

Features

- Freq: 6~18GHz
- Gain: 23dB
- Output Power: 37.5dBm
- PAE: 20%
- Supply Voltage: +8V
- Supply Current: 2.3A
- Chip Size: 5.85mm×5.73mm×0.1mm

General Description

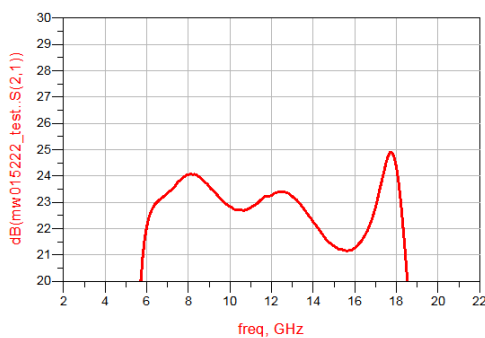
The HG136F-2 is a GaAs pHEMT MMIC Power Amplifier operating between 6 and 18GHz. The amplifier has been optimized to provide 23dB gain, 37.5 dBm of saturated power, and 20% PAE.

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

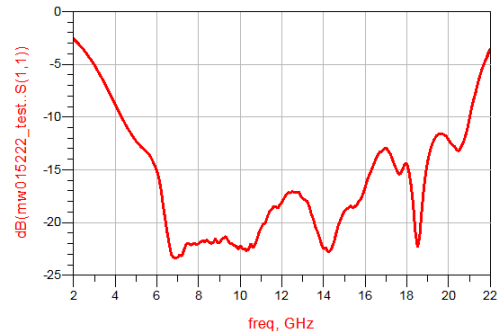
Parameter	Min.	Typ.	Max.
Freq(GHz)	6~18		
Gain (dB)	—	23	—
Input Return Loss (dB)	—	15	—
Output Return Loss (dB)	—	15	—
Output Power for 1 dB Compression (dBm)	—	36.5	—
Saturation Power (dBm)	—	37.5	—
PAE	—	20%	—

Measured Performance

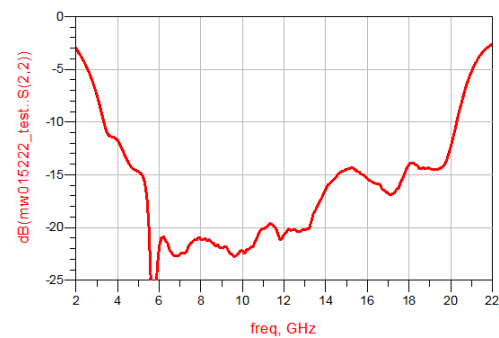
Gain



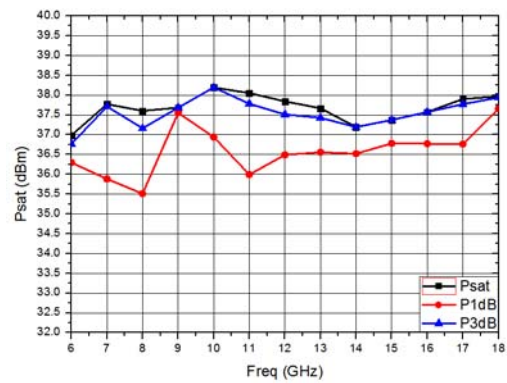
Input Return Loss



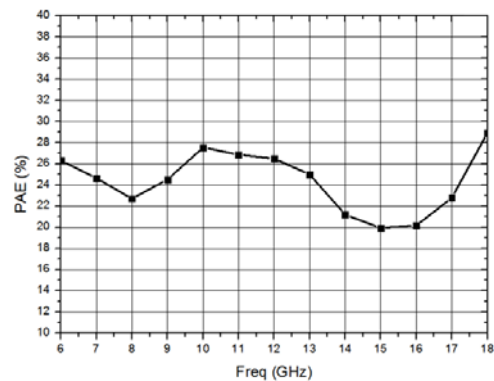
Output Return Loss



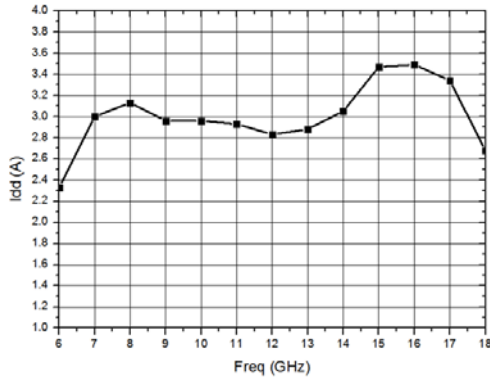
Psat & P1dB & P3dB



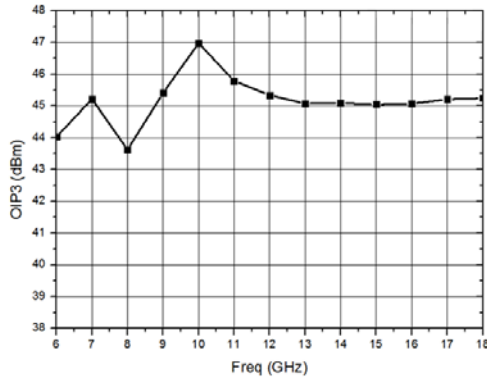
PAE



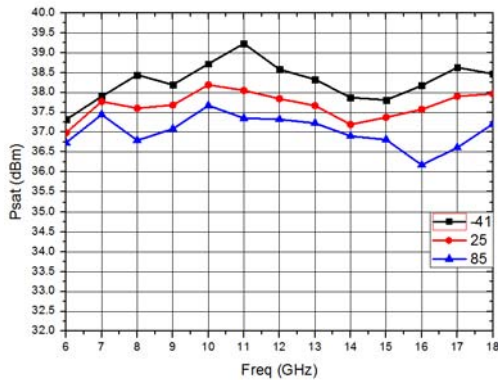
I_{dd}



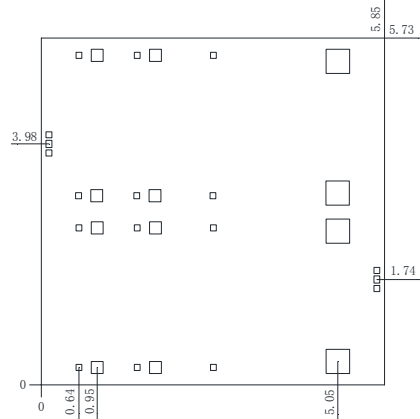
Output IP3



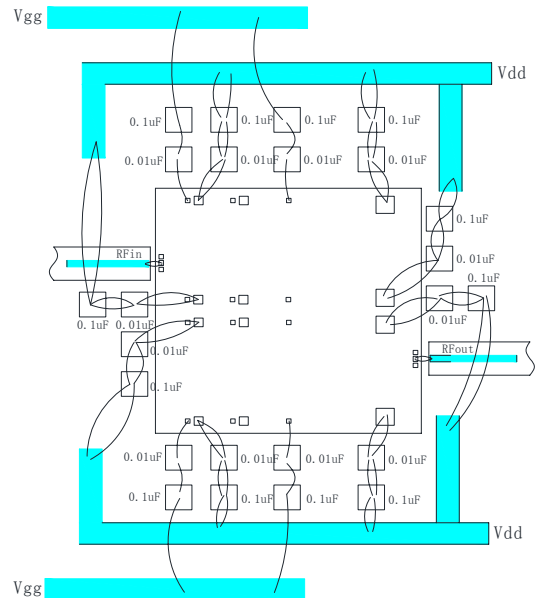
P_{sat}



Outline Drawing (mm)



Assembly Diagram



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.

Absolute Maximum Ratings

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