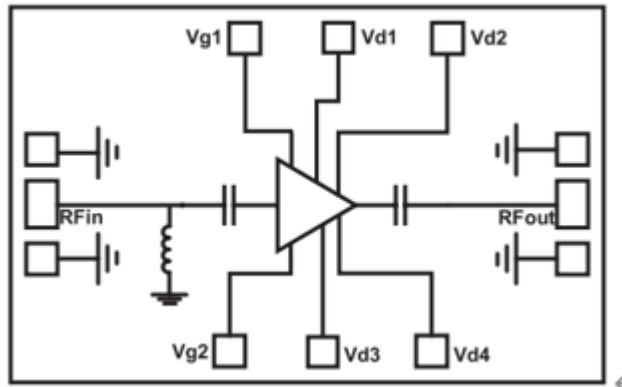


**Features**

- Frequency: 27.5-30GHz
- Gain: 19dB
- P1dB: +35dBm@24%
- OIP3: +41dBm
- Power Supply: 6V@1.8A
- Die Size : 3.5x 4.2 x 0.1 mm

**Typical Applications**

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

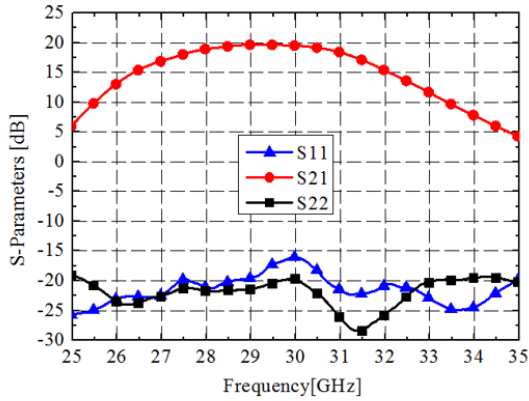
**Functional Block Diagram**

**Electrical Specifications**

TA = +25°C, Vd1 = Vd2 = +6V, Vg = -0.8V , Id1 + Id2 = 1.8A[1]

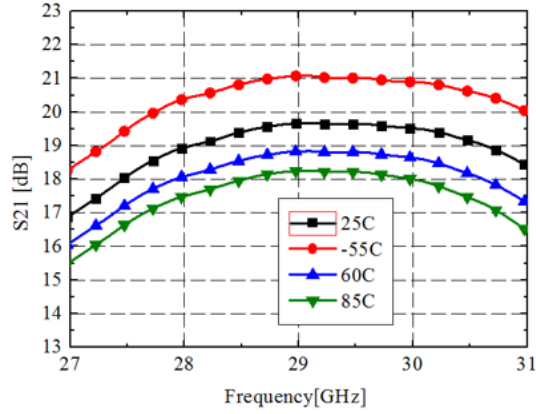
Parameters	Min.	Typ.	Max.	Units
Frequency	27.5-30			GHz
Gain	17.5	19	19.5	dB
Rate of gain change		0.022		dB/°C
P1dB	34	35		dBm
Psat	35	36		dBm
PAE	20	24		%
OIP3	40	41		dBm
Input Return Loss	15			dB
Output Return Loss	20			dB
Operating Current (@Vd = 6V)		1.8		A

[1] Adjust Vg from -1V~0V so that Id=1.8A.

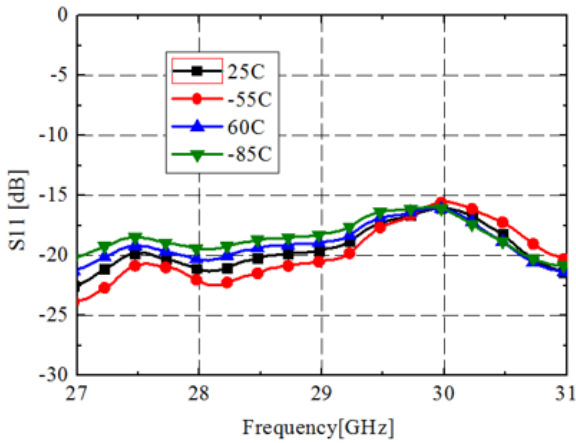
### Frequency Response



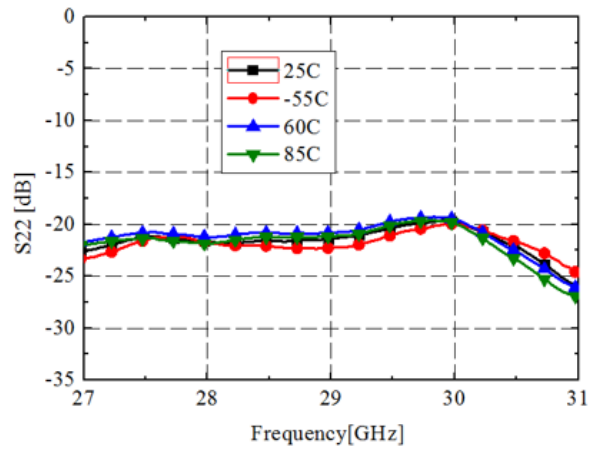
### Gain vs. Temperature



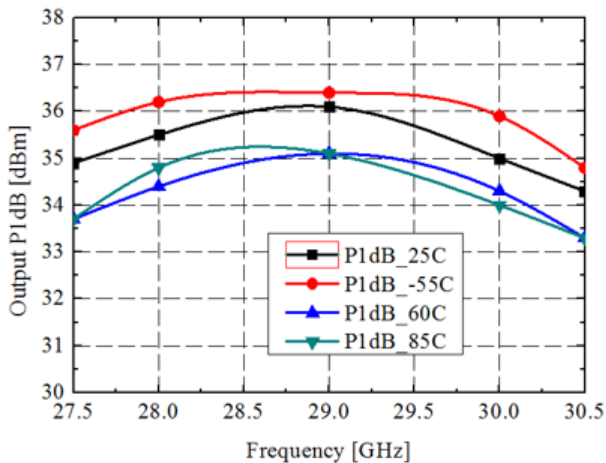
### Input Return Loss vs. Temperature



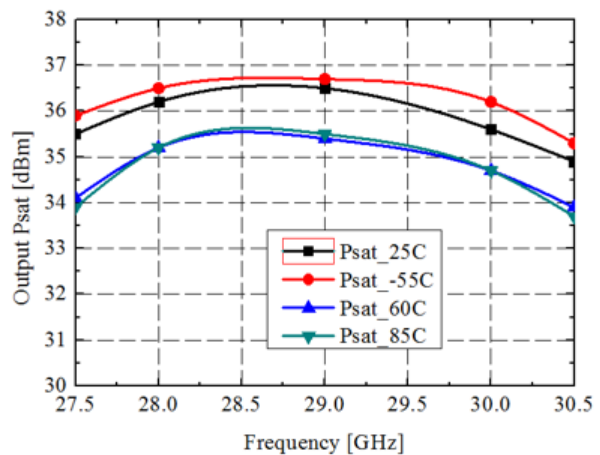
### Output Return Loss vs. Temperature



### P1dB vs. Temperature

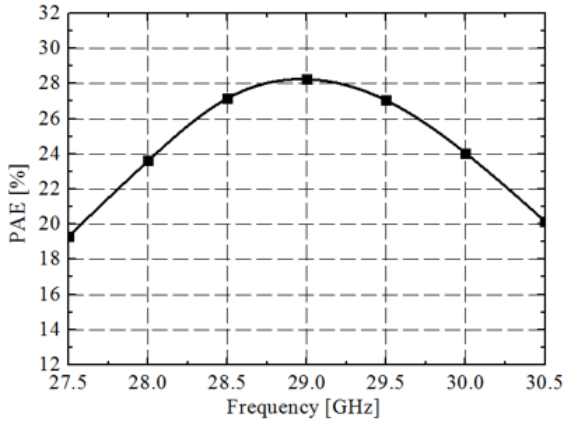


### Psat vs. Temperature

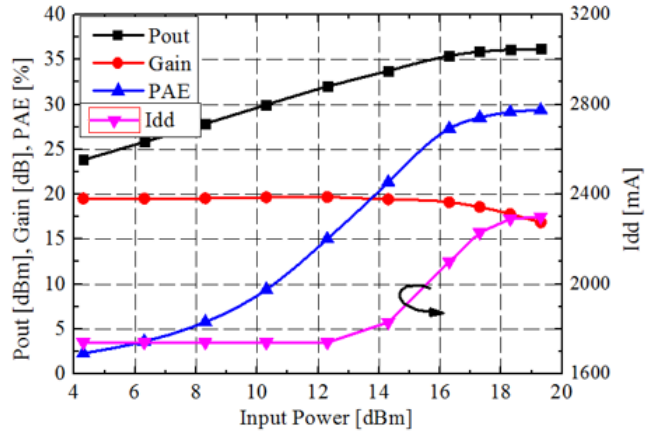




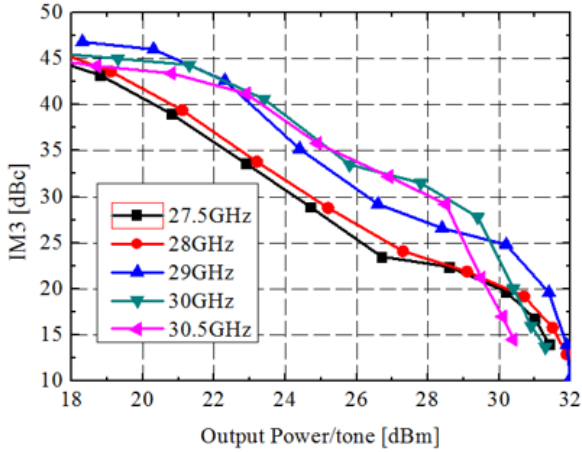
### PAE@P1dB vs. Frequency



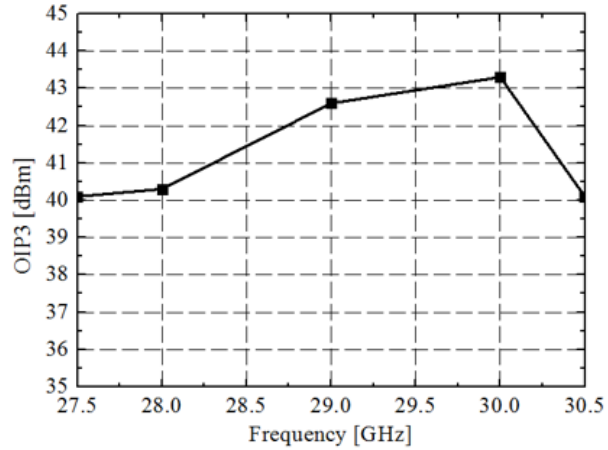
### Gain, Output Power, Idd, PAE vs. Input Power @29GHz



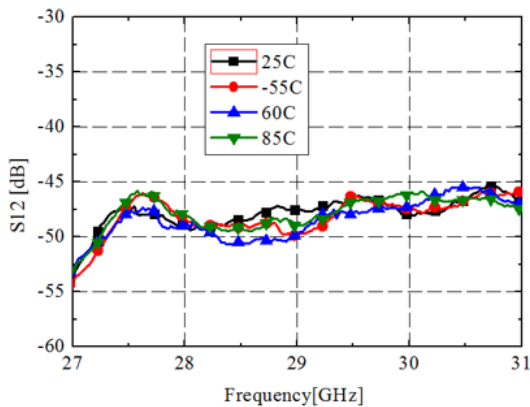
### IMD3 vs. Output Power



### OIP3 vs. Frequency (Pout/Tone = 30dBm)

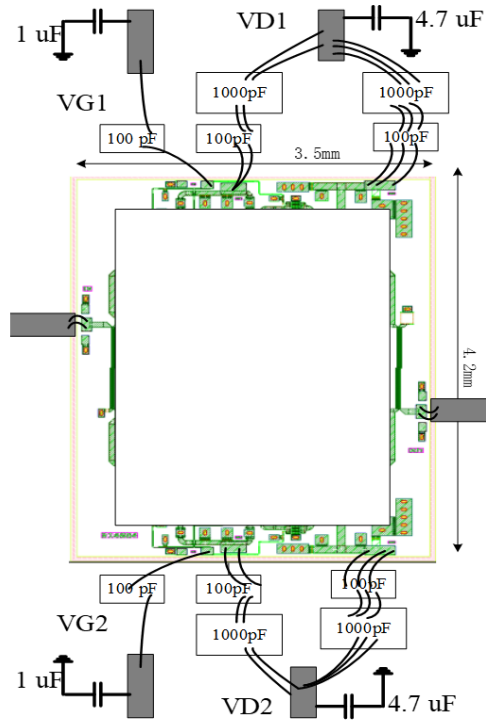


### Reverse Isolation vs. Temperature





### Assembly Drawing (Bond testing)



#### 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. Drain Bias voltage: +6.5V
2. RF Input Power: +25dBm
3. Channel Temperature: 175°C
4. Thermal Resistance: 6°C/W
5. Operating temperature: -55°C to +85°C
6. Storage temperature: -65°C to +150°C