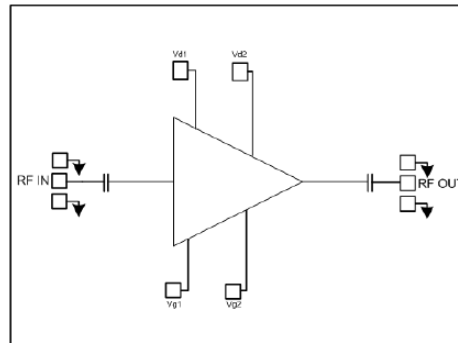


Features

- Frequency: 20-40GHz
- Small Signal Gain: 21dB
- Gain Flatness: $\leq \pm 0.75$ dB
- Noise Figure: 7.0dB typ.
- P1dB: 22dBm
- Psat: 23dBm
- Power Supply: +5V/180mA
- Input/Output: 50Ω
- Die Size: 1.85 x 1.05 x 0.1 mm

Functional Block Diagram

Typical Applications

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

Electrical Specifications

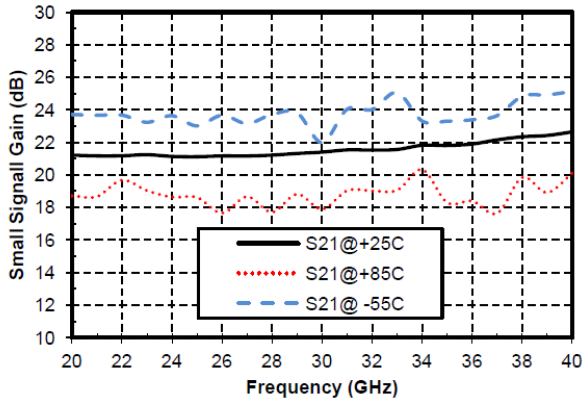
TA = +25°C, Vd = +5V

Parameters	Min.	Typ.	Max.	Units
Frequency	20-40			GHz
Small Signal Gain	21	22	24	dB
Gain Flatness		± 0.75		dB
Output 1dB Compression (P1dB)		22		dBm
Saturated Output Power (Psat)		23		dBm
Input Return Loss	16	21		dB
Output Return Loss	12	14		dB
Static Current		180		mA

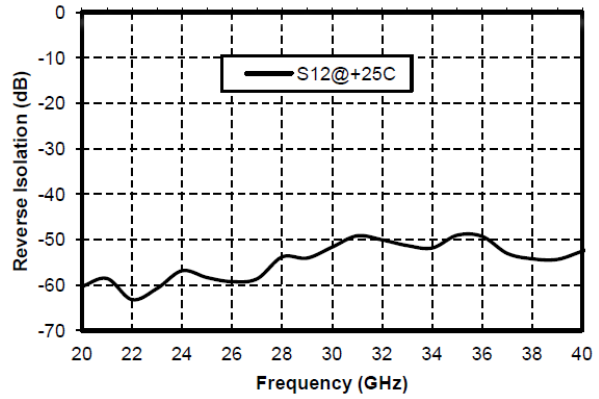
*Adjust Vg during -2V~0V, to get 180mA current, Vg should be around -0.7V.



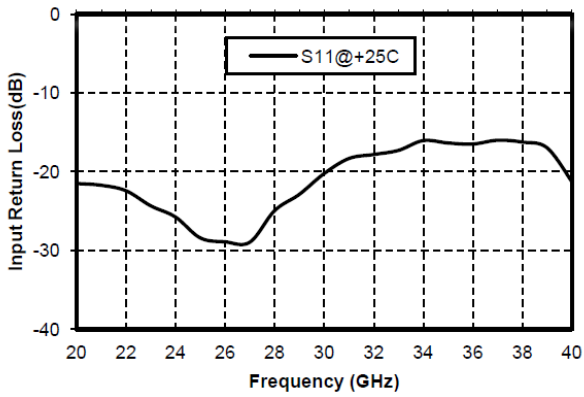
Gain vs. Frequency



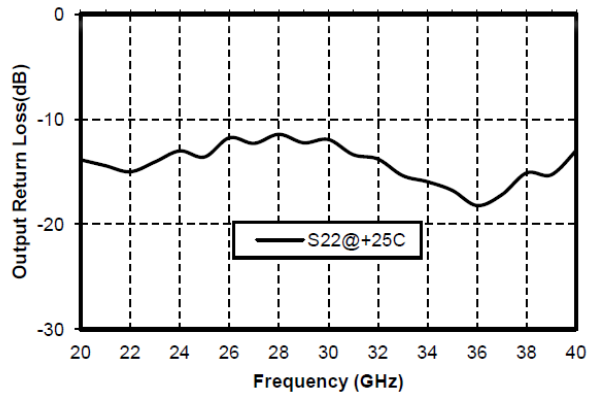
Reverse Isolation vs. Frequency



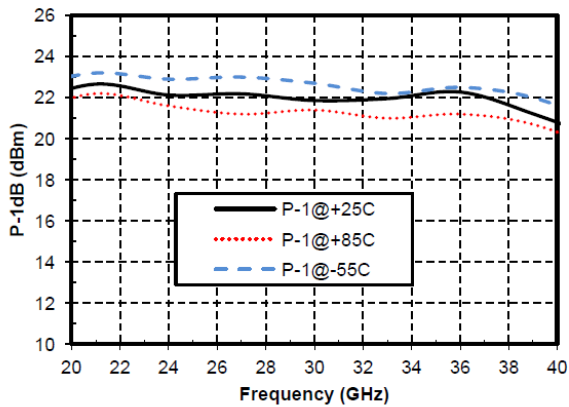
Input Return Loss vs. Frequency



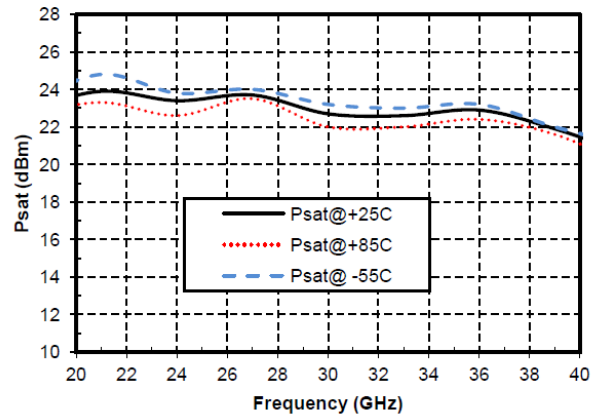
Output Return Loss vs. Frequency



P-1dB vs. Frequency

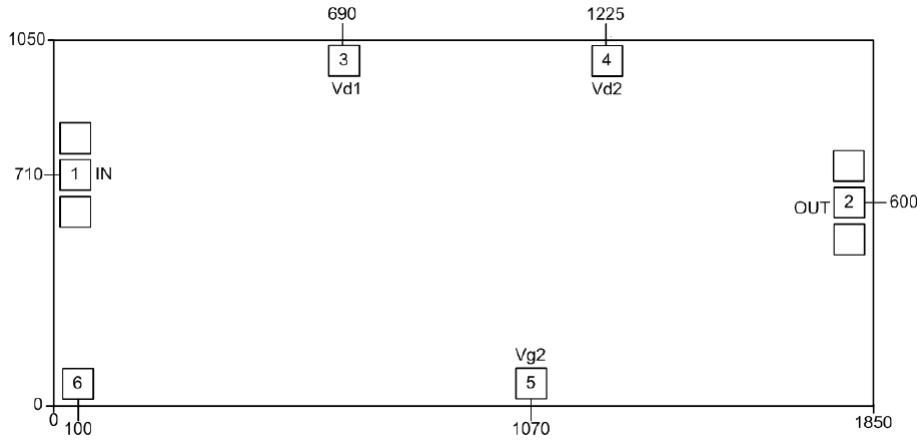


Psat vs. Frequency





Outline Drawing: All Dimensions in um

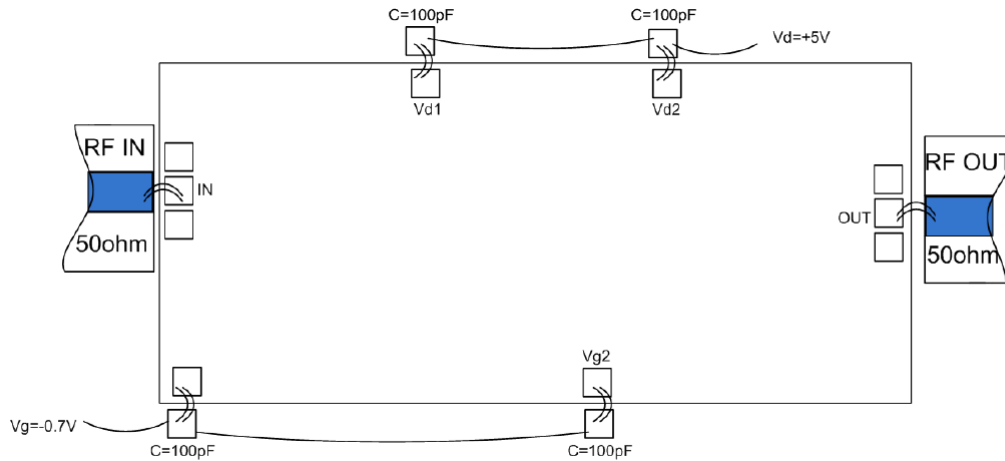


Pad Description

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	Vd1, Vd2	Amplifier drain bias, connected to external 100pF bypass capacitor.
5, 6	Vg1, Vg2	Amplifier gate bias, connected to external 100pF bypass capacitor.
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 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: +7V
2. Maximum gate voltage: -3V
3. Maximum input power: +20dBm
4. Operating temperature: -55°C to +85°C
5. Storage temperature: -65°C to +150°C