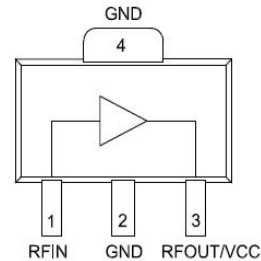


Gain Block Chip, 0.05 - 2.5 GHz

Performance characteristics

- Frequency range: 0.05 - 2.5 GHz
- Small signal gain: 21dB
- Gain flatness : ± 1.1 dB
- Noise figure: 1.0dB
- P -1 dB: 19.5dBm
- OIP3: 35dBm
- Voltage and current : 5V/85mA
- 50Ohm input / output

Functional Block Diagram



Product Introduction

Monolithic low noise amplifier operating at 0.05 - 2.5 GHz . The circuit is biased by an external choke inductor at the output . The amplifier is packaged in a ceramic metal SOT-89 tube shell to achieve hermetic packaging. The surface of the pin pad is gold-plated and is suitable for reflow soldering installation.

Use restriction parameter ¹	
Maximum drain voltage	+10 V
Input power	+20dBm
Operating temperature	-55 ~ +85°C
Storage temperature	-65 ~ +150°C

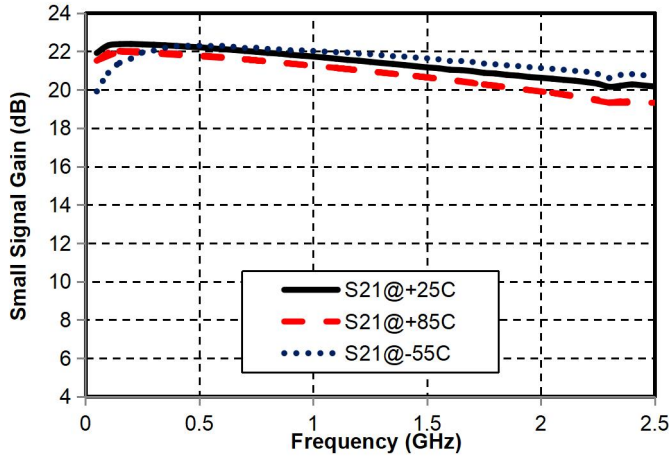
【1】 Exceeding any of these maximum limits may cause permanent damage.

Electrical performance parameters (TA = +25°C, Vd = +5V)				
Index	Minimum	Typical Value	Maximum	Unit
Frequency Range	0.05-2.5			G Hz
Small Signal Gain		21		dB
Gain Flatness		± 1.1		dB
Input return loss		9.5		dB
Output return loss		11	-	dB
Reverse Isolation	-	26	-	dB
P -1 dB		19.5		dBm
Psat		20		dBm
OI P3 (Pout=+5dBm/tone , $\Delta f = 5$ MHz)		35		dBm
Noise Figure	-	1.0	-	dB
Quiescent Current		85		mA

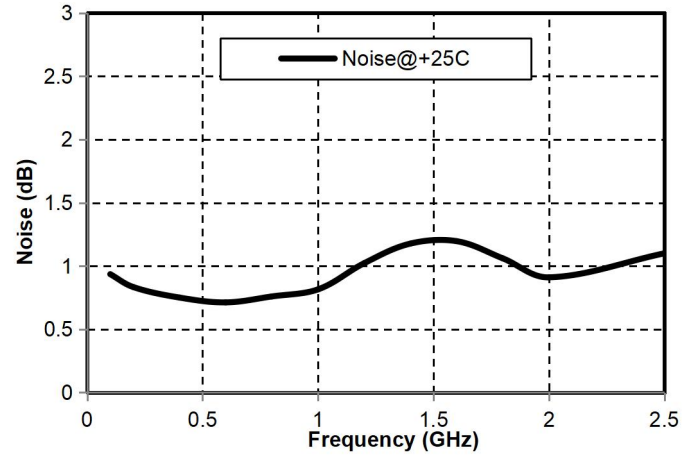
Gain Block Chip, 0.05 - 2.5 GHz

Test curve

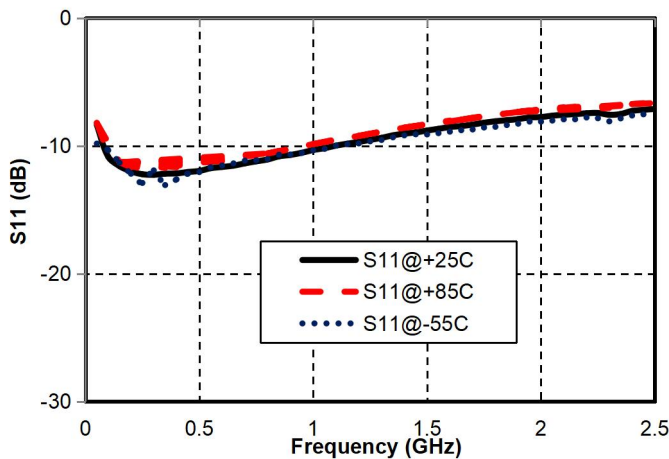
Gain vs. Frequency



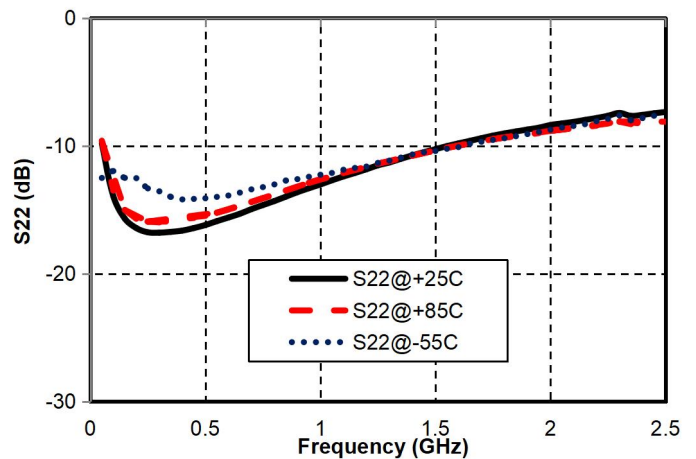
Noise Figure vs. Frequency



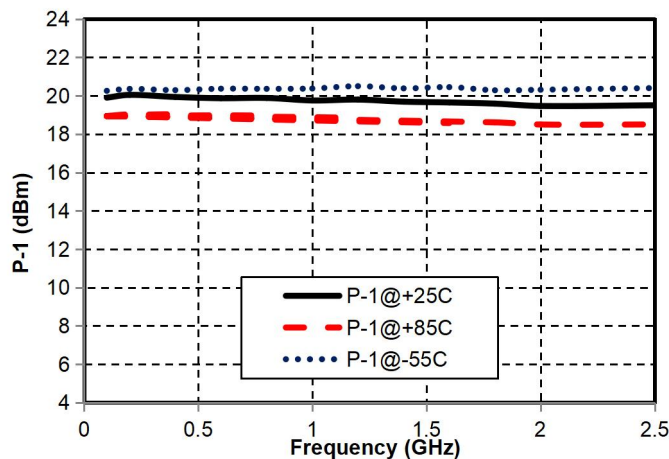
Input Return Loss vs. Frequency



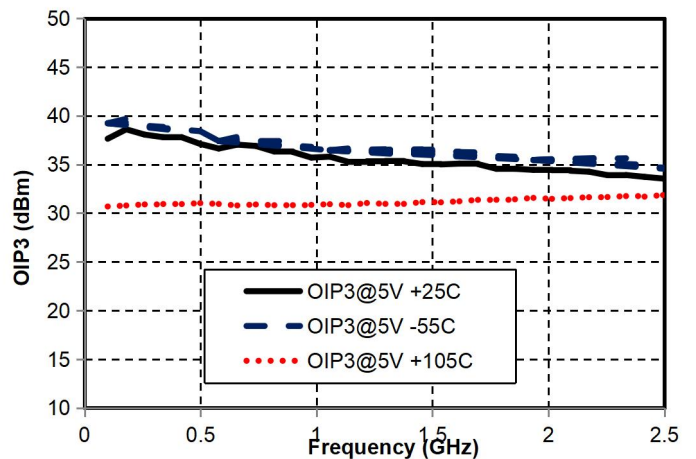
Output Return Loss vs. Frequency



P-1dB vs. Frequency

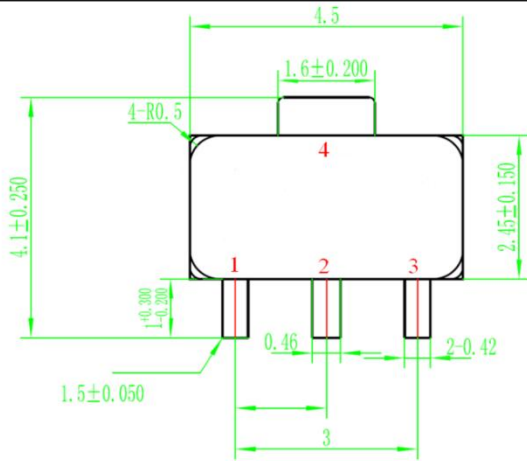


OIP3 vs. Frequency

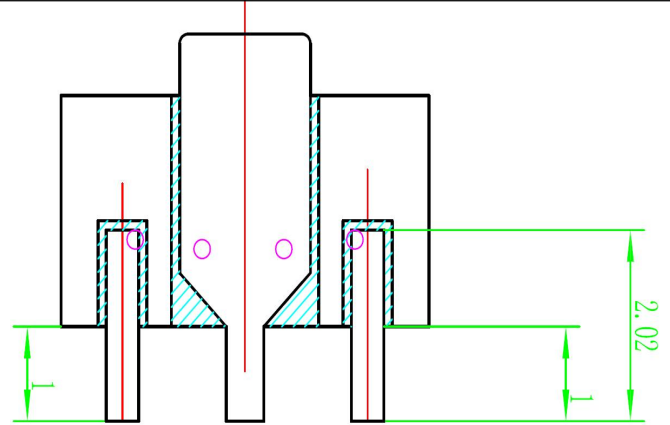


Gain Block Chip, 0.05 - 2.5 GHz

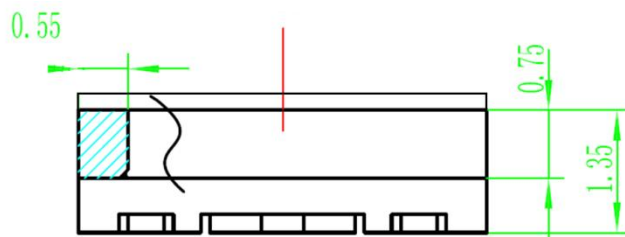
Appearance structure (SOT-89)



Top view



Bottom view



Side View

All units in the figure are millimeters

Pin Definition

Pad number	Function Symbol	Functional Description
1	RFIN	RF signal input terminal; an external DC blocking capacitor is required .
3	RFOUT	RF signal output terminal; amplifier leakage bias, bias the circuit at the output terminal through an external choke inductor ; an external DC blocking capacitor is required .
2, 4	GND	The bottom of the chip needs to be well grounded to RF and DC .

Gain Block Chip, 0.05 - 2.5 GHz

Recommended bias circuit

