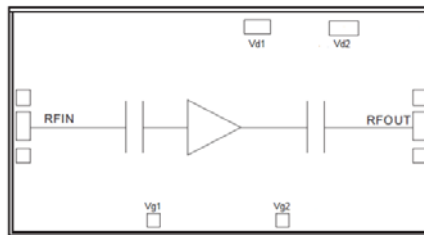


**Features**

- Frequency: 8-12GHz
- Small Signal Gain: 24.5dB
- Gain Flatness:  $\pm 0.6$ dB
- P-1dB: 34dBm
- Psat: 34.5dBm
- Power Supply: +8V@550mA
- Input/Output: 50 $\Omega$
- Die Size: 2.85 x 2.25 x 0.1 mm

**Functional Block Diagram**

**Typical Applications**

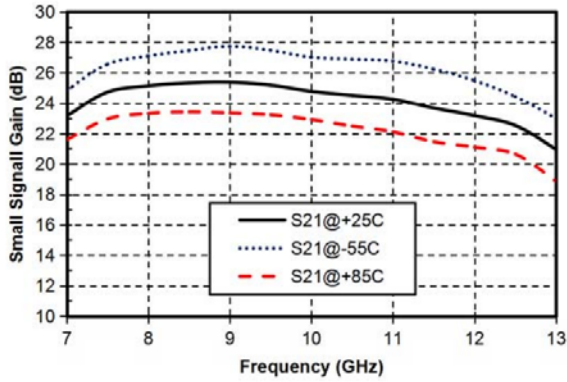
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

**Electrical Specifications**
**TA = +25°C, Vd = +8V, \*Ids=550mA**

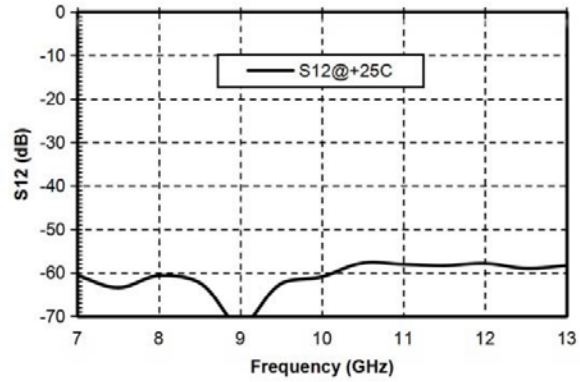
Parameters	Min.	Typ.	Max.	Units
<b>Frequency</b>		<b>8-12</b>		<b>GHz</b>
<b>Small Signal Gain</b>	-	<b>24.5</b>	-	<b>dB</b>
<b>Gain Flatness</b>		<b><math>\pm 0.6</math></b>		<b>dB</b>
<b>P-1dB</b>	-	<b>34</b>	-	<b>dBm</b>
<b>Psat</b>	-	<b>34.5</b>	-	<b>dBm</b>
<b>Input Return Loss</b>	-	<b>15</b>	-	<b>dB</b>
<b>Output Return Loss</b>	-	<b>10</b>	-	<b>dB</b>
<b>Quiescent Current</b>	-	<b>550</b>	-	<b>mA</b>
<b>* Adjust VG (-2V-0V), Recommended Vg -0.8V.</b>				



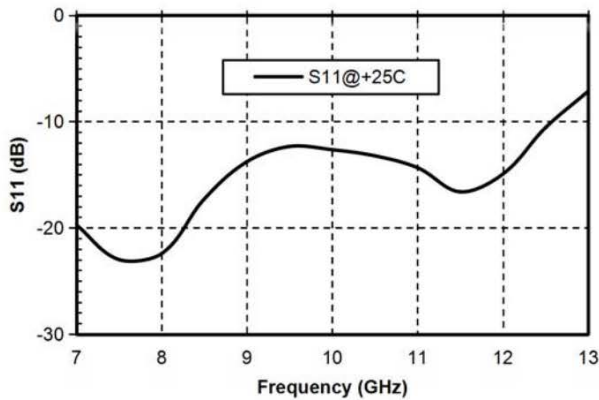
### Gain vs. Frequency



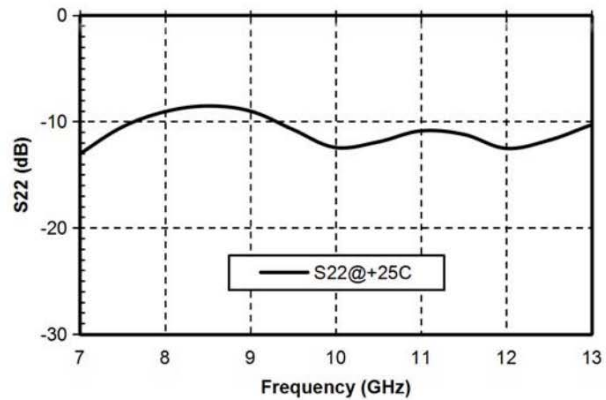
### Isolation vs. Frequency



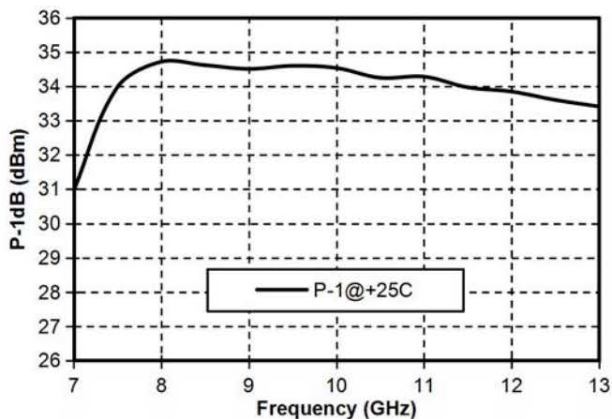
### Input Return Loss vs. Frequency



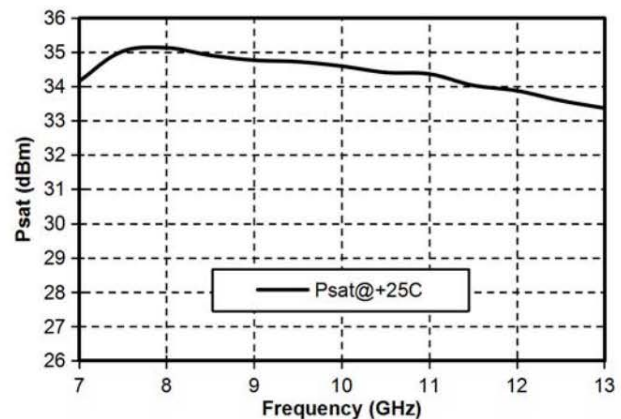
### Output Return Loss vs. Frequency



### P-1dB vs. Frequency

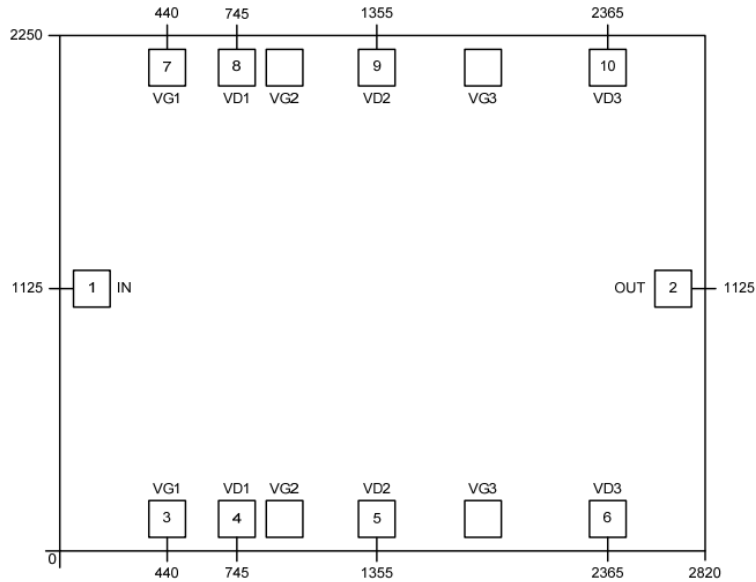


### Psat vs. Frequency





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

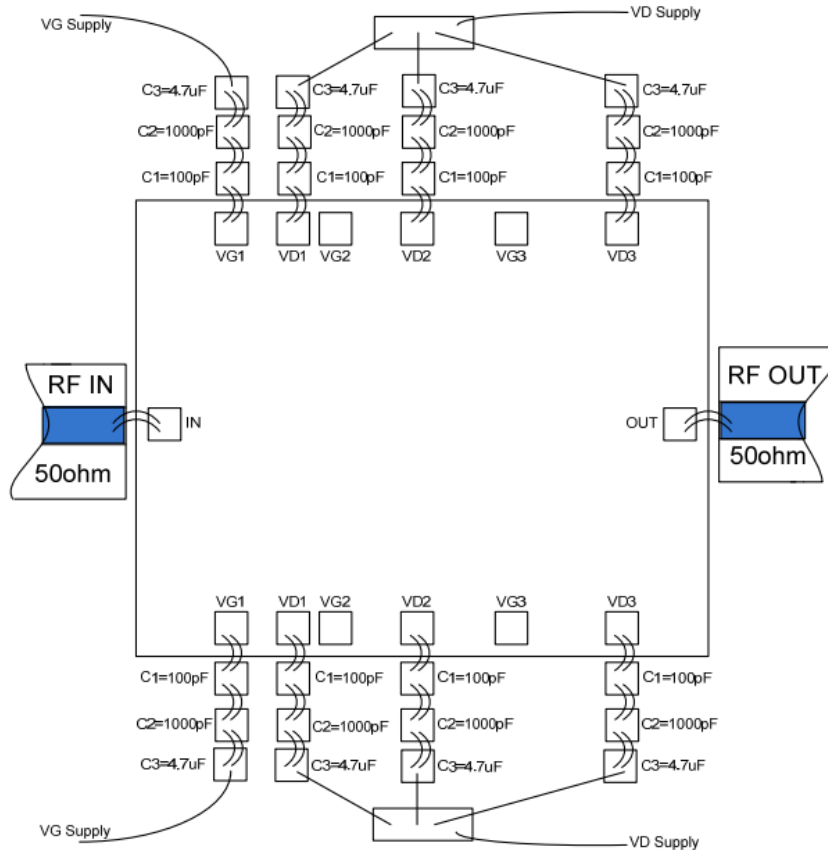


**Pad Description**

Pad	Function	Description
1	RF IN	Signal input terminal; no blocking capacitor required.
2	RF OUT	Signal output terminal; no blocking capacitor required.
4, 5, 6, 8, 9, 10	Vd1, Vd2	Amplifier drain bias; external 100pF, 1000pF, 4.7uF bypass capacitor required.
3, 7	Vg1, Vg2	Amplifier gate bias; external 100pF, 1000pF, 4.7uF bypass capacitor required.
Die bottom	GND	Die bottom must be connected to RF/DC ground.



### Assembly Drawing



Note:  
 C1 100pF  
 C2 1000pF  
 C3 4.7uF

#### 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: +10V
2. Maximum input power: +25dBm
3. Operating temperature: -55°C to +85°C
4. Storage temperature: -65°C to +150°C