MILLER MMIC

MM3026

V1.0.0

GaAs pHEMT MMIC
Driver Amplifier
6-18GHz

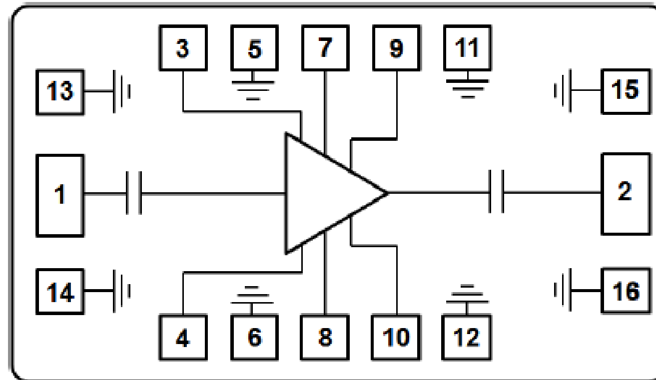
MM3026

DRIVER AMPLIFIER – MMIC 6-18GHz

Features

- Operating Frequency: 6-18GHz
- Gain: 26dB
- P-1: +30dBm
- Psat: +31dBm
- PAE: 27%
- Static Operating Current: 700mA@ +5V
- Die Size: 3.0 x 2.4 x 0.1 mm

Functional Block Diagram



Typical Applications

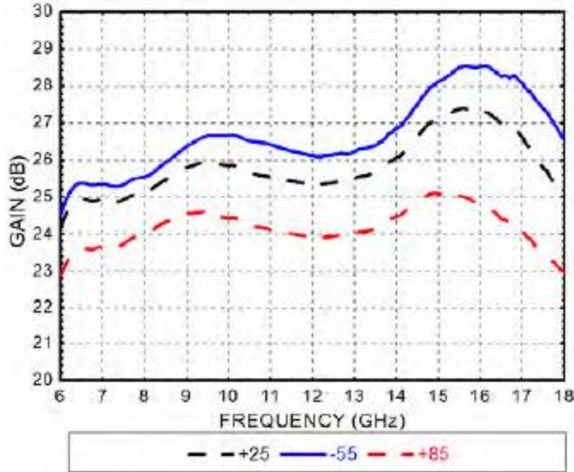
- Test Instrumentation
- Microwave Radio & VSAT
- Military & Space
- Telecom Infrastructure
- Fiber Optics

Electrical Specifications

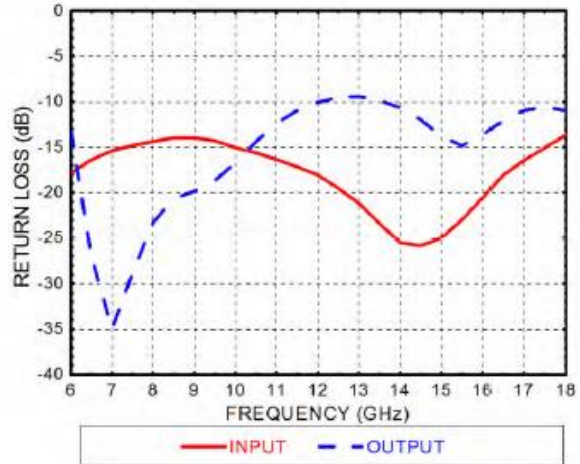
TA = +25ºC, Vd = +5V, Vg = -0.8V*, Idq = 700mA

Parameters	Min.	Typ.	Max.	Units
Frequency		6-18		GHz
Gain		26		dB
Input Return Loss		15		dB
Output Return Loss		12		dB
Output 1dB Compression (P1dB)		30		dBm
Saturated Output Power (Psat)		31	32.5	dBm
PAE	23	27	32	%
Dynamic Operating Current		1.0	1.4	A
* Adjust VG to change operating current. VG is expected to be -1V to - 0.7V.				

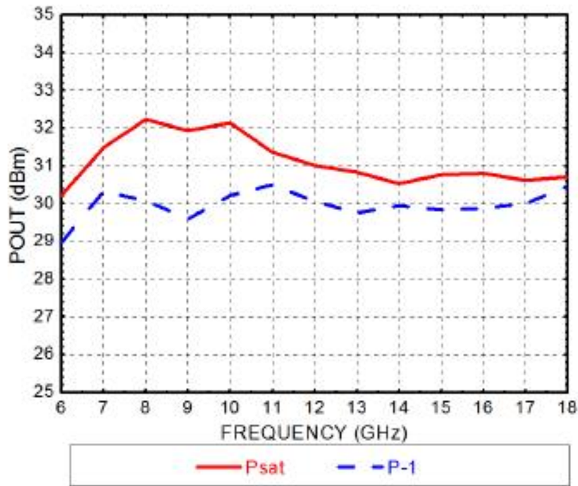
Gain vs. Temperature



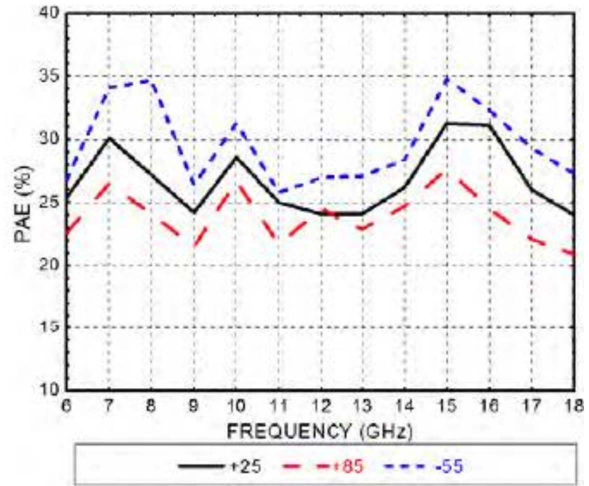
Return Loss



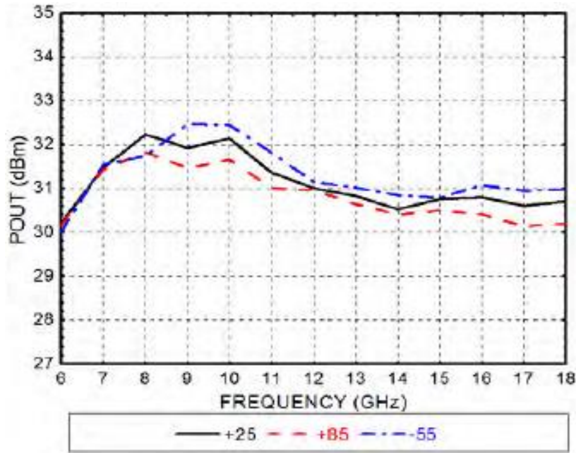
P-1 & Psat



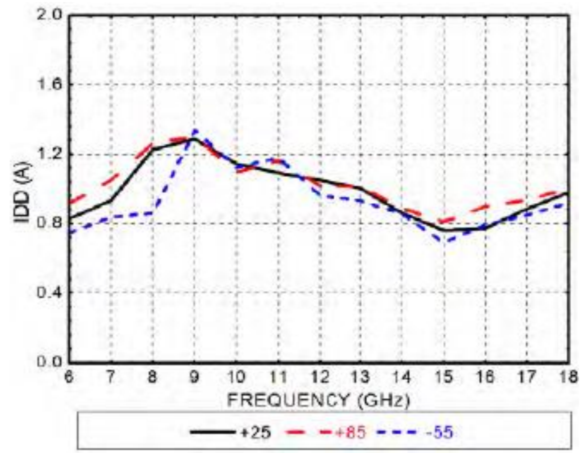
PAE vs. Temperature



Psat vs. Temperature

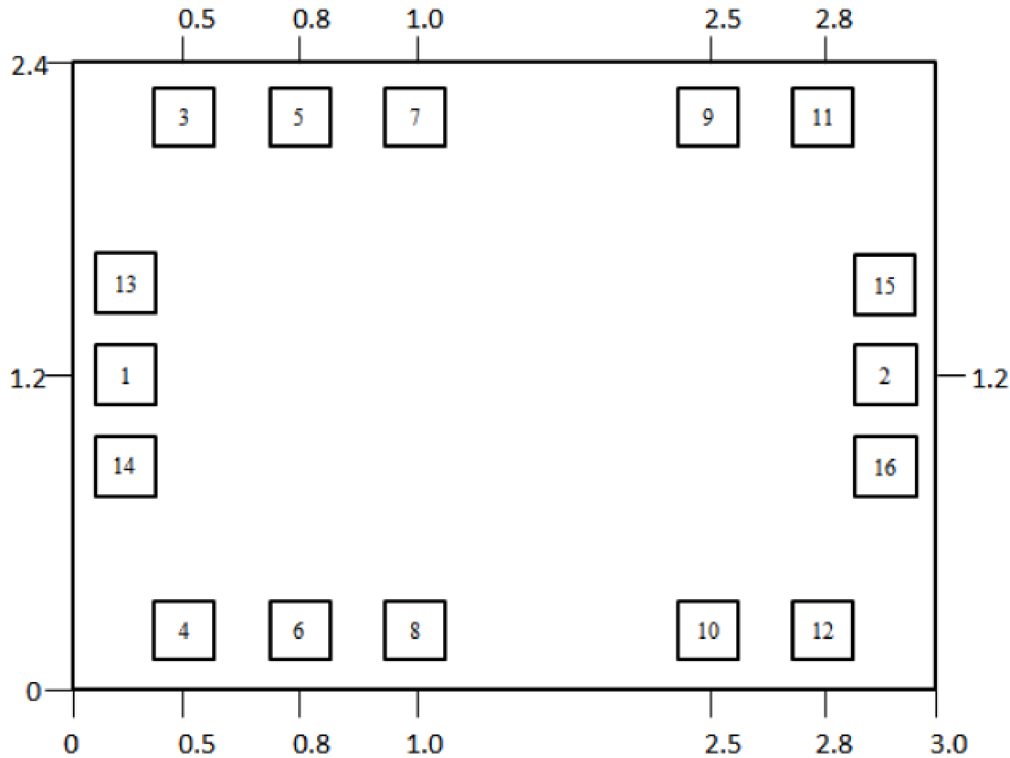


IDD vs. Temperature



Outline Drawing:

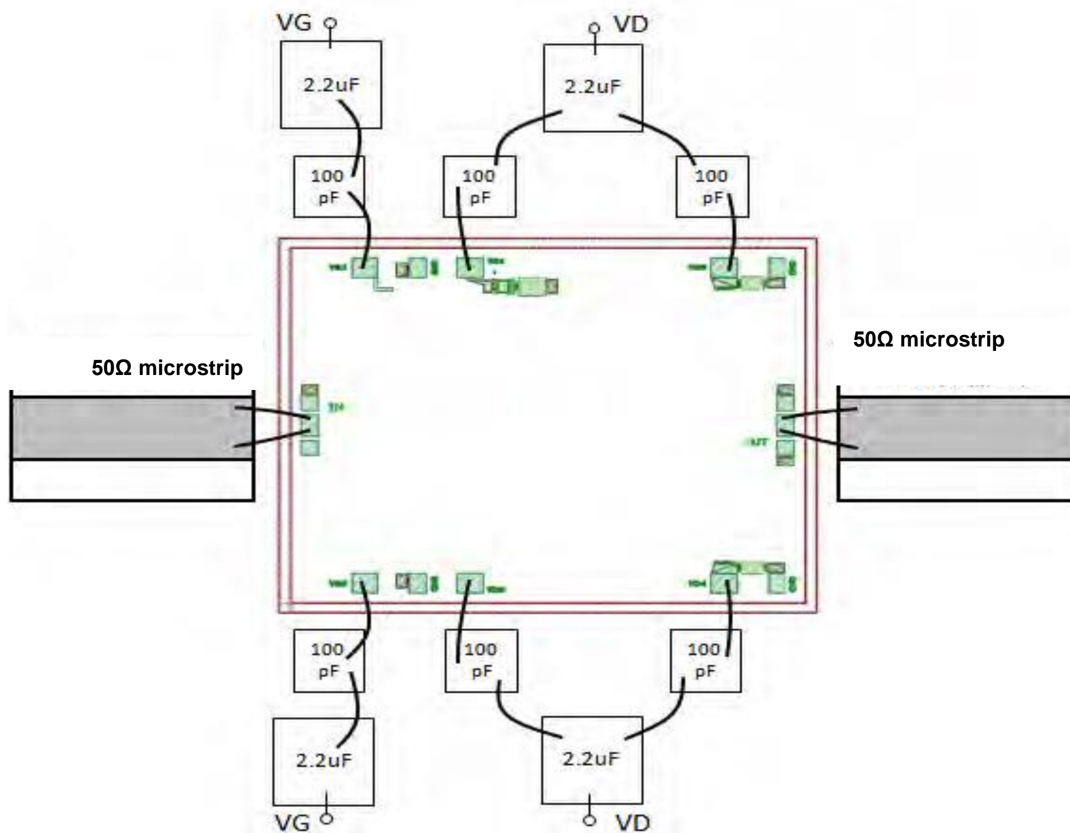
All Dimensions in mm



Pad Description

PAD	Function	Description
1	IN	RF coupling 50Ω Impedance
2	OUT	RF coupling 50Ω Impedance
3-4	VG	Negative power supply voltage, -0.8V recommended
7-10	VD	Positive power supply voltage, +5V
5-6 11-16	GND	Die bottom must be connected to RF/DC ground

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. RF input power: +20dBm
2. Positive power supply voltage: +6V
3. Negative power supply voltage: -2V
4. Operating temperature: -55℃ to +85℃
5. Storage temperature: -65℃ to +150℃