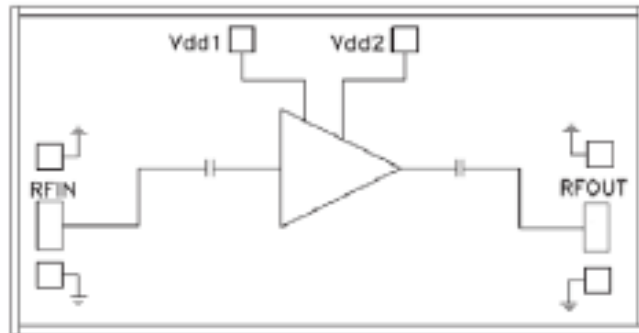


**Features**

- Frequency: 12-20GHz
- Small Signal Gain: 18dB
- Noise Figure: 1.8 dB typ.
- Noise Figure: 2.4 dB max.
- P1dB: 17dBm
- Power supply: +5V/60mA
- Input/Output: 50Ω
- Die Size: 2.0 x 1.0 x 0.1 mm

**Functional Block Diagram**

**Typical Applications**

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

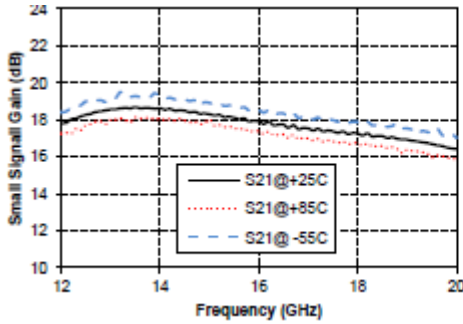
**Electrical Specifications**

TA = +25°C, Vd = +5V

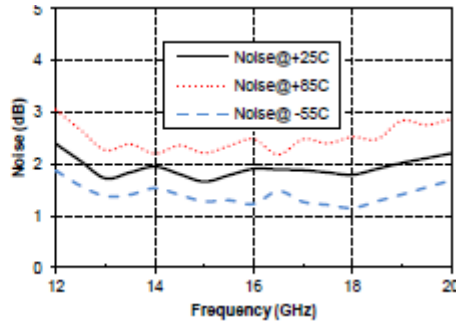
Parameters	Min.	Typ.	Max.	Units
Frequency	12-20			GHz
Small Signal Gain	16.5	18	18.5	dB
Gain Flatness		±1.0		dB
Noise Figure	1.6	1.8	2.4	dB
Output 1dB Compression (P1dB)	13.5	17	18.5	dBm
OIP3	24.5	27	28.2	dBm
Input Return Loss		10		dB
Output Return Loss		12		dB
Static current		60		mA



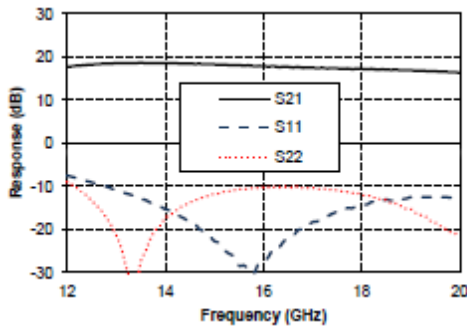
### Gain vs. Frequency



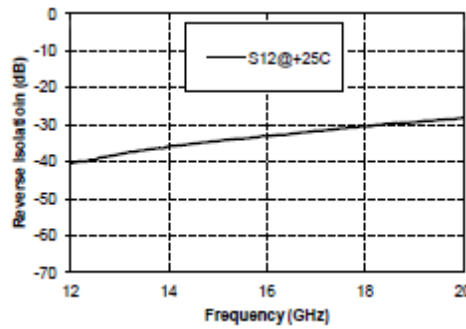
### Noise Figure vs. Frequency



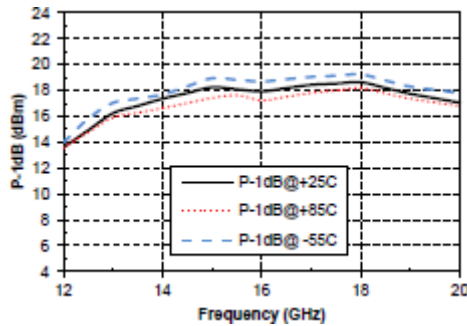
### Gain & Input Return Loss vs. Frequency



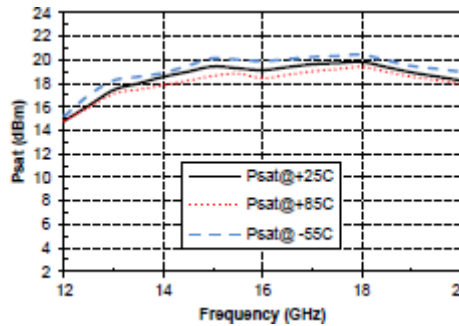
### Reverse Isolation vs. Frequency



### P1dB vs. Frequency

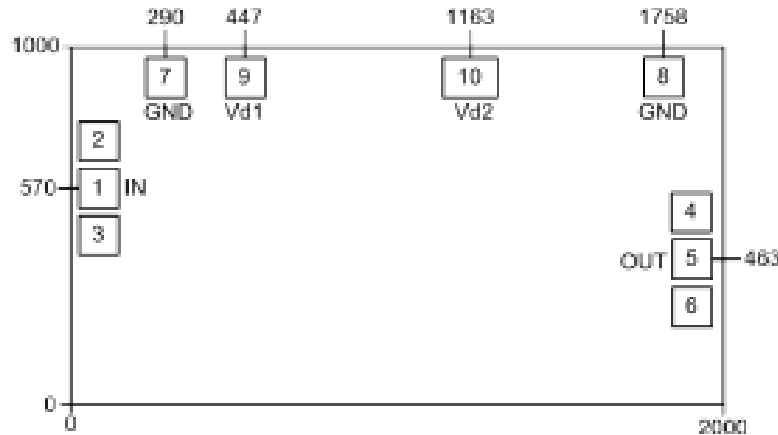


### Psat vs. Frequency





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

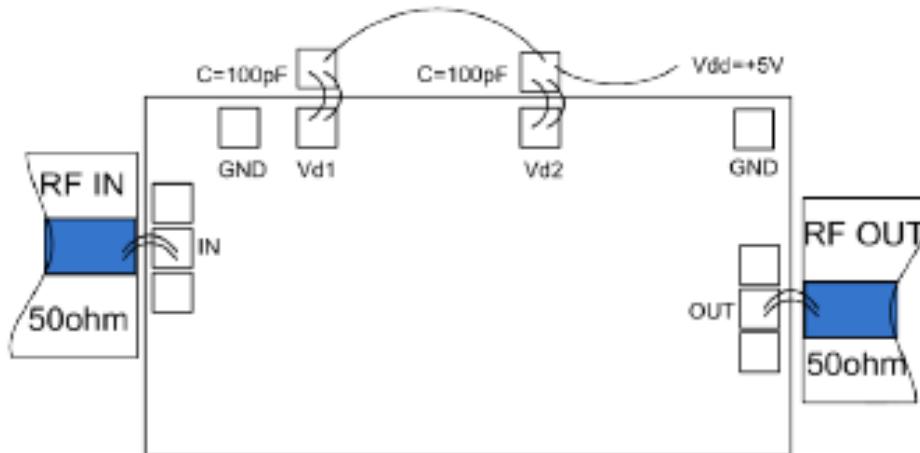


**Pad Description**

Pad	Function	Description	Equivalent Circuit
1	RF IN	RF signal input terminal, no blocking capacitor required.	
5	RF OUT	RF signal output terminal, no blocking capacitor required.	
9	Vd1	Amplifier drain bias; external 100pF bypass capacitor required.	
10	Vd2	Amplifier drain bias; external 100pF bypass capacitor required.	
2, 3, 4, 6, 7, 8	GND	Ground point for probe test.	
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: +7V
2. Maximum input power: +20dBm
3. Operating temperature: -55°C to +85°C
4. Storage temperature: -65°C to +150°C