MILLER MMIC

MM3078

V1.0.0

GaAs MMIC
Driver Amplifier
34-36GHz

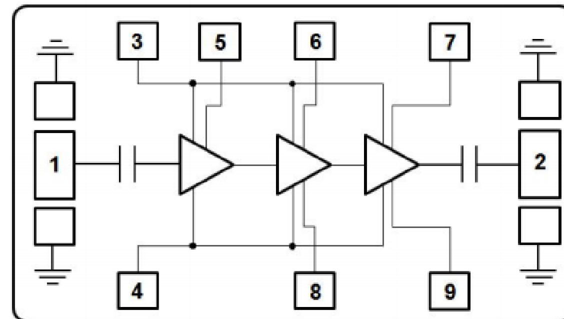
MM3078

DRIVER AMPLIFIER – MMIC 34-36GHz

Features

- Frequency: 34-36GHz
- Small Signal Gain: 20dB
- Psat: 29.5dBm
- PAE: 23%
- Quiescent Current: 430mA
- Dynamic Current: 690mA
- Input/Output: 50Ω
- Die Size:3.0 × 2.0 × 0.1mm

Functional Block Diagram



Typical Applications

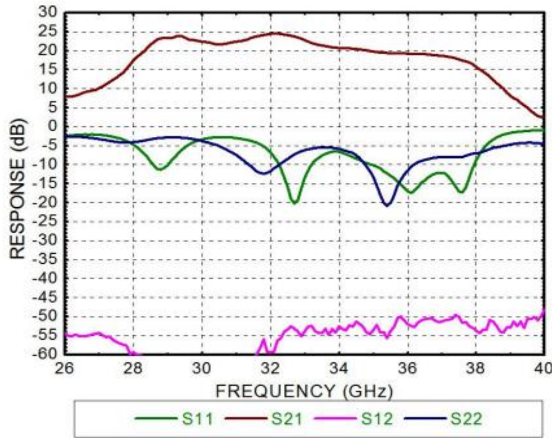
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications

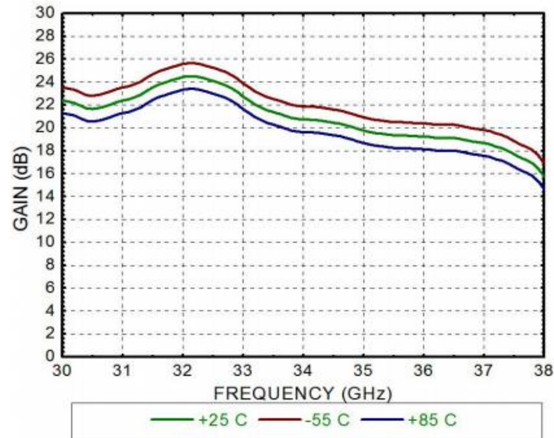
TA = +25ºC, Vd = +6V

Parameters	Min.	Typ.	Max.	Units
Frequency	34-36			GHz
Small Signal Gain		20		dB
Reverse Isolation		50	-	dB
Psat		29.5	-	dBm
PAE		23		%
Input Return Loss		10		dB
Output Return Loss		10		dB
Quiescent Current*		430		mA
Dynamic Current		690		mA
*Adjusting VG biases the amplifier to this quiescent current, typically -0.55V, adjustable from -1V~0V.				

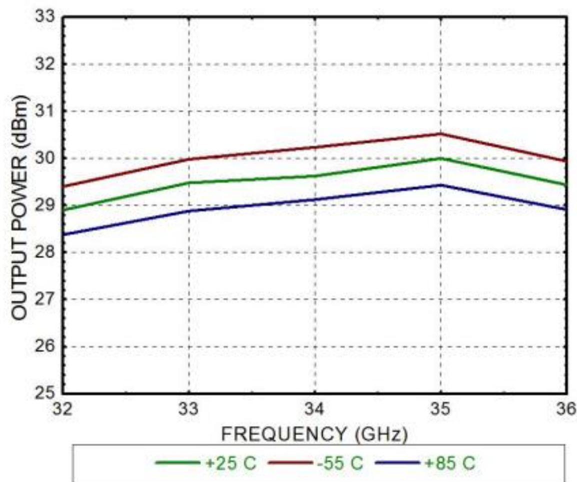
S Parameters



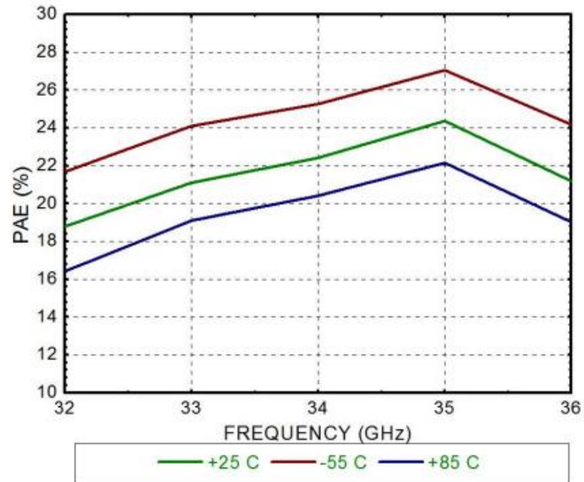
Small Signal Gain



Psat



PAE



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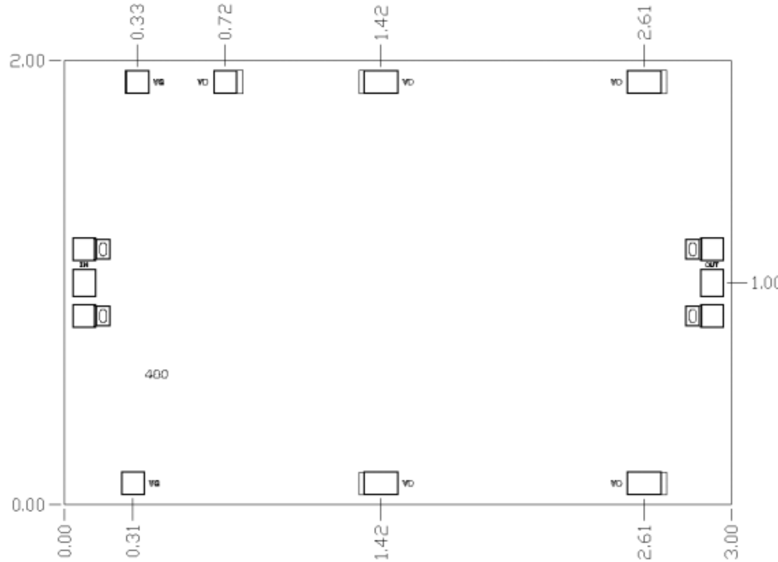
Sales: sales@millermmic.com

Outline Drawing:

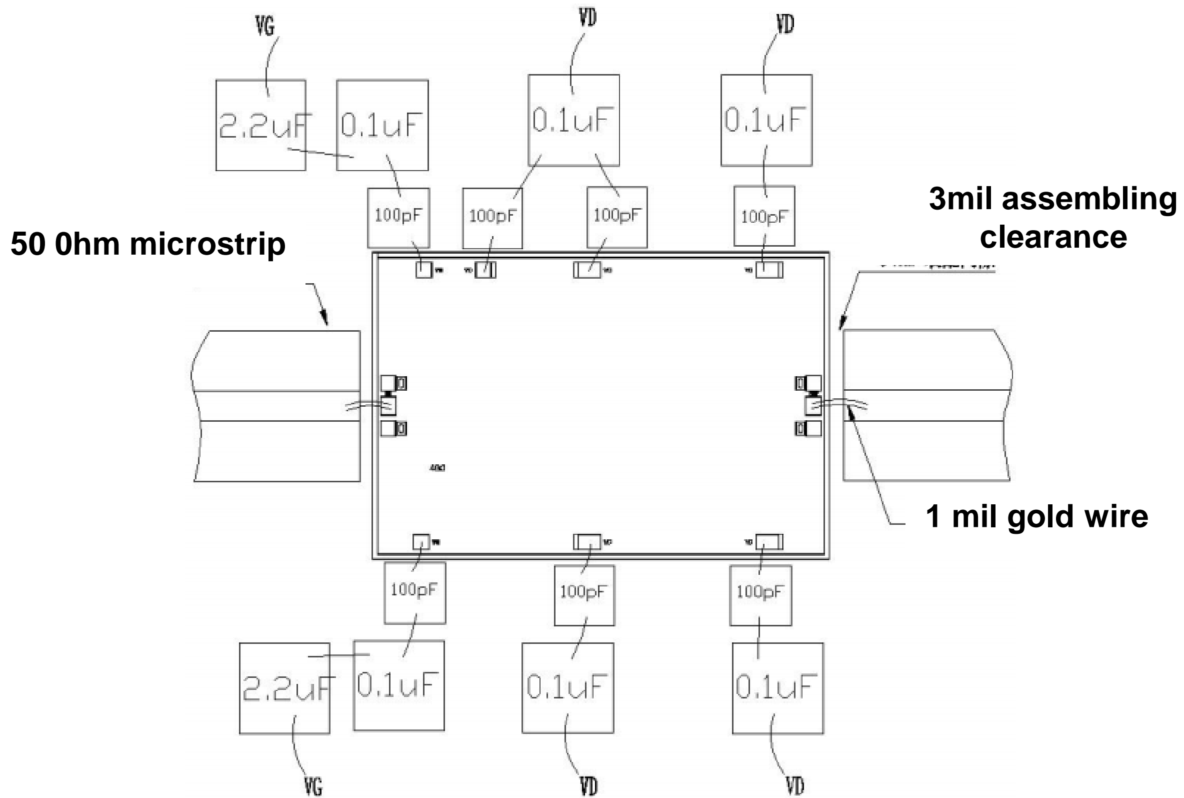
All Dimensions in mm



Pad Description

PAD	Function	Description
1	IN	The pad is AC-coupled with an on-chip DC blocking capacitor matched to 50 Ohm
2	OUT	The pad is AC-coupled with an on-chip DC blocking capacitor matched to 50 Ohm
3,4	VG	Negative supply voltage, -0.55V recommended
5,6,7,8,9	VD	Positive supply voltage, +6V recommended
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. RF input power: +18dBm
2. Positive supply voltage: +7V
3. Negative supply voltage: -2V~0V
4. Operating temperature: -55℃ to +85℃
5. Storage temperature: -65℃ to +150℃
6. Channel temperature:150℃