

PRODUCT DESCRIPTION

SG101 is GaAs MMIC intended for use in applications requiring high linearity, such as CATV Fiber Receiver and Distribution Amplifiers, and CATV Drop Amplifiers. SG101 is RoHS compliant and offered free package.

APPLICATIONS

- CATV optical receiver
- CATV Amplifier
- FTTH Network

SG101



RoHS Compliant
& Green Package



Product Features

- High Linearity: +43dBm OIP3
- Wide Bandwidth: 50–1000MHz
- P1dB: 26dBm
- Low Noise: 2.0dB
- Input Output 75 ohm Match
- Single Power Supply: +8V

TYPICAL PARAMETERS (T_A=+25°C, V_{DD}=+8VDC, 75 Ω system)

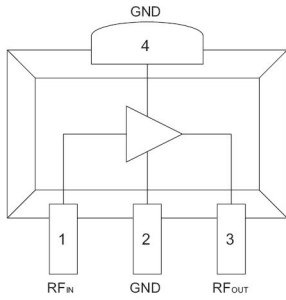
Parameter	Units	Typical		
Frequency	MHz	50	500	1000
Noise Figure	dB	2.0	2.0	2.1
Gain	dB	16.5	16	16
S11	dB	-20	-21	-14
S22	dB	-20	-25	-20
Output P1dB	dBm	26	26	26
Output IP3 ^①	dBm	43	43	41
Output IP2 ^②	dBm	54	58	55
CSO ^③	dBc	-	65	-
CTB ^③	dBc	-	70	-
Supply Current	mA	-	125	-
Supply Voltage	V	-	8	-

① Tone Spacing=6MHz, Pout per ton=9dBm

② OIP2 is measured at F1+F2 Frequency

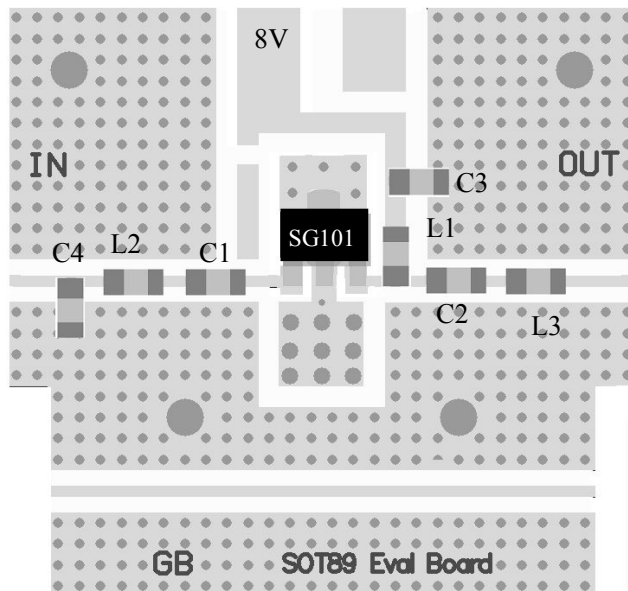
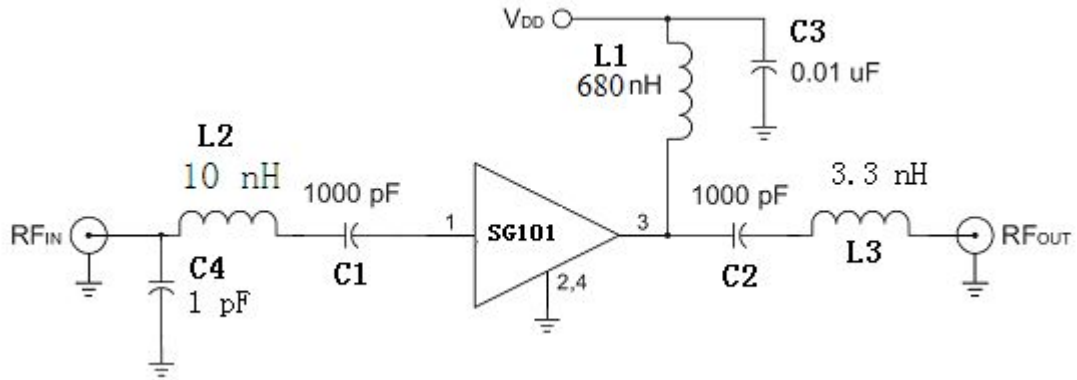
③ 79Ch., Flat, +35dBmV

PIN DEFINITION

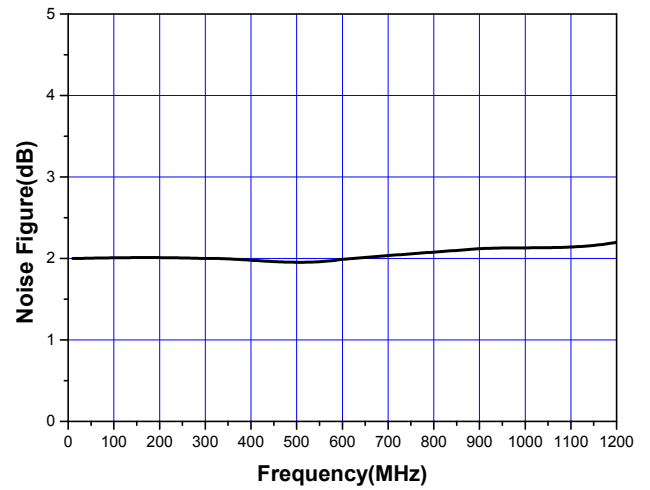
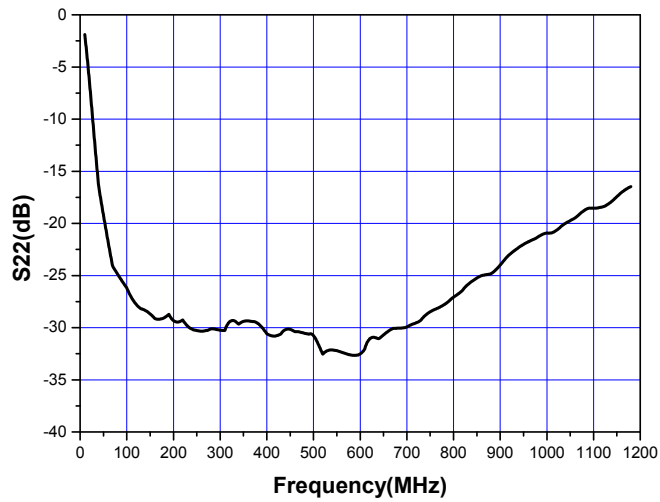
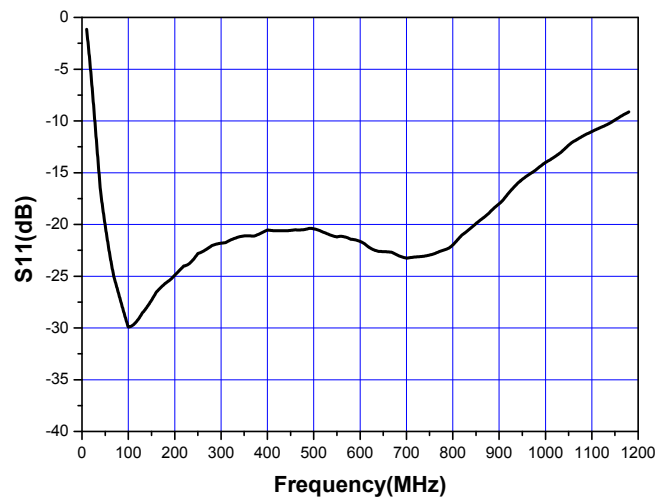
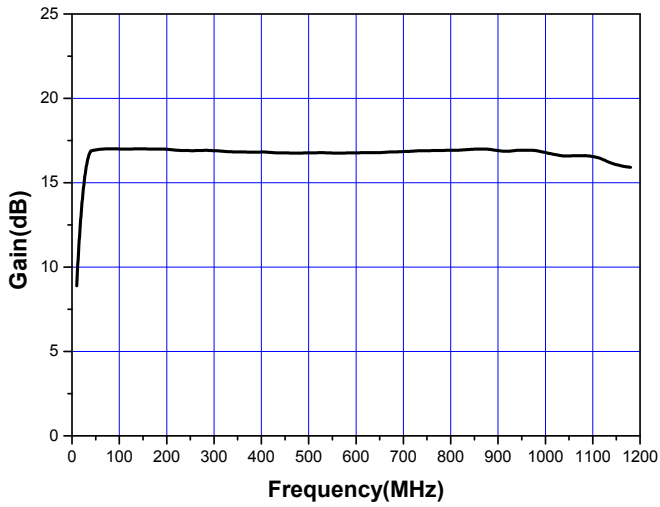


Pin	Name	Function
1	R _{fin}	RF Input
2	GND	Ground
3	R _{fout}	RF Output/Bias
4	GND	Ground

TYPICAL APPLICATION CIRCUIT



PERFORMANCES CHART ($T_A=+25^{\circ}\text{C}$, $V_{DD}=+8\text{ v}$, $75\ \Omega$ system)



Stresses in excess of the absolute ratings may cause permanent damage.

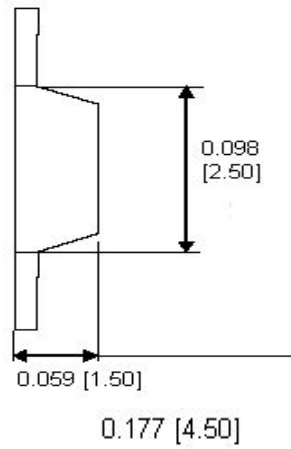
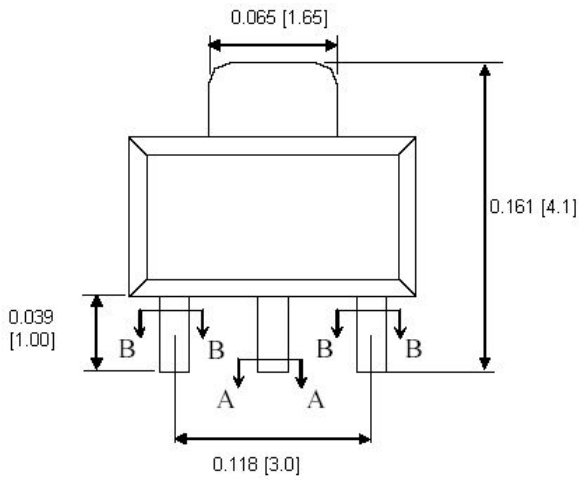
Parameters	MIN	MAX	UNIT
Voltage	0	+12	V
Input Power	-	+10	dBm
Storage Temperature	-65	+150	°C

Absolute Minimum Range and Maximum Application Conditions

Parameters	MIN	TYP	MAX	UNIT
Frequency	50	-	1000	MHz
Operating Voltage	5	8	10	V
Application Temperature	-40	-	+85	°C

SOT89 PACKAGE AND PCB PAD LAYOUT

Units: inch [millimeter]



Symbol	inch	mm
A	0.016	0.42
B	0.019	0.5

