GaAs MMIC
Driver Amplifier
5-20GHz

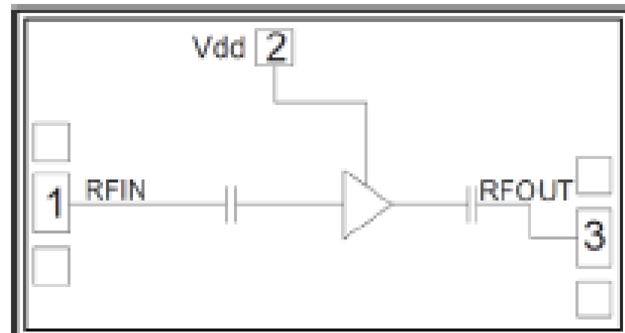
Features

- Single Biasing Voltage (Self Biased)
- Frequency: 5-20GHz
- Small Signal Gain: 22dB
- Gain Flatness: ≤±2.0dB
- Noise Figure: 4.6dB typ.
- P1dB: 20dBm
- Psat: 20.5dBm
- Power Supply: +5V/125mA
- Input/Output: 50Ω
- Die Size: 1.85 x 1.05 x 0.1 mm

Typical Applications

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

Functional Block Diagram

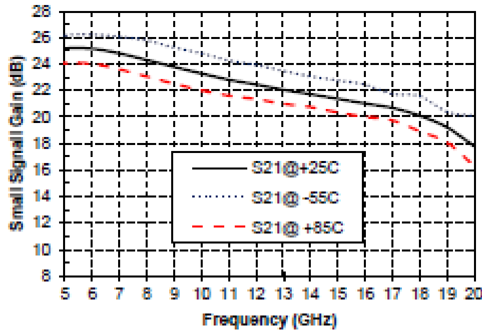


Electrical Specifications

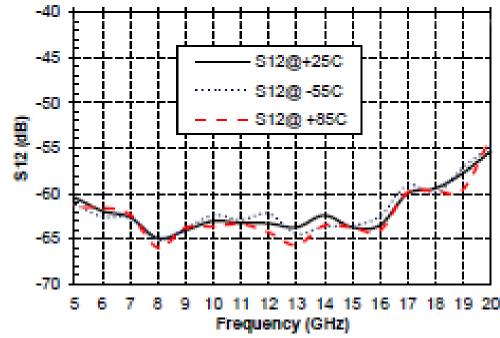
TA = +25ºC, Vd = +5V

Parameters	Min.	Typ.	Max.	Units
Frequency		5-20		GHz
Small Signal Gain	17	22	25.5	dB
Gain Flatness		±2.0		dB
Noise Figure		4.6		dB
Output 1dB Compression (P1dB)		20		dBm
Saturated Output Power (Psat)		20.5		dBm
Input Return Loss		20		dB
Output Return Loss		18		dB
Static Current	105	120	135	mA

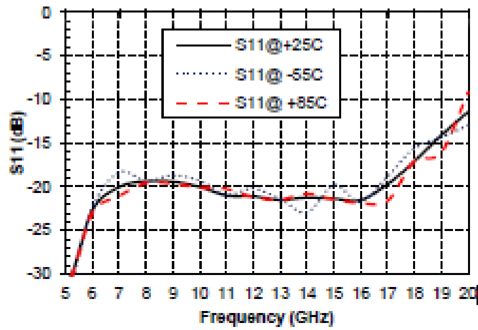
Gain vs. Frequency



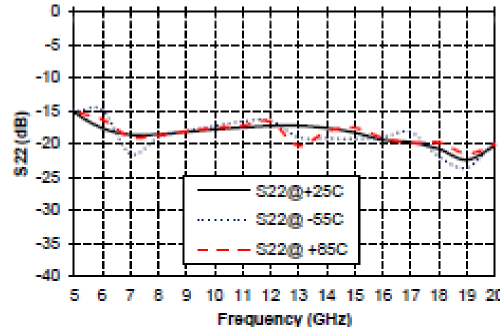
Reverse Isolation vs. Frequency



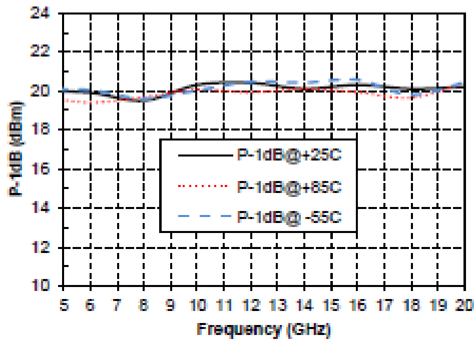
Input Return Loss vs. Frequency



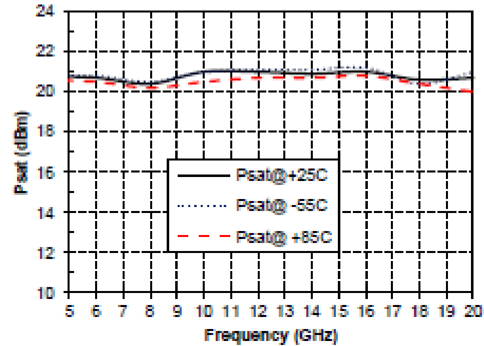
Output Return Loss vs. Frequency



P1dB vs. Frequency

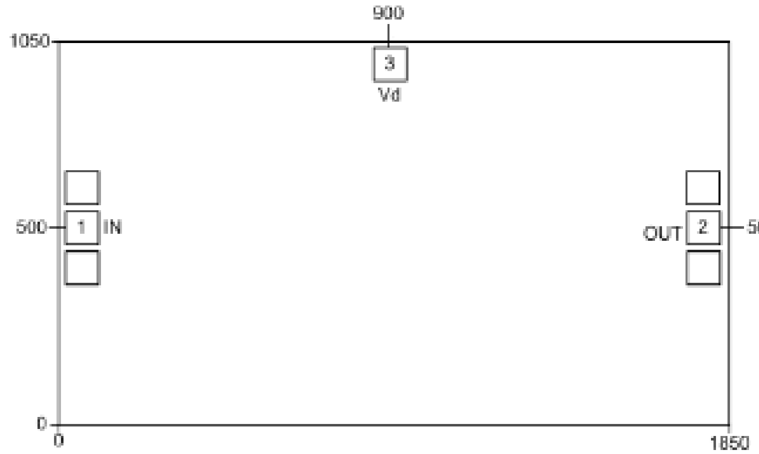


Psat vs. Frequency



Outline Drawing:

All Dimensions in µm

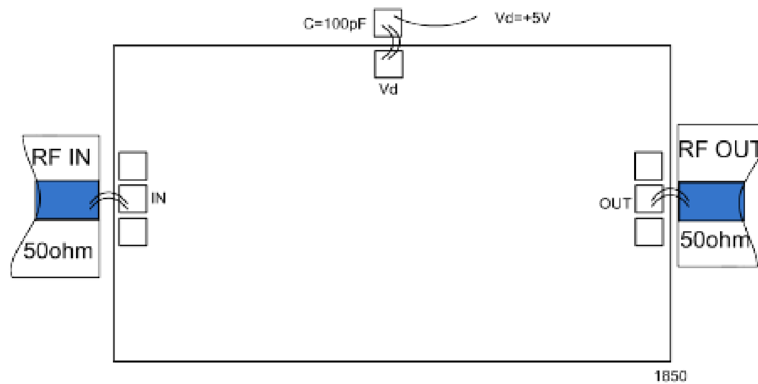


Pad Description

Pad	Function	Description	Equivalent Circuit
1	RF IN	RF signal input terminal; no blocking capacitor required.	RF IN
2	RF OUT	RF signal output terminal; no blocking capacitor required.	RF OUT
3	Vd	Amplifier drain bias; external 100pF bypass capacitor required.	
Die bottom	GND	Die bottom must be connected to RF/DC ground.	GND

MILLER MMIC

Assembly Drawing



Notes:
1. Die thickness: 100um
2. Typical bond pad is 100*100 μm²
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 input power: +20dBm
3. Operating temperature: -55℃ to +85℃
4. Storage temperature: -65℃ to +150℃