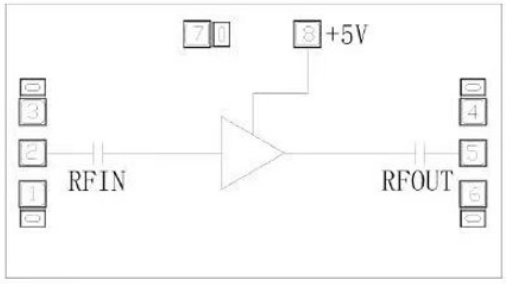
GaAs MMIC
Low Noise Amplifier
6-12GHz

Features

- Singles Basing Voltage (Self Biased)
- Frequency: 6-12GHz
- Gain: 23.5dB
- Gain Flatness: ±0.2dB
- Noise Figure: 0.7dB
- P1dB: 13.5dBm
- Psat: 14.5dBm
- OIP3：26dBm
- Power Supply: +5 V@34 mA
- Die Size: 1.85 x 1.05 x 0.1 mm



Typical Applications

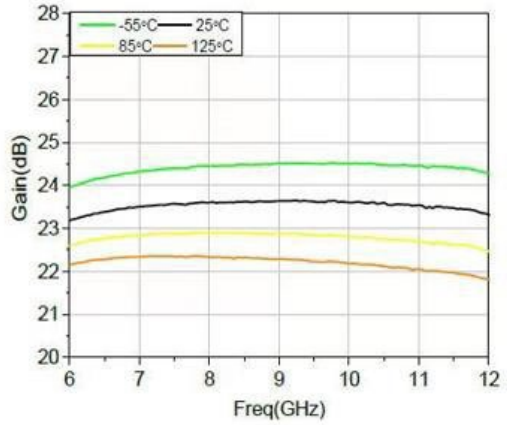
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications

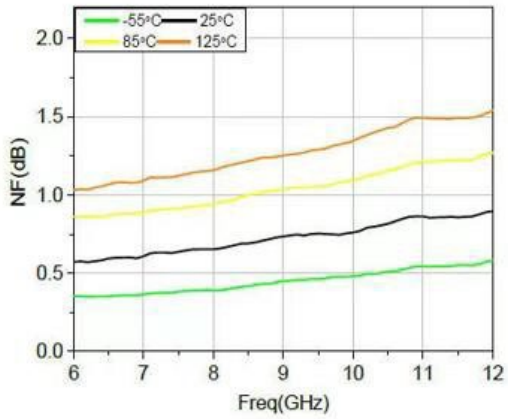
TA = +25°C, VD= +5V, Idd=34mA

Parameters	Min.	Typ.	Max.	Units
Frequency		**6-12**		**GHz**
Gain		**23.5**		**dB**
Gain Flatness		**±0.2**		**dB**
Noise Figure		**0.7**		**dB**
P1dB		**13.5**		**dBm**
Input RL		**-15**		**dB**
Output RL		**-15**		**dB**
Psat		**14.5**		**dBm**
OIP3		**26**		**dBm**
Idd		**34**		**mA**

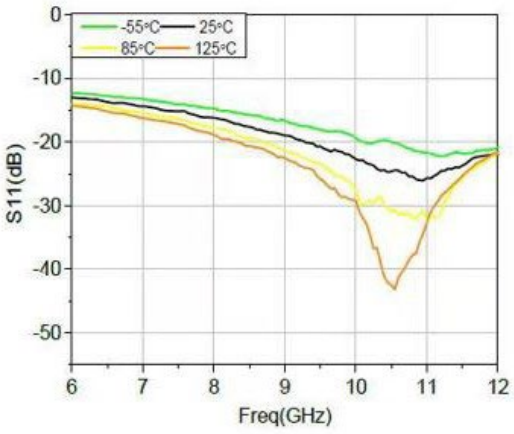
Gain vs. Frequency



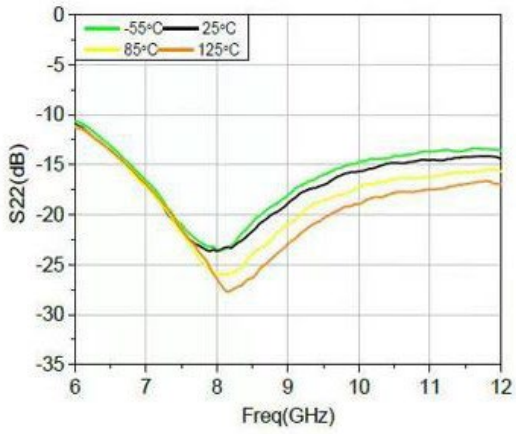
NF vs. Frequency



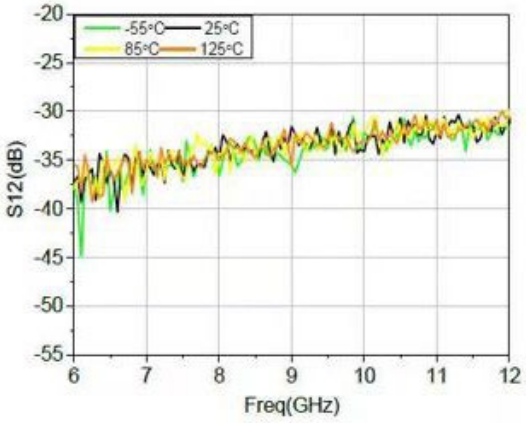
S11 vs. Frequency



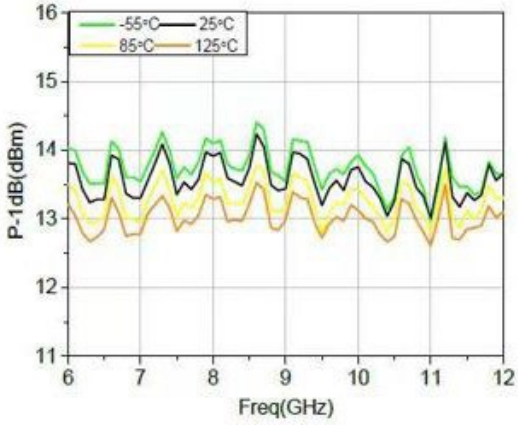
S22 vs. Frequency



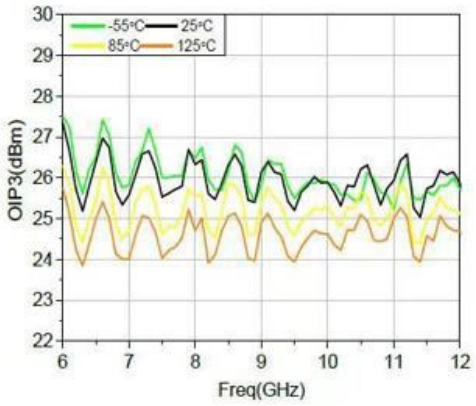
S12 vs. Frequency



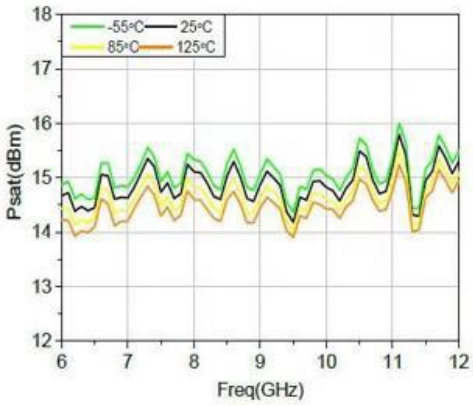
P1dB vs. Frequency



OIP3 vs. Frequency



Psat vs. Frequency

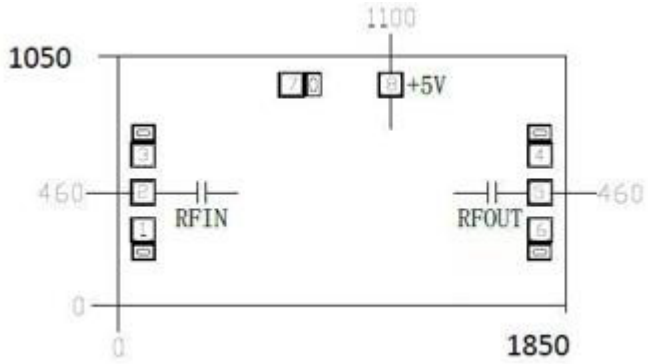


Pad Description

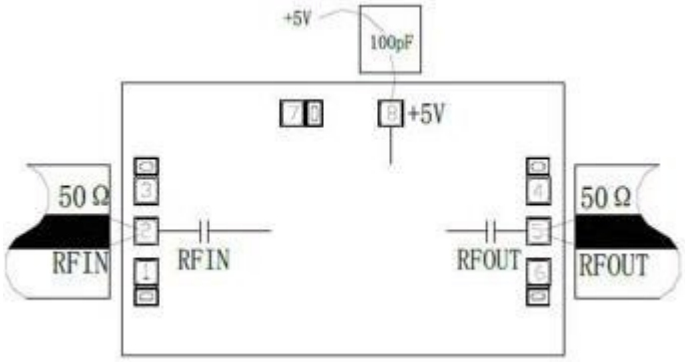
Pad	Function	Description
2	RF IN	RF signal input, 50 ohm matched, DC-blocking capacitor not needed
5	OUT	RF signal output, 50 ohm matched, DC-blocking capacitor not needed
8	VD	This pad provides the power supply voltage of the amplifier and needs to be connected to external 100pF capacitor.
1,3,4,6,7	GND	GND for probe test.
Die bottom	GND	Die bottom must be connected to RF/DC ground.

Outline Drawing:

All Dimensions in µm



Assembly Drawing



Notes:

1. Die thickness: 100um
2. Typical bond pad is 100*100 µm²
3. Bond pad metalization: Gold
4. Backside metalization: Gold
5. Backside of the die (GND)
6. Outline dimension tolerance: 50um

Maximum Ratings:

1. Control voltage: +6V
2. Input power: +15dBm
3. Operating temperature: -55℃ to +125℃
4. Storage temperature: -65℃ to +150℃
5. Junction temperature (30s, N2 protection): 300℃