54mA$, $T=25^{\circ}C$, 75OHM SYSTEM



PACKAGE OUTLINE DIMENSIONS

	Symbol	Millimeters		Inches	
		Min.	Max.	Min.	Max.
	A	1.30	1.70	0.051	0.067
	b	0.40	0.60	0.016	0.024
	b1	0.25	0.55	0.010	0.022
	C	0.30	0.50	0.012	0.020
	D	4.30	4.70	0.169	0.185
	D1	1.40	1.80	0.055	0.071
	E	2.30	2.70	0.091	0.106
	e	1.5 TYP		0.059 TYP	
	e1	2.90	3.10	0.114	0.122
	H	3.90	4.40	0.154	0.173
	L	0.80	1.20	0.031	0.047

CONTACT US**Headquarters**

A Building Caohejing I&E Park Pujiang Minhang Shanghai
China

Hotline

400-021-5756

Web

<http://www.semiware.com.cn>

By Telephone

Sales: 86-21-3463-7345

Customer Service: 86-21-3463-7172-8810/8826

Technical Support: 86-21-3463-7173-8811

By Email

Sales: sales03@semiware.com.cn

Customer Service: sales17@semiware.com.cn

Technical Support: fae03@semiware.com.cn

By Fax

General: 86-21-3965-0654

Sales: 86-21-3463-7458

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