

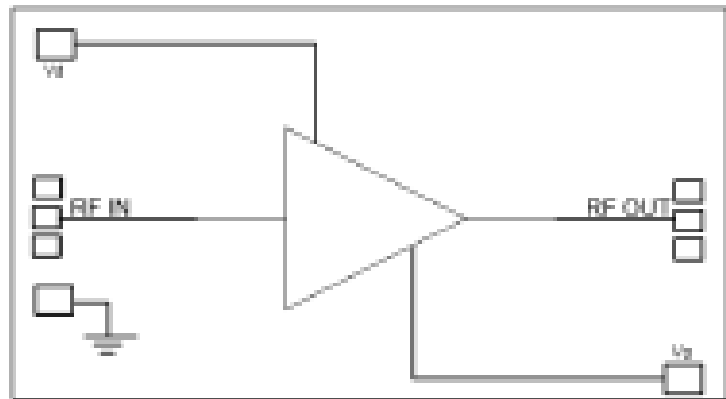
### Features

- Frequency: DC-20GHz
- Small Signal Gain: 18dB
- Noise Figure: 2.0dB typ./3.5dB max.
- P1dB: 16dBm
- Power supply: +8V/80mA
- Input/Output: 50Ω
- Die Size: 3.3 x 1.3 x 0.1 mm

### Typical Applications

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

### Functional Block Diagram



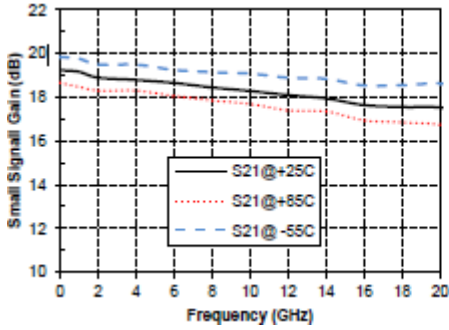
### Electrical Specifications

TA = +25°C, Vd = +8V

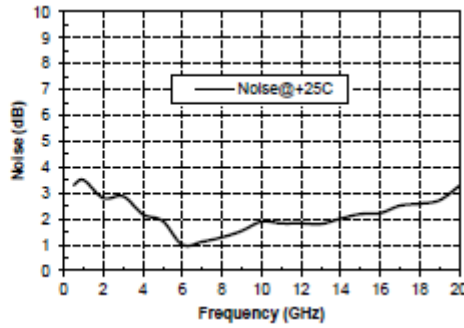
Parameters	Min.	Typ.	Max.	Units
Frequency	DC-20			GHz
Small Signal Gain	17.5	18	19	dB
Gain Flatness		±0.75		dB
Noise Figure	-	2.0	3.5	dB
Output 1dB Compression (P1dB)	15.5	16	17	dBm
Input Return Loss		22		dB
Output Return Loss		20		dB
Static Current		80		mA



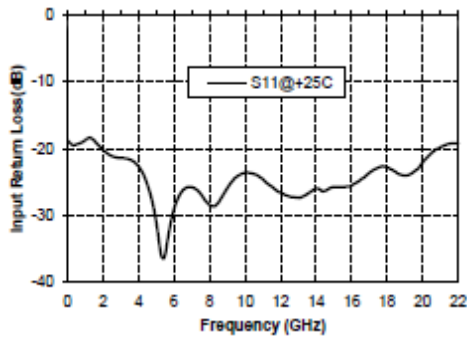
### Gain vs. Frequency



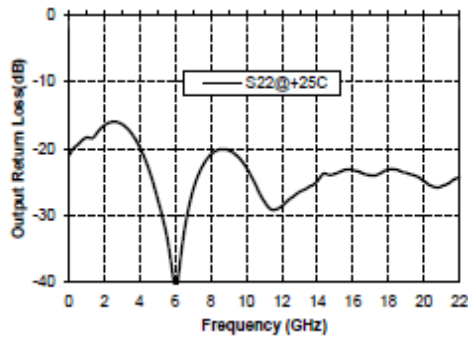
### Noise Figure vs. Frequency



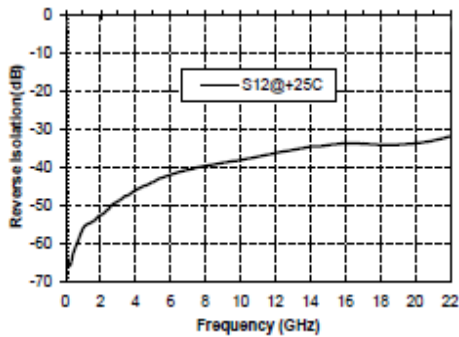
### Input Return Loss vs. Frequency



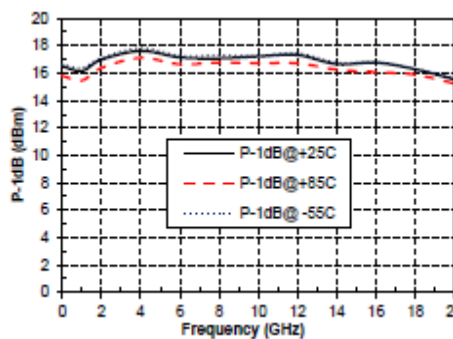
### Output Return Loss vs. Frequency



### Reverse Isolation vs. Frequency

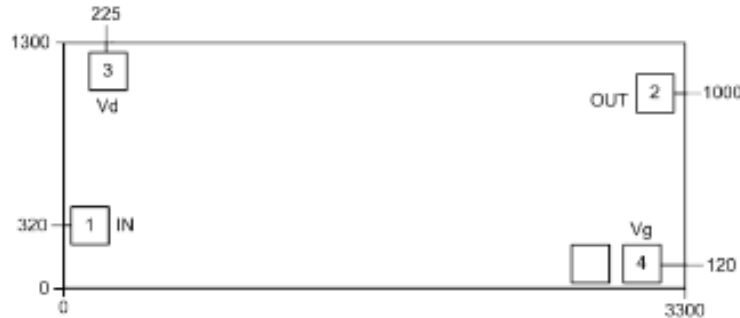


### P1dB vs. Frequency





**Outline Drawing:**  
All Dimensions in  $\mu\text{m}$

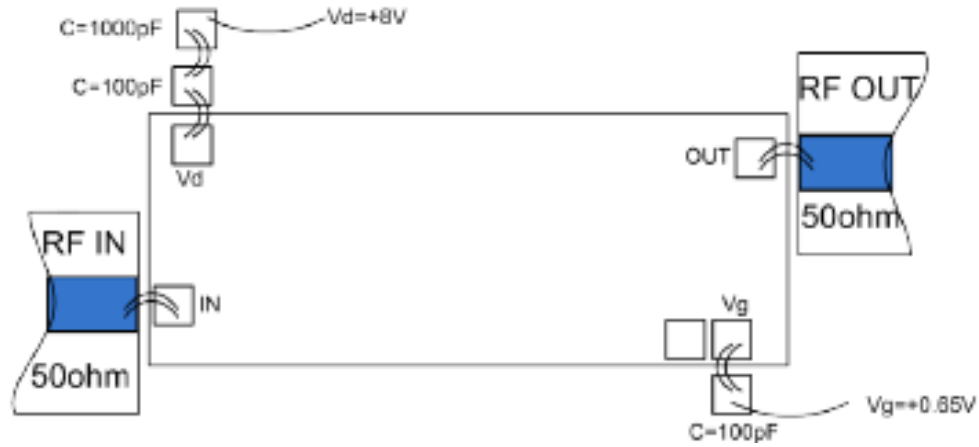


**Pad Description**

Pad	Function	Description	Equivalent Circuit
1	RF IN	RF signal input terminal; blocking capacitor required.	RF IN
2	RF OUT	RF signal output terminal; blocking capacitor required.	RF Out
3	VD	Amplifier drain bias; external 100pF bypass capacitor required.	
4	VG	Amplifier gate bias; external 100pF bypass 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  $\mu\text{m}^2$
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: +12V
2. Maximum input power: +20dBm
3. Operating temperature: -55°C to +85°C
4. Storage temperature: -65°C to +150°C