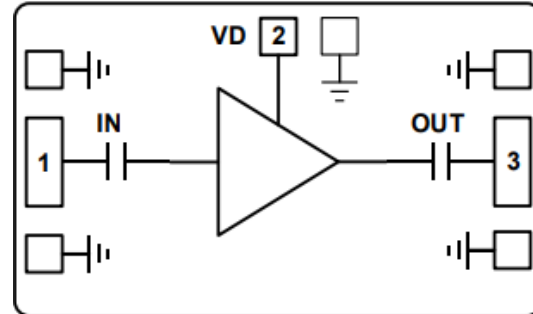


**Features**

- Single Biasing Voltage (Self Biased)
- Operating Frequency: 18-40GHz
- Gain: 20dB@+5V; 19.5dB@+4V
- P1dB: +16dBm@+5V; +14dBm@+4V
- Psat:17.5 dBm @ +5 V; +15.5 dBm @ +4 V;
- Noise figure:2.5 dB @ +5 V; 2.3 dB @ +4 V;
- Power Supply: +5 V @ 69 mA; +4 V @ 52 mA
- Input/Output: 50Ω
- Die Size: 1.5x 0.8x 0.1 mm

**Typical Applications**

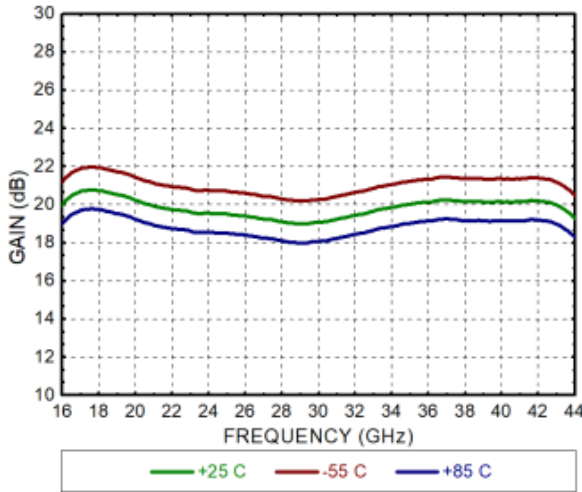
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

**Functional Block Diagram**

**Electrical Specifications**

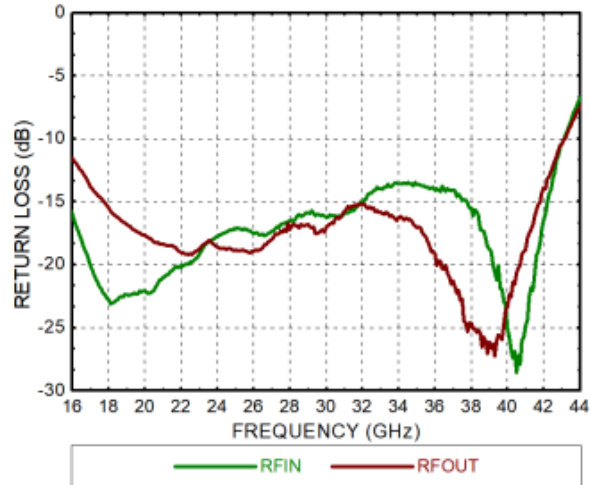
TA = +25°C

Parameters	VDD=+5V			VDD=+4V			Units
	Min	Typ.	Max	Min	Typ.	Max	
<b>Frequency</b>	<b>18-40</b>			<b>18-40</b>			<b>GHz</b>
<b>Gain</b>		<b>20</b>			<b>19.5</b>		<b>dB</b>
<b>Gain Flatness</b>		<b>±1</b>			<b>±0.8</b>		<b>dB</b>
<b>Input Return Loss</b>		<b>15</b>			<b>15</b>		<b>dB</b>
<b>Output Return Loss</b>		<b>15</b>			<b>15</b>		<b>dB</b>
<b>P1dB</b>		<b>16</b>			<b>14</b>		<b>dBm</b>
<b>Psat</b>		<b>17.5</b>			<b>15.5</b>		<b>dBm</b>
<b>OIP3</b>		<b>26</b>			<b>24</b>		<b>dBm</b>
<b>NF</b>		<b>2.5</b>			<b>2.3</b>		<b>dB</b>
<b>Operating Current</b>	<b>55</b>	<b>69</b>	<b>85</b>	<b>37</b>	<b>52</b>	<b>68</b>	<b>mA</b>

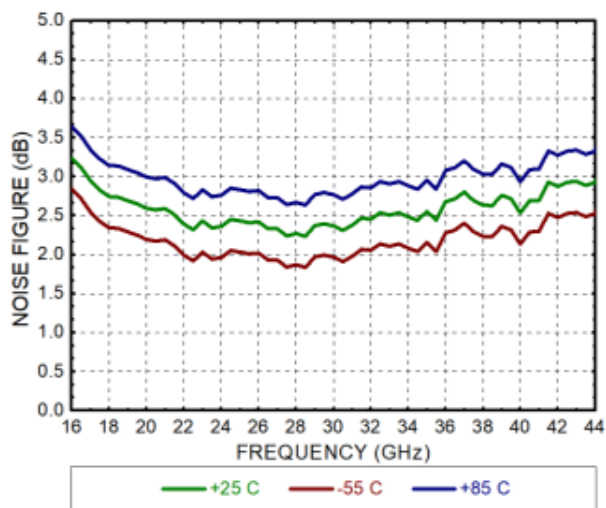
Gain@VDD=+5V



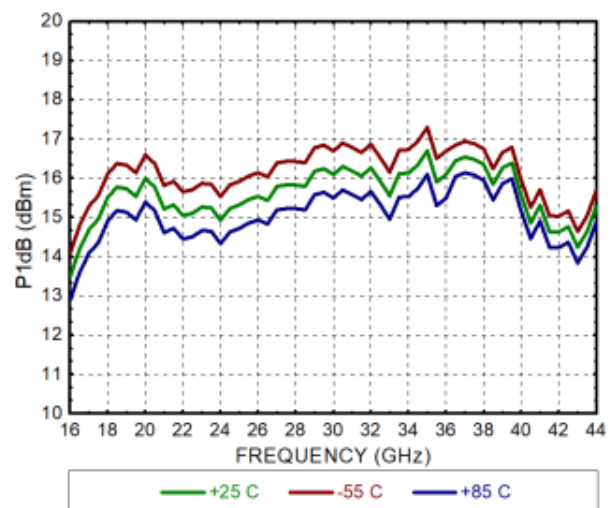
Return Loss@VDD=+5V



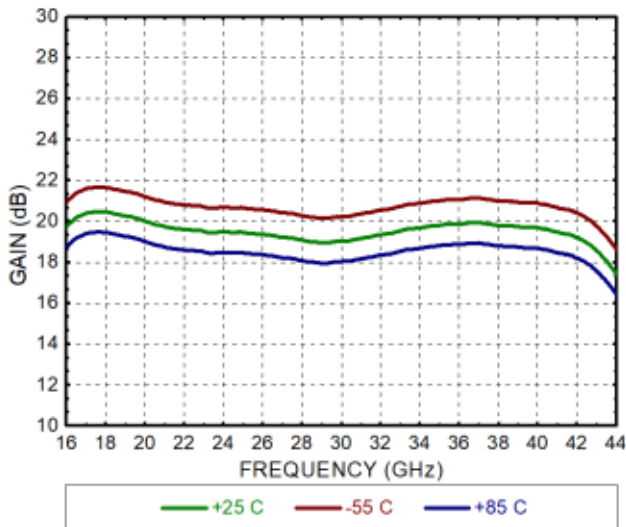
NF@VDD=+5V



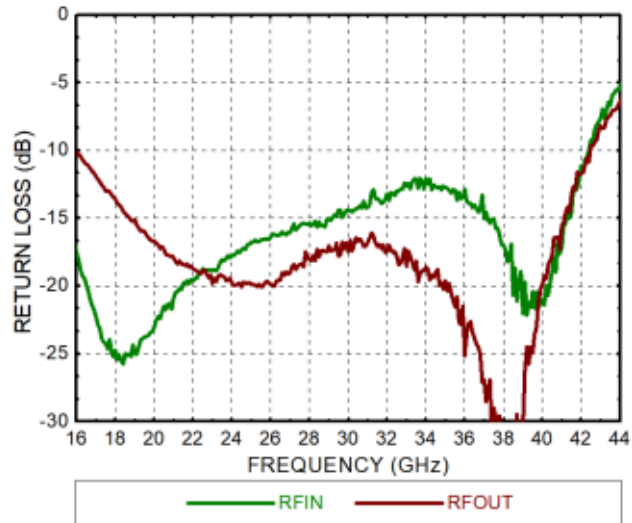
Output Power P-1@VDD=+5V



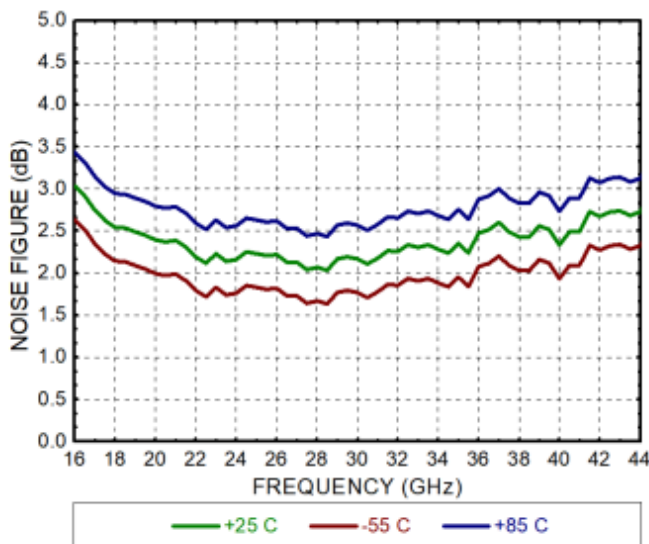
Gain@VDD=+4V



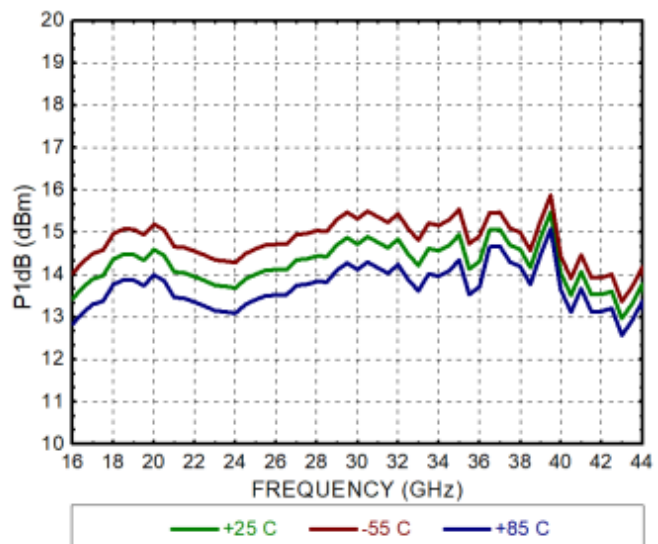
Return Loss@VDD=+4V



NF@VDD=+4V

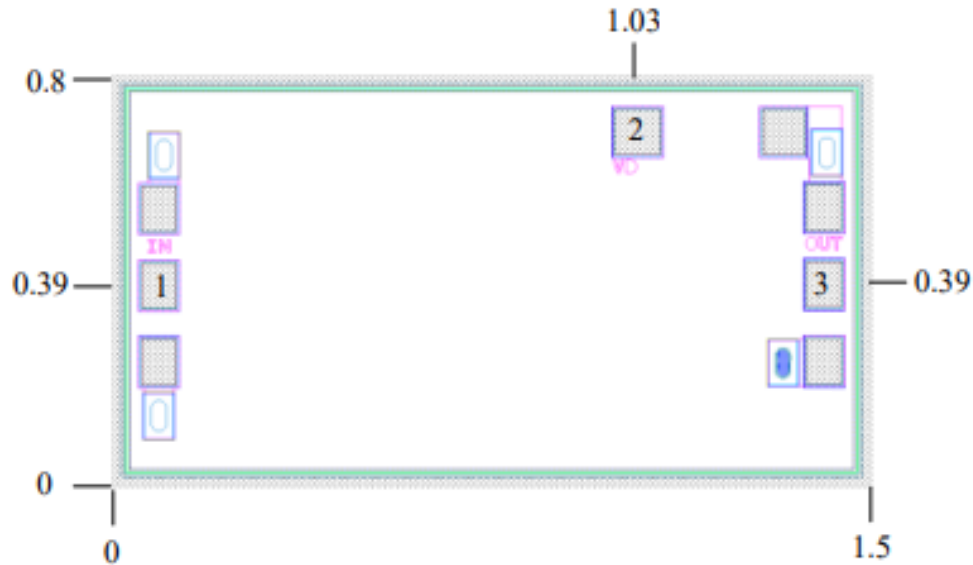


Output Power P-1@VDD=+4V





### Outline Drawing: All Dimensions in mm

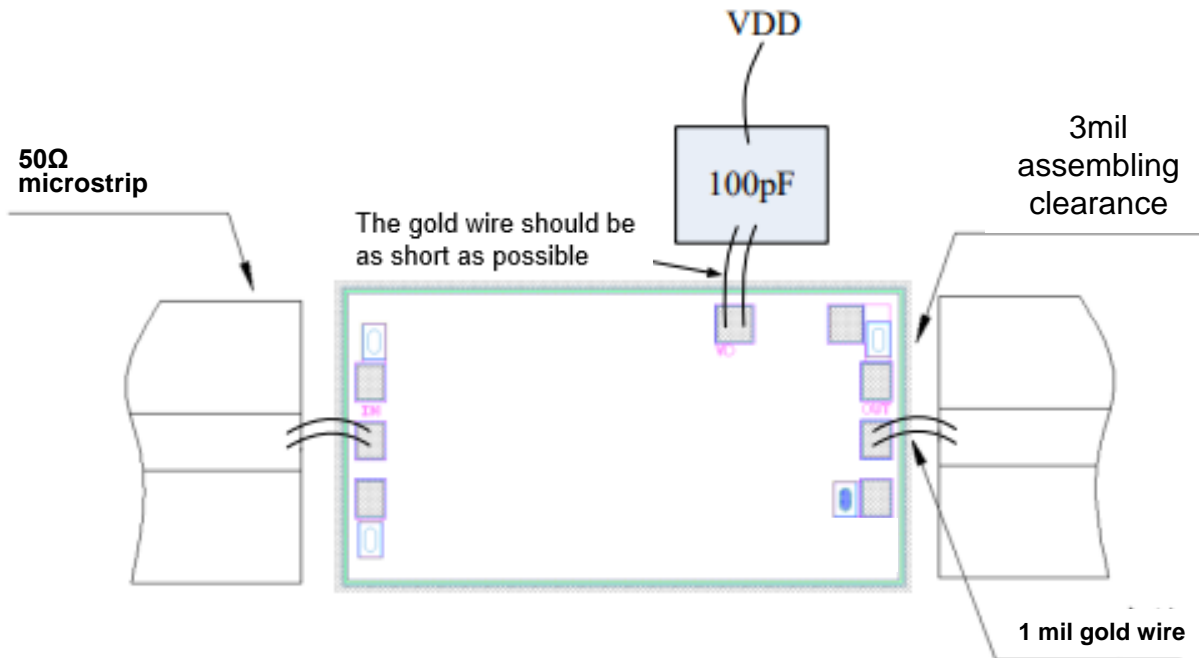


### Pad Description

PAD	Function	Description
1	IN	AC coupling, matched to 50Ω
2	VD	Supply voltage to amplifier, connected to external 100pF bypass capacitor
3	OUT	AC coupling, matched to 50Ω
Back	GND	Die bottom must be connected to RF/DC ground



### Assembly Drawing



#### Notes:

1. Die thickness: 100um
2. Typical bond pad is 100\*80  $\mu\text{m}^2$
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. RF input power: +15dBm
2. Power supply voltage: +6V
3. Operating temperature: -55°C to +85°C
4. Storage temperature: -65°C to +150°C