

Features

Freq: 6~18GHz
 Gain: 23dB
 Output Power:35dBm
 PAE:20%
 Supply Voltage: +8V
 Supply Current: 1.15A
 Chip Size:4.76mm×2.83mm×0.1mm

General Description

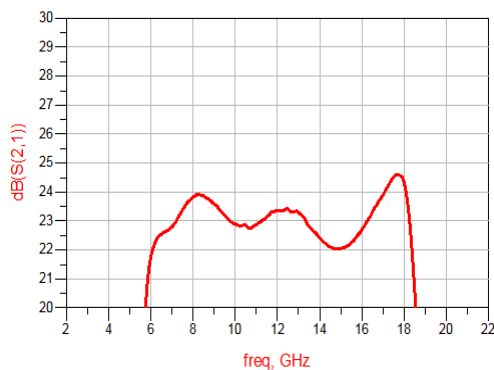
The HG136F-1 is a GaAs pHEMT MMIC Power Amplifier operating between 6 and 18GHz. The amplifier has been optimized to provide 23dB gain, 35 dBm of saturated power, and 20% PAE.

Electrical Specifications($T_A=25^\circ\text{C}$, $V_{dd} = +8\text{V}$, $I_{dd}=1.15\text{A}$, $V_{gg}=0 \sim -1\text{V}$)

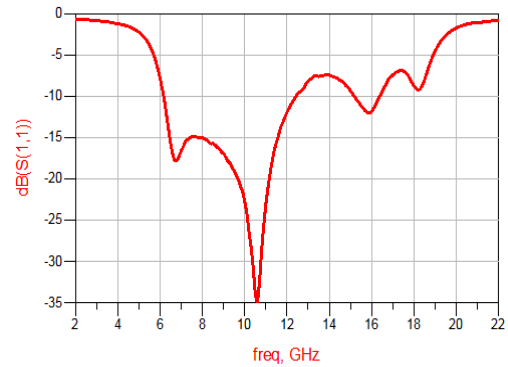
Parameter	Min.	Typ.	Max.
Freq(GHz)	6~18		
Gain (dB)	—	23	—
Input Return Loss (dB)	—	10	—
Output Return Loss (dB)	—	10	—
Output Power for 1 dB Compression(dBm)	—	33	—
Saturation Power (dBm)	—	35	—
PAE	—	20%	—

Measured Performance

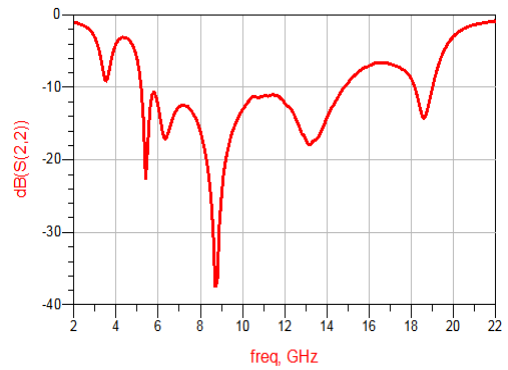
Gain



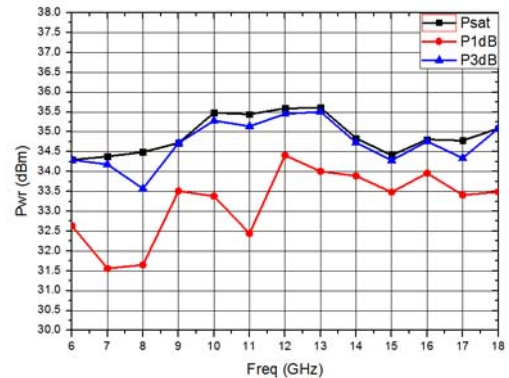
Input Return Loss



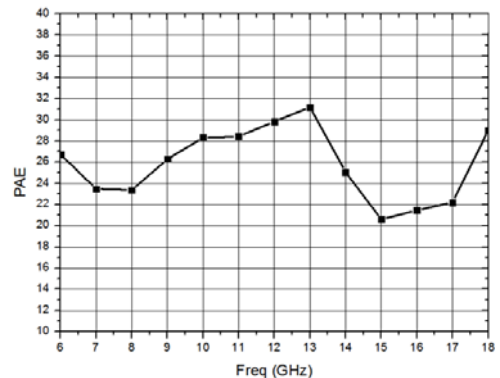
Output Return Loss



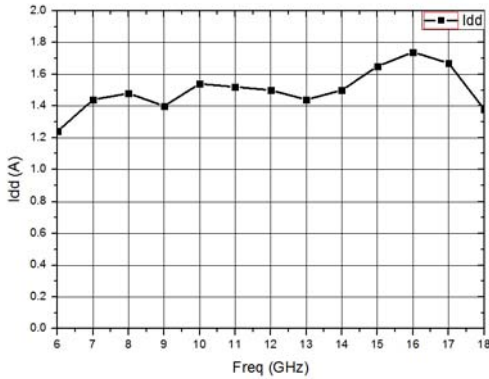
P_{sat} & P_{1dB} & P_{3dB}



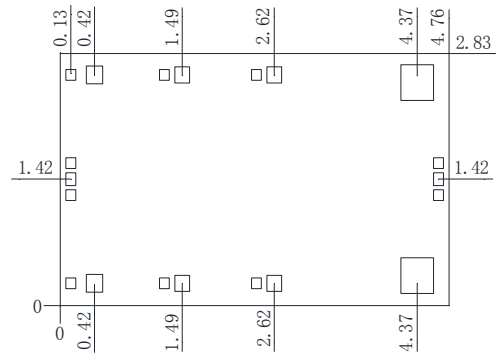
PAE



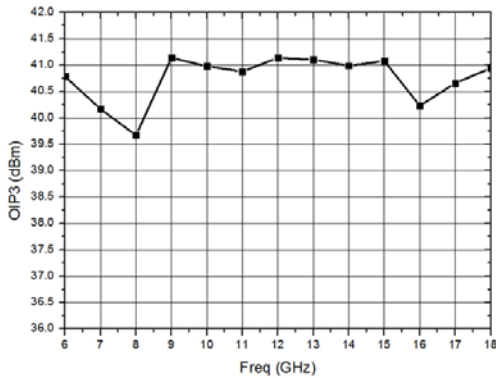
I_{dd}



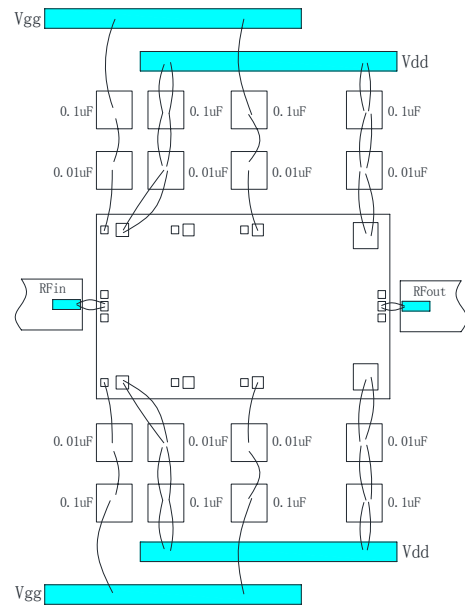
Outline Drawing (mm)



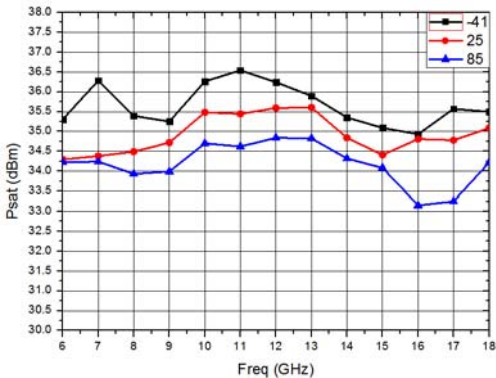
Output IP3



Assembly Diagram



P_{sat}



Absolute Maximum Ratings

Supply Voltage	+8.5V
RF Input Power	+25dBm
Operating Temperature	-55°C ~ 85°C
Storage Temperature	-65°C ~ 150°C

Notes:

1. The chip should be stored in a dry and nitrogen environment, and used in a clean environment.
2. GaAs material is brittle, can not touch the surface of the chip, must be careful when using.
3. The chip is welding with conductive adhesive or alloy (alloy temperature should not exceed 300°C, and no more than 30 sec.), and should make it fully grounded.
4. The chip microwave port and substrate gap is not exceeding 0.05mm, with 50µm double gold ribbon bonding, suggested length of gold wire 250~400µm.
5. Chip microwave port with a DC blocking capacitor.
6. The chip is sensitive to static electricity, and should be protected against static electricity during storage and use.