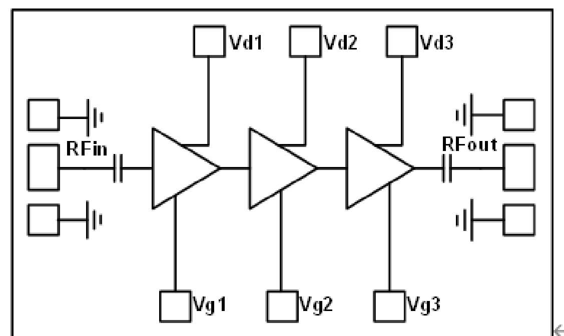
GaAs MMIC
Power Amplifier
51-63GHz

Features

- Frequency: 51-63GHz
- Output Power: 26dBm
- Reverse Isolation: 42dB
- Small Signal Gain: 22dB
- Operating Current: 250mA
- Die Size:3.0 x 1.75 x 0.05 mm

Functional Block Diagram



Typical Applications

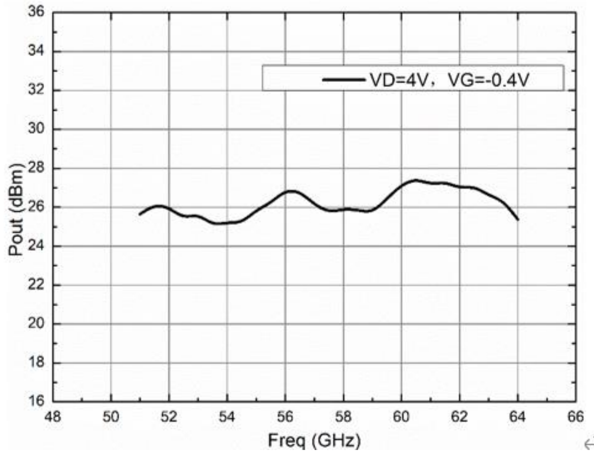
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications

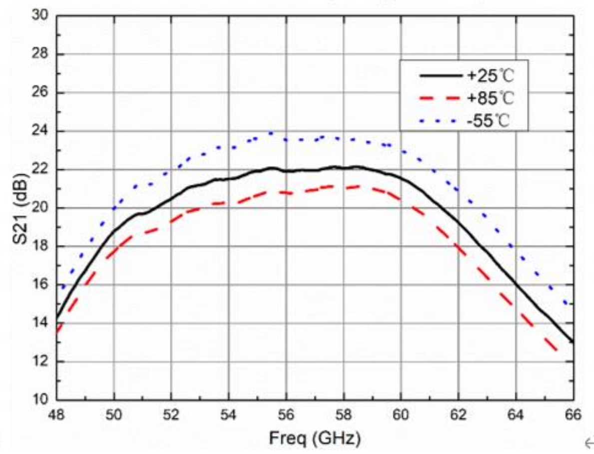
TA = +25ºC, VD = +4V, VG = -0.4V, Id=250mA (On-wafer Measurement Results)

Parameters	Min.	Typ.	Max.	Units
Frequency		51-63		GHz
Small Signal Gain		22		dB
Reverse Isolation		42		dB
Output Power		26		dBm
Input Return Loss			11.5	dB
Output Return Loss			21	dB
Operating Voltage		+4/-0.4		V
Operating Current		250		mA

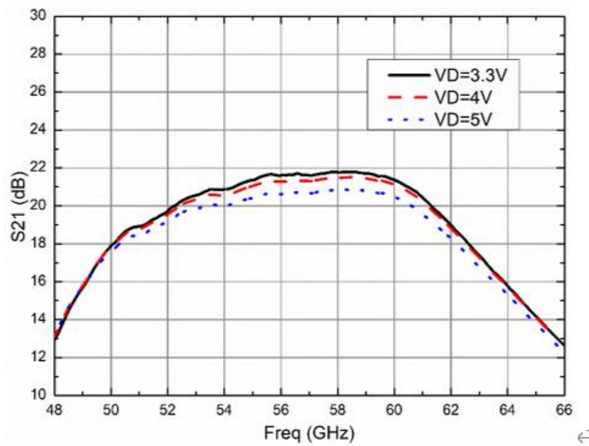
Output Power vs. Frequency



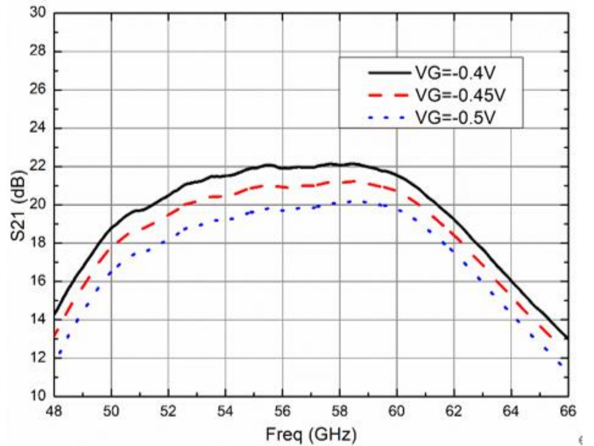
Gain vs. Frequency (@Vg = -0.4V)



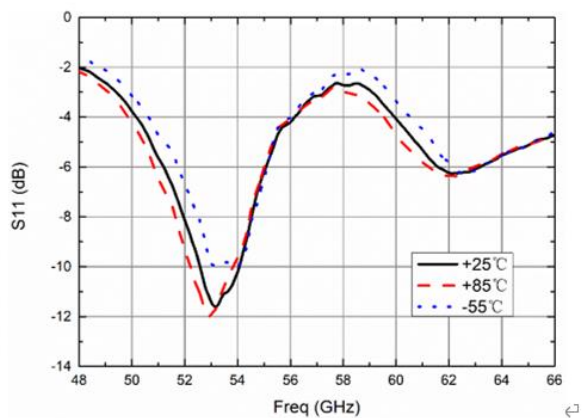
In-band VD vs. Frequency



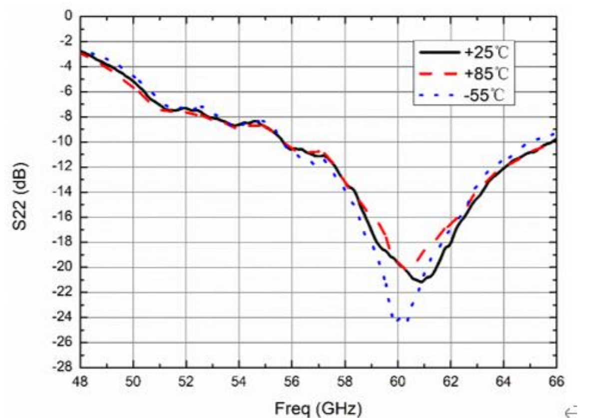
In-band VG vs. Frequency



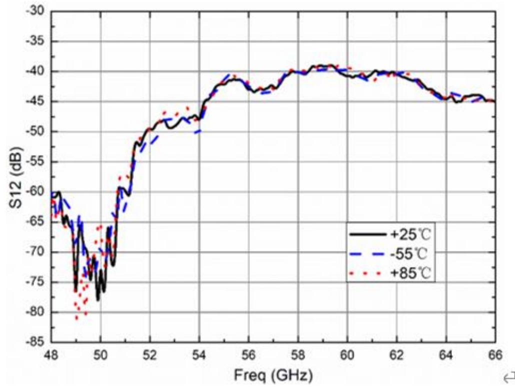
Input Return Loss vs. Frequency



Output Return Loss vs. Frequency

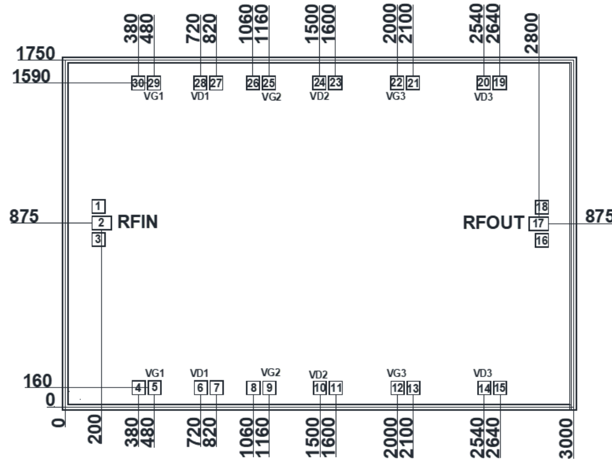


Reverse Isolation vs. Frequency



Outline Drawing:

All Dimensions in µm

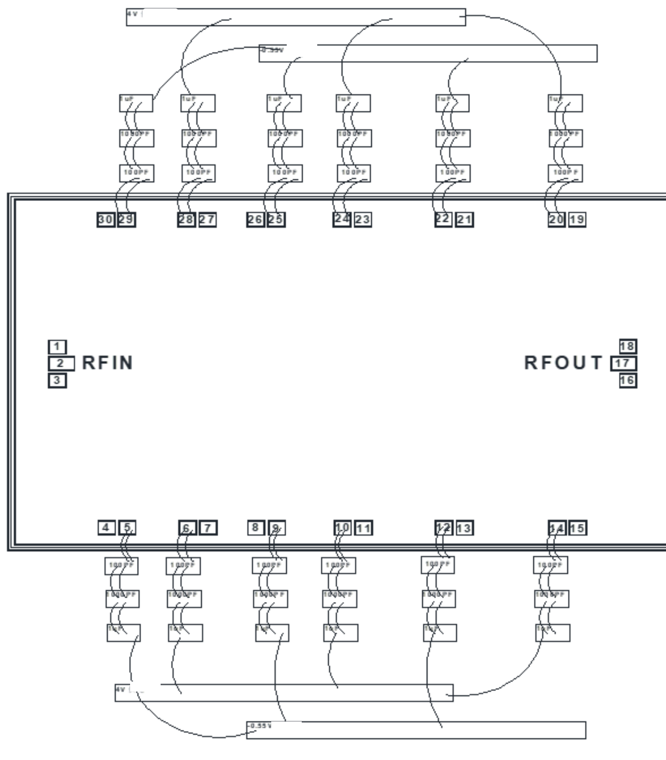


Pad Description

Pad	Function	Description	Pad Size	Equivalent Circuit
2	RF IN	Signal input terminal	120 x 80	RFin
17	RF OUT	Signal output terminal	120 x 80	RFout
6,10,14,20,24,28	VD = 4V	Input drain power supply	80 x 80	VD

5,9,12,22,25,29	VG1/VG2/VG3	Output drain power supply	80 x 80	VG
1,3,4,7,8,11,13, 15,16,18,19,21, 23,26,27,30	GND	Grounded or suspended.	80 x 80	GND

Assembly Drawing (Bond testing)



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 Supply voltage: +5.5V
2. Maximum input power: +22dBm
3. Operating temperature: -55℃ to +85℃
4. Storage temperature: -65℃ to +150℃