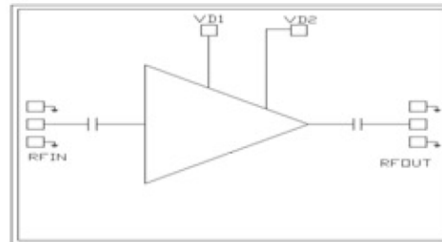
Features

- Frequency: 6-18GHz
- Small Signal Gain: 16.5dB
- P1dB: 27.5dBm
- Psat: 28.5dBm
- Power Supply: +10V/340mA
- Input/Output: 50Ω
- Die Size: 1.85 x 2.28 x 0.1 mm

Functional Block Diagram



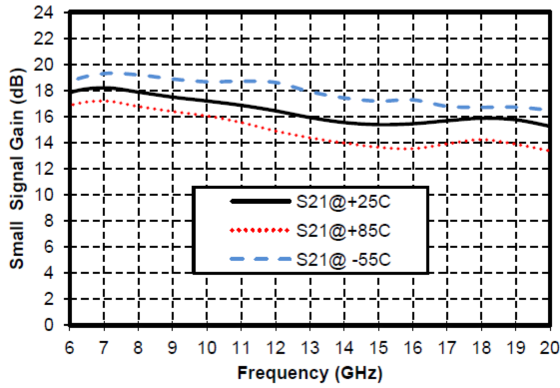
Typical Applications

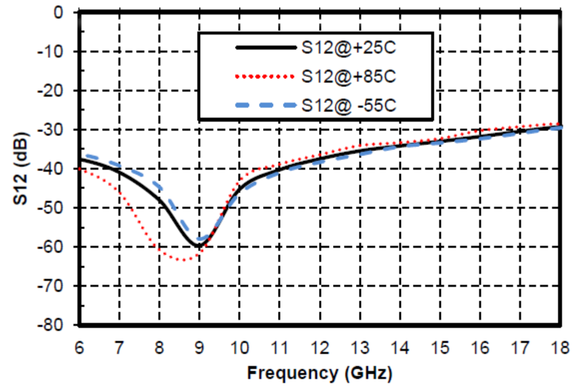
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

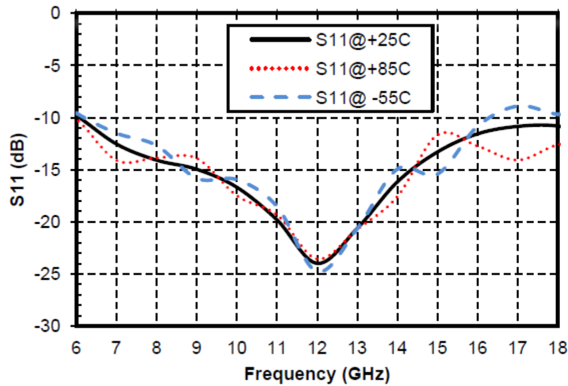
Electrical Specifications

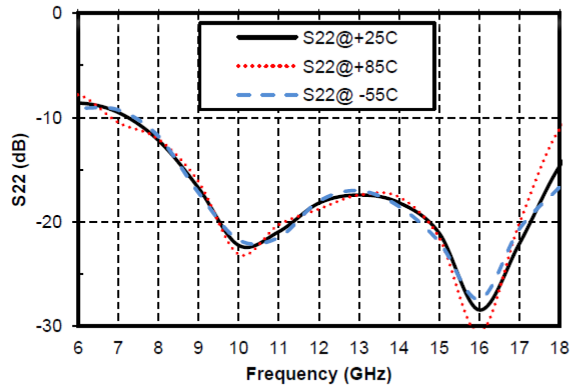
TA = +25ºC, Vd = +10V

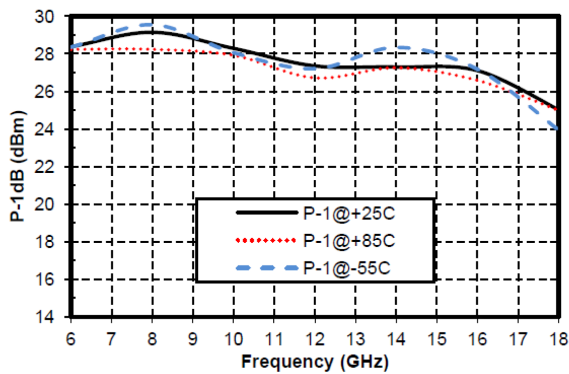
Parameters	Min.	Typ.	Max.	Units
Frequency		6-18		GHz
Small Signal Gain	15	16.5	18	dB
Gain Flatness		±1.5		dB
Output 1dB Compression (P1dB)	25	27.5	29	dBm
Saturated Output Power (Psat)	26.5	28.5	30	dBm
Input Return Loss	10	15		dB
Output Return Loss	8	17		dB
Quiescent Current		340		mA

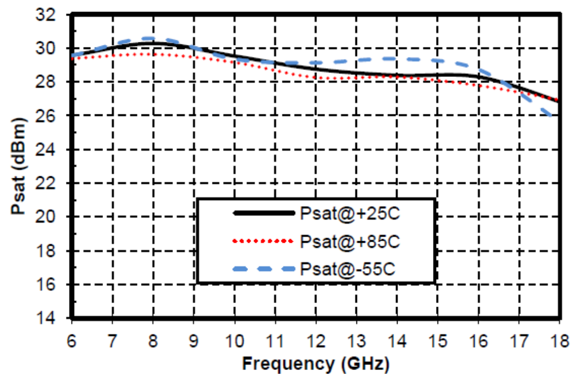

Gain vs. Frequency
Small Signal Gain (dB)
Frequency (GHz)
S21@+25C
S21@+85C
S21@ -55C


Reverse Isolation vs. Frequency
S12 (dB)
Frequency (GHz)
S12@+25C
S12@+85C
S12@ -55C


Input Return Loss vs. Frequency
S11 (dB)
Frequency (GHz)
S11@+25C
S11@+85C
S11@ -55C

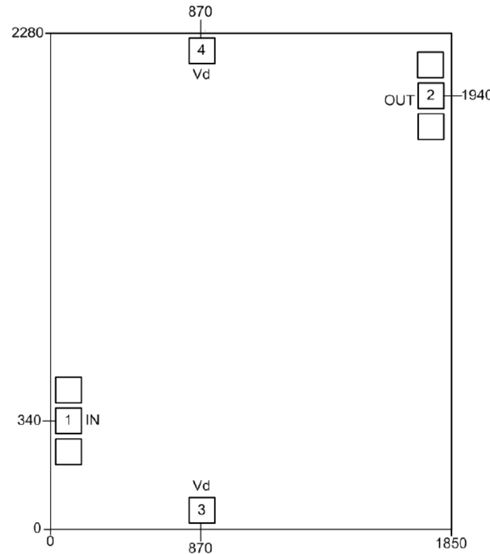

Output Return Loss vs. Frequency
S22 (dB)
Frequency (GHz)
S22@+25C
S22@+85C
S22@ -55C


P-1dB vs. Frequency
P-1dB (dBm)
Frequency (GHz)
P-1@+25C
P-1@+85C
P-1@-55C


Psat vs. Frequency
Psat (dBm)
Frequency (GHz)
Psat@+25C
Psat@+85C
Psat@-55C

Outline Drawing:

All Dimensions in um



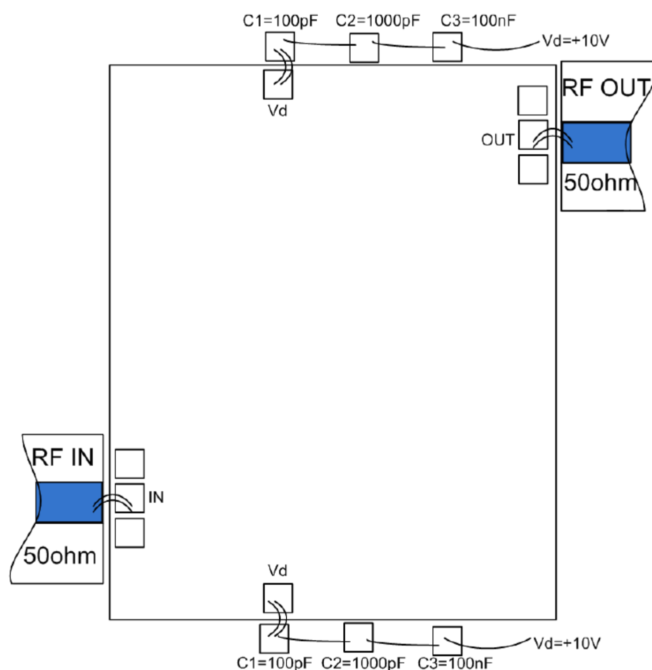
Pad Description

PAD	Function	Description
1	RF IN	RF signal input terminal, no blocking capacitor required
2	RF OUT	RF signal output terminal, no blocking capacitor required
3,4*	Vd	Amplifier drain bias, connected to external 100pF, 1000pF, and 100nF bypass capacitor.
Die Bottom	GND	Die bottom must be connected to RF/DC ground

*Port 3 and 4 need to power up at the same time.

MILLER MMIC

Assembly Drawing



Notes:

1. Die thickness: 100um
2. Typical bond pad is 100*100 μm^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℃ to +85℃
4. Storage temperature: -65℃ to +150℃