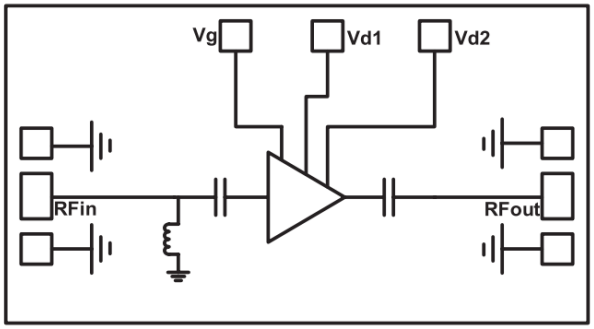
V1.0.0

GaAs MMIC
Power Amplifier
27-30GHz

Features

- Frequency: 27-30GHz
- Gain: 22dB@30GHz
- P1dB: +31dBm@35%
- OIP3: +37dBm
- Power Supply: 6V@450mA
- Die Size : 2.45x 1.2 x 0.1 mm

Functional Block Diagram



Typical Applications

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

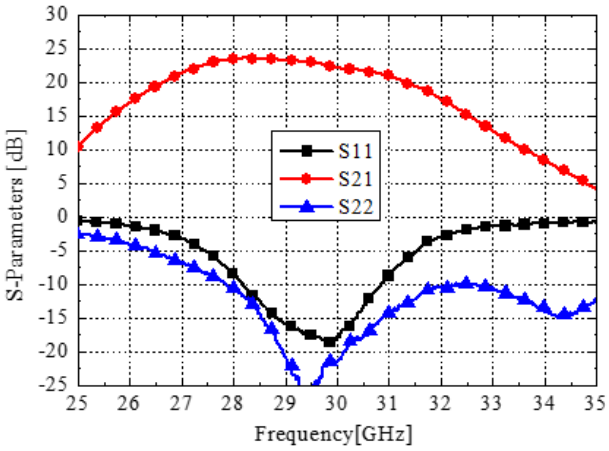
Electrical Specifications

TA = +25ºC, Vd1 = Vd2 = +6V, Vg = -0.8V , Id1 + Id2 = 450mA [1]

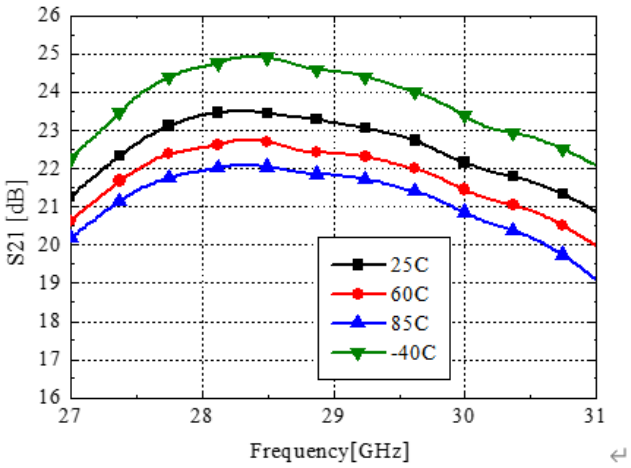
Parameters	Min.	Typ.	Max.	Units
Frequency		27-30		GHz
Gain	21	22	23	dB
P1dB	30	31		dBm
Psat	31	32		dBm
PAE	30	35		%
OIP3		37		dBm
Input Return Loss		10		dB
Output Return Loss		15		dB
Operating Current (@Vd = 6V)		450		mA

[1] Adjust Vg from -1V~0V so that Id=450mA

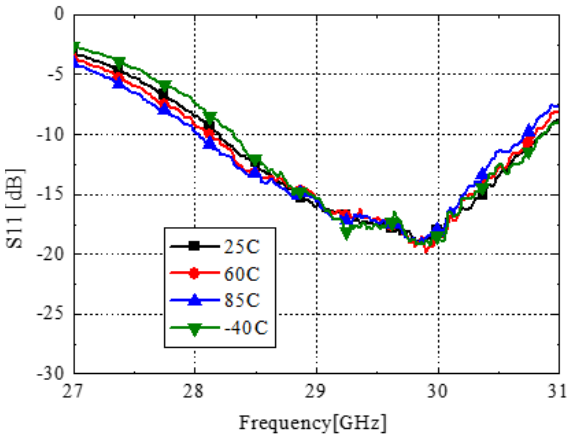
S-Parameter vs. Frequency



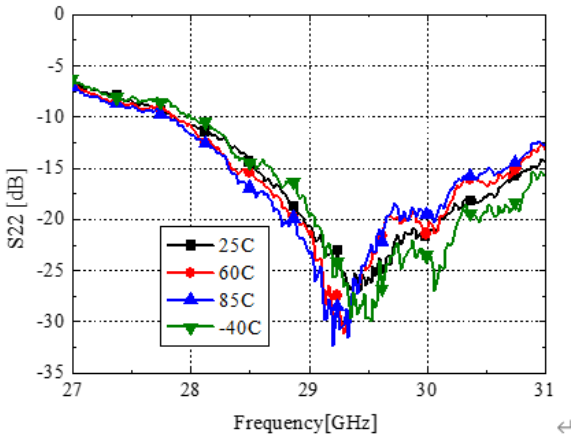
Gain vs. Temperature



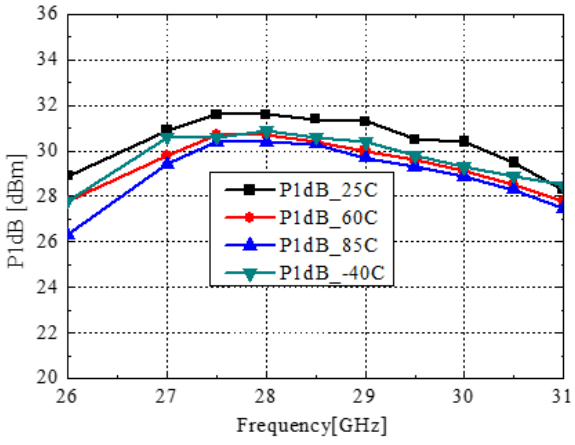
Input Return Loss vs. Temperature



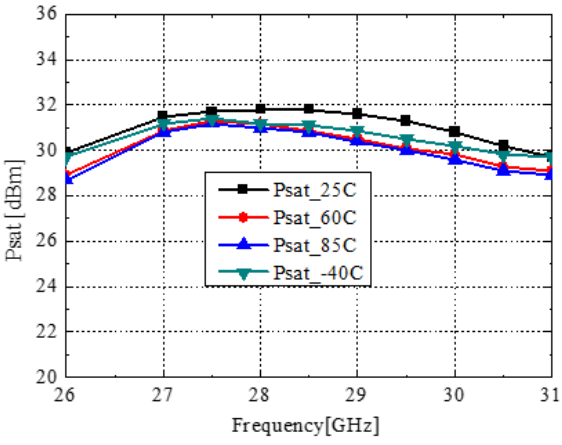
Output Return Loss vs. Temperature



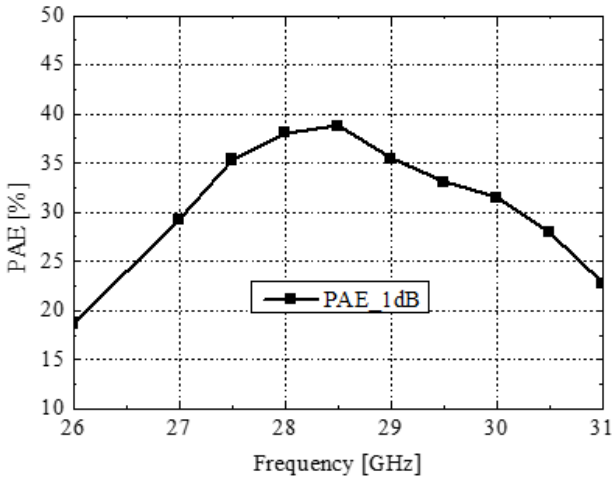
P1dB vs. Temperature



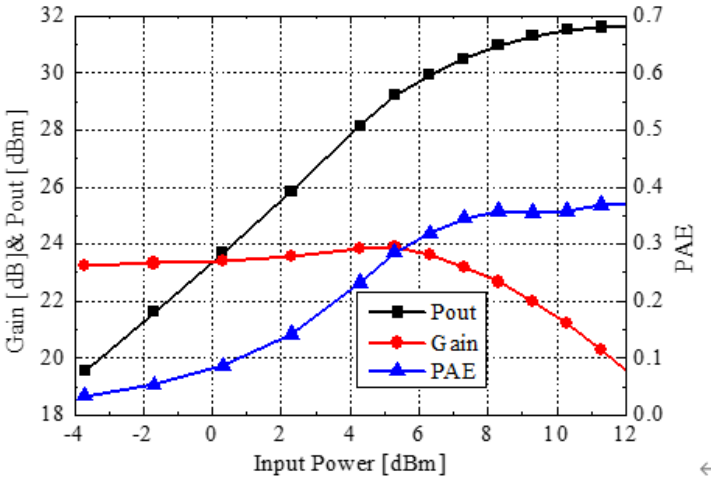
Psat vs. Temperature



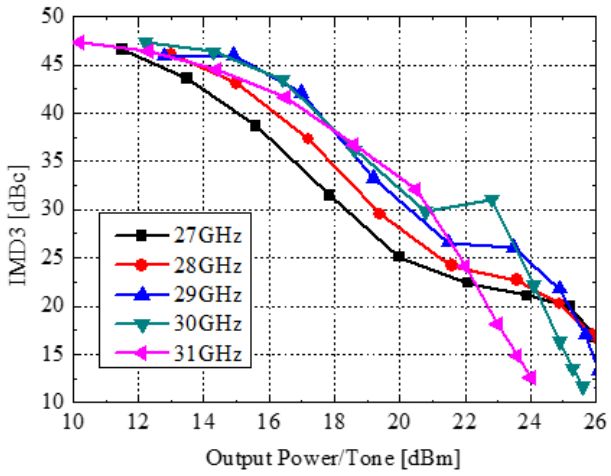
PAE@P1dB vs. Frequency



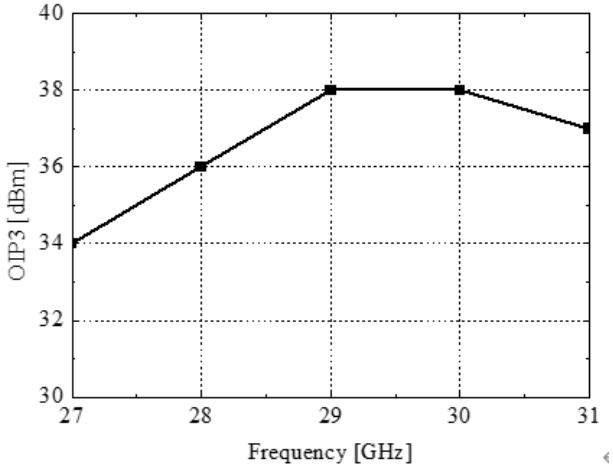
Gain, Output Power, PAE vs. Input Power @29GHz



IMD3 vs. Output Power

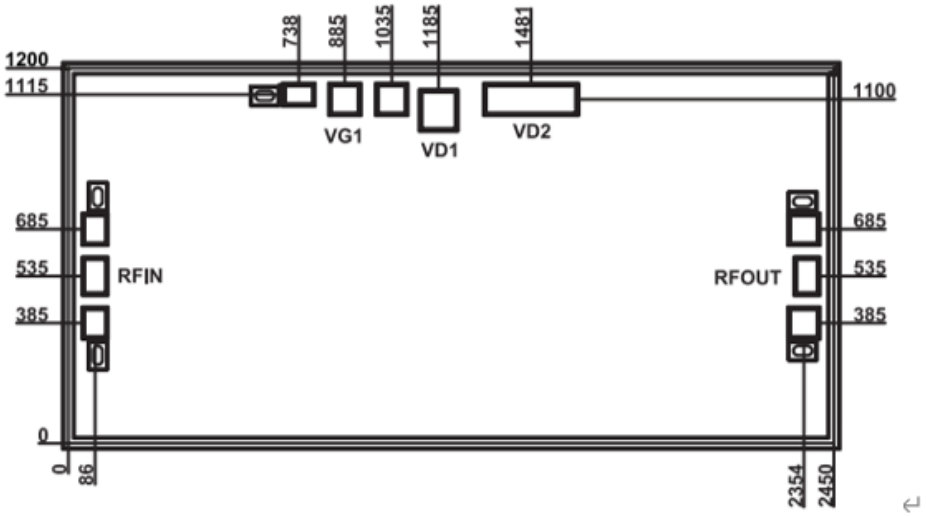


OIP3 vs. Frequency (Pout/Tone = 17dBm)



Outline Drawing:

All Dimensions in µm



Assembly Drawing (Bond testing)