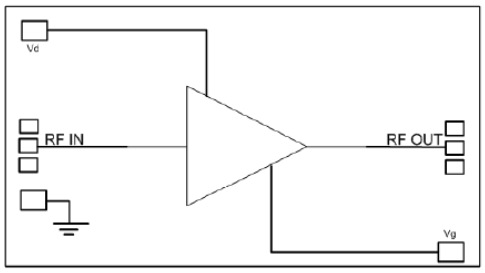
Features

- Frequency: 0.1-18GHz
- Small Signal Gain: 15.5dB
- Noise Figure: 1.5dB typ./2.0dB max.
- P1dB: 18dBm
- Power Supply: +5V/35mA
- Input/Output: 50Ω
- Die Size: 1.0 x 0.8 x 0.1 mm

Functional Block Diagram



Typical Applications

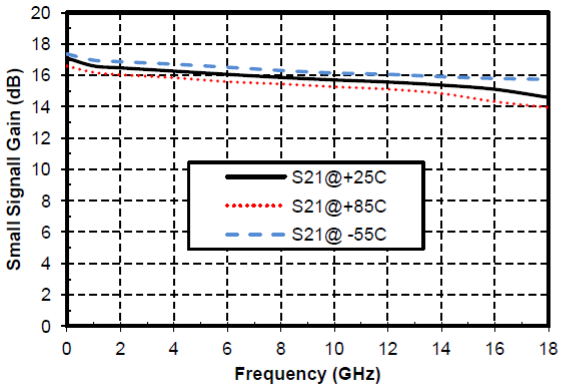
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications

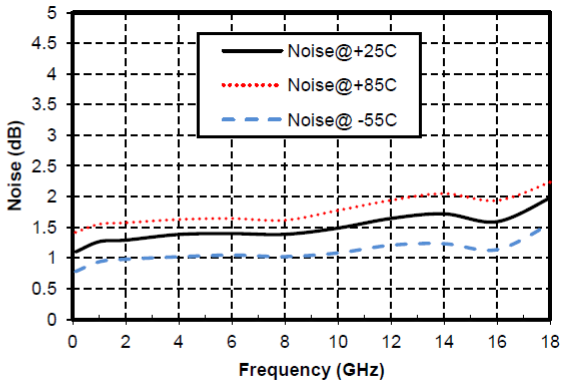
TA = +25ºC, Vd = +5V

Parameters	Min.	Typ.	Max.	Units
Frequency		0.1-18		GHz
Small Signal Gain	14.5	15.5	17	dB
Gain Flatness		±1.75		dB
Noise Figure	-	1.5	2.0	dB
Output 1dB Compression (P1dB)	17	18	18.5	dBm
Input Return Loss	16	18	-	dB
Output Return Loss	13	19	-	dB
Static current		35		mA

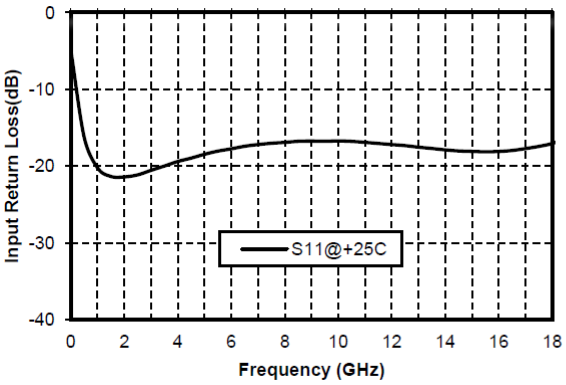
Gain vs. Frequency



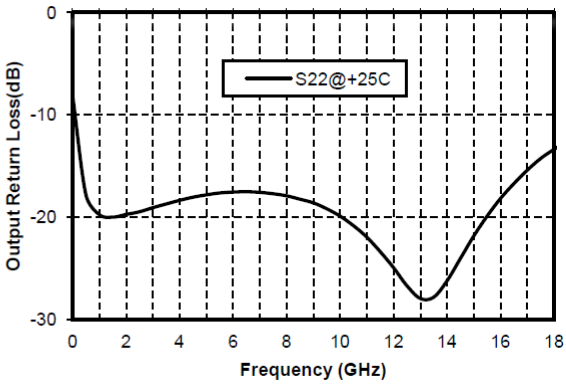
Noise Figure vs. Frequency



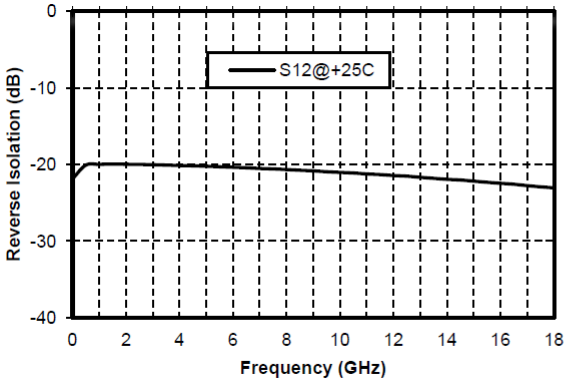
Input Return Loss vs. Frequency



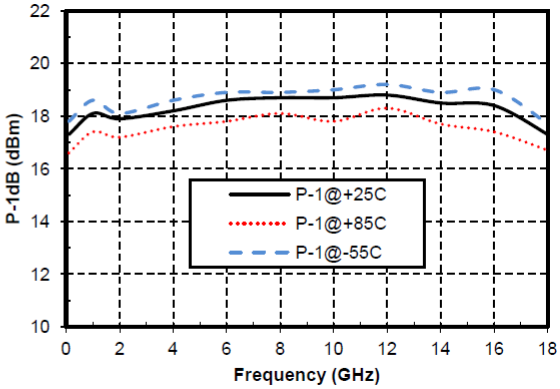
Output Return Loss vs. Frequency



Reverse Isolation vs. Frequency

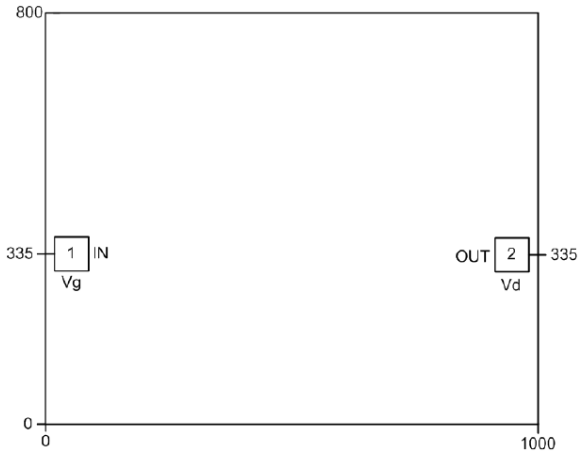


P1dB vs. Frequency



Outline Drawing:

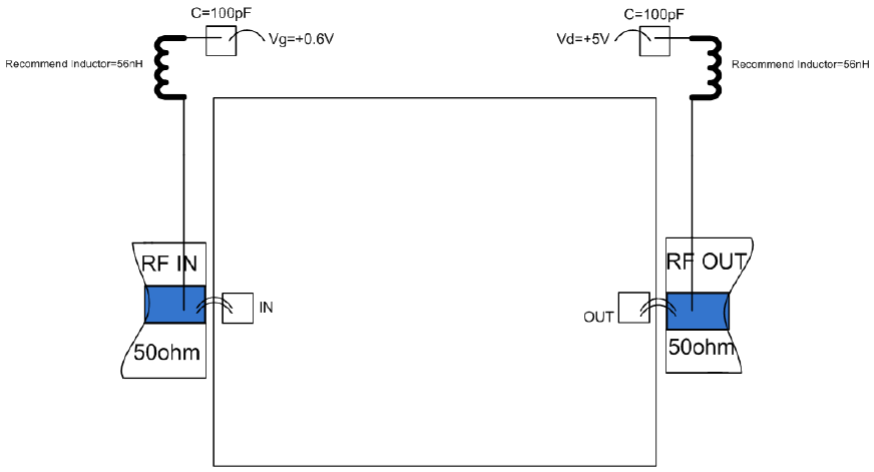
All Dimensions in µm



Pad Description

Pad	Function	Description
1	RF IN, Vg	RF signal input terminal; Amplifier gate bias, external 56nH winding inductor and 100pF bypass capacitor required; DC blocking capacitor required.
2	RF OUT, Vd	RF signal output terminal; Amplifier drain bias, external 56nH winding inductor and 100pF bypass capacitor required; DC blocking capacitor required.
Die bottom	GND	Die bottom must be connected to RF/DC ground.

Assembly Drawing



Notes:

1. Die thickness: 100um
2. Typical bond pad is 100*100 μm^2
3. Bond pad metalization: Gold
4. Backside metalization: Gold
5. Backside of the die (GND)
6. No connection required for unlabeled bond pads

Maximum Ratings:

1. Maximum drain voltage: +7V
2. Maximum input power: +20dBm
3. Operating temperature: -55℃ to +85℃
4. Storage temperature: -65℃ to +150℃