查询TGA1141供应商

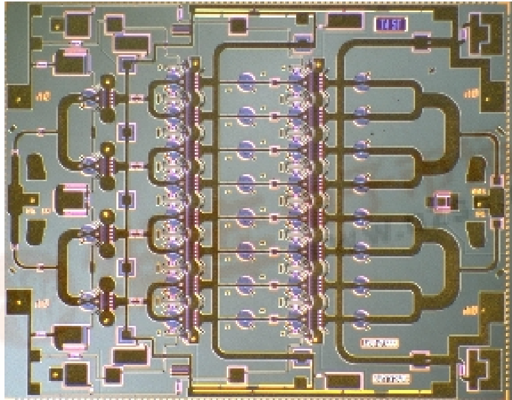
TriQuint SEMICONDUCTOR®

捷多邦，专业PCB打样工厂，24小时加急出货

Advance Product Information

Feb 4, 2000

33-36 GHz 2W Power Amplifier TGA1141



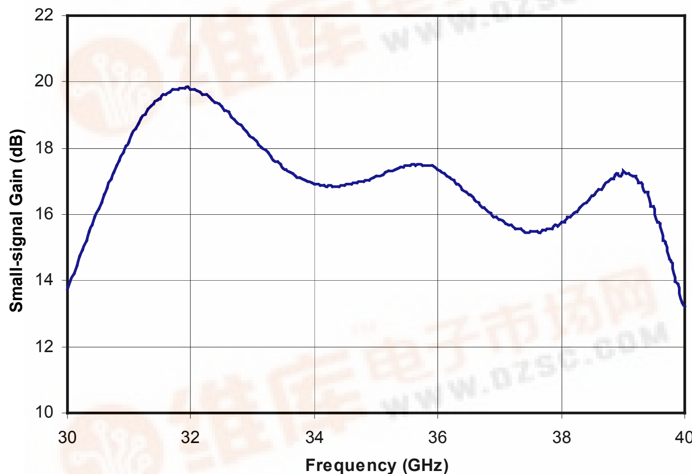
Chip Dimensions 4.13 mm x 3.3 mm

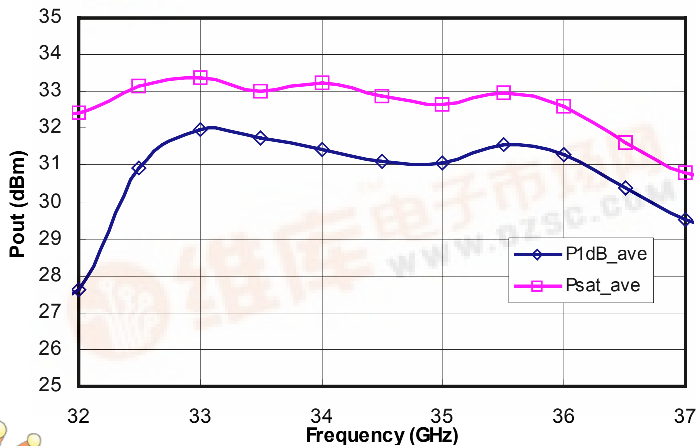
Key Features

- 0.25 um pHEMT Technology
- 17 dB Nominal Gain
- 31 dBm Pout @ P1dB,
- Psat 33dBm @ 6V , 34dBm @7V
- Bias 6 - 7V @ 1.5A

Primary Applications

- Military Radar Systems
- Ka Band Sat-Com
- Point-to-Point Radio





Performance Summary Table

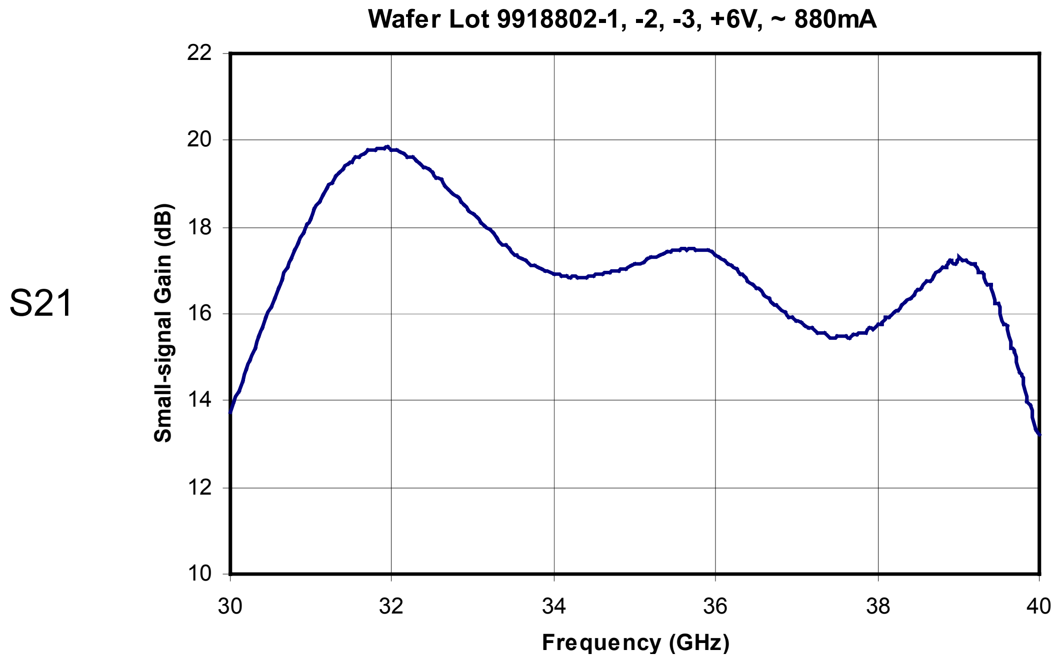
Description	Performance Evaluation Fixtured with Flare TFNs
Frequency range	33 to 36 GHz
Small signal gain	> 17 dB nom, 34 - 35.2 GHz > 17 dB nom, 33 - 36 GHz
Input return loss	~ 5 dB nom, 34 - 35.2 GHz ~ 5 dB nom. 33 – 36 GHz
Output return loss	> 8 dB nom, 34 - 35.2 GHz > 7 dB nom, 33 - 36 GHz
Output power	32.3dBm min. 34 –35.2 GHz 31.5dBm min, 34 – 35.2 GHz over temp.
PAE	> 20% +25C
Operating temperature range	Tested under –26, +25, & +100C Predict: -43C
Ids	< 1.5 A max over operating frequency and Temp. range
Vds	+ 6 V
Die size	4.134 mm x 3.300 mm 13.6mm^2

Note: Devices designated as EPU are typically early in their characterization process prior to finalizing all electrical and process specifications. Specifications are subject to change without notice

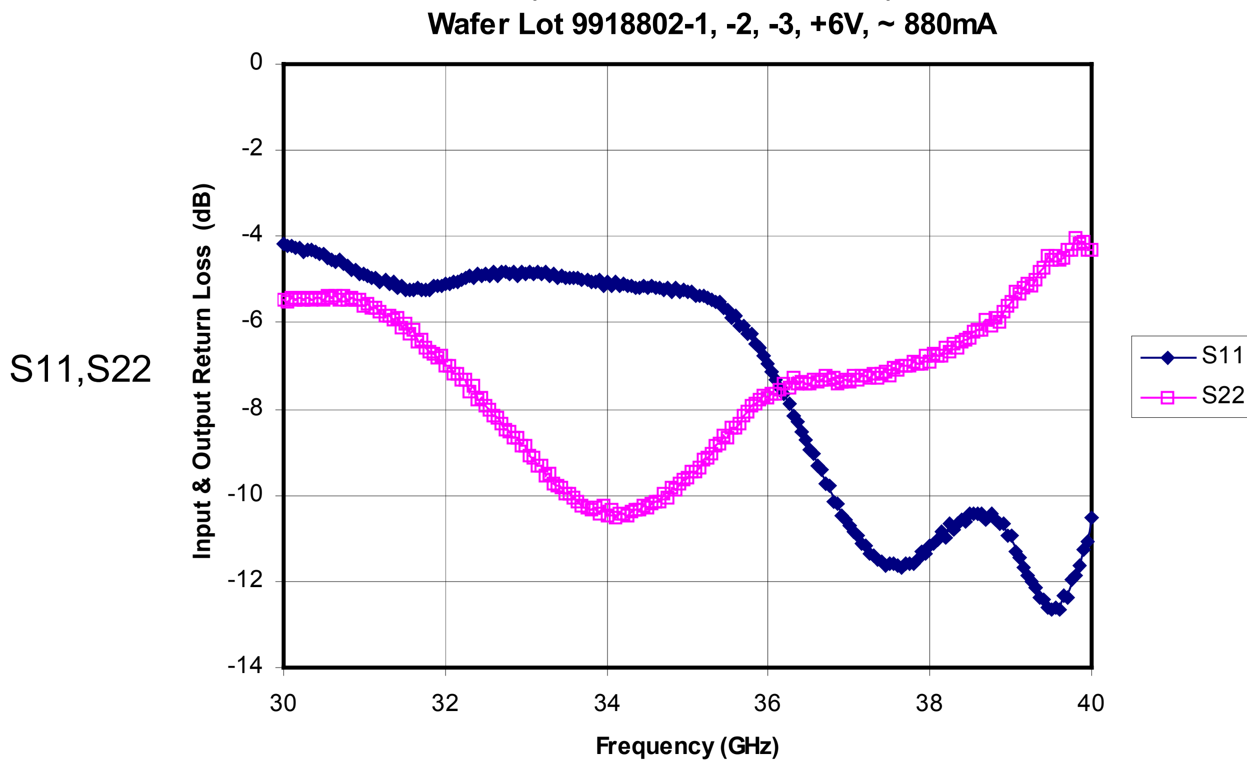
找PDF 维库一下 pdf.dzsc.com

Measured Average Small Signal Data

S21



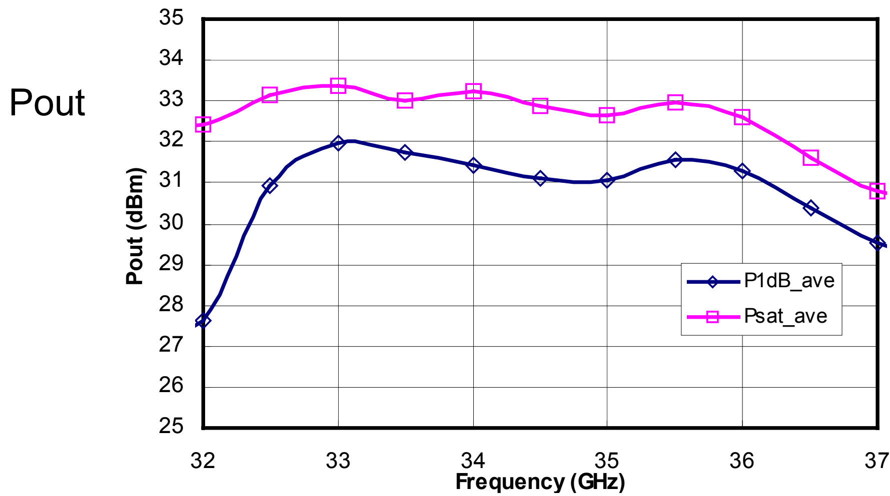
S11,S22



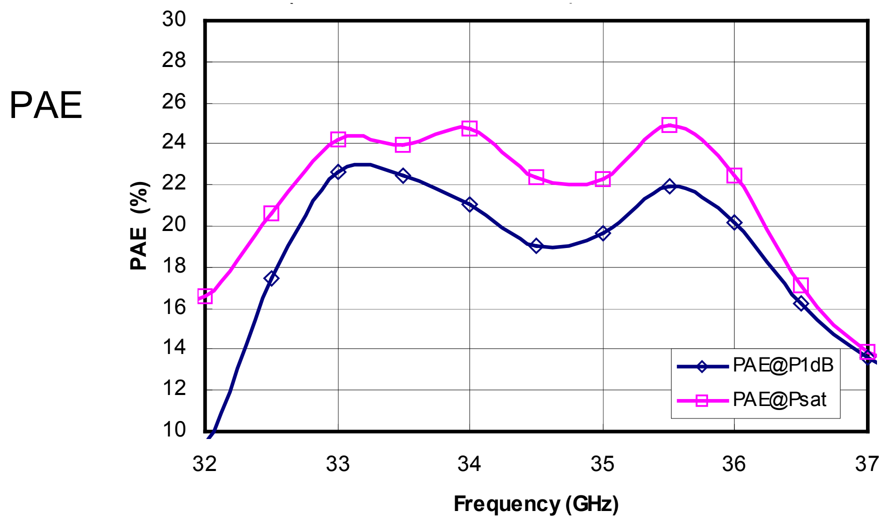
Note: Devices designated as EPU are typically early in their characterization process prior to finalizing all electrical and process specifications. Specifications are subject to change without notice.

Measured Power Data

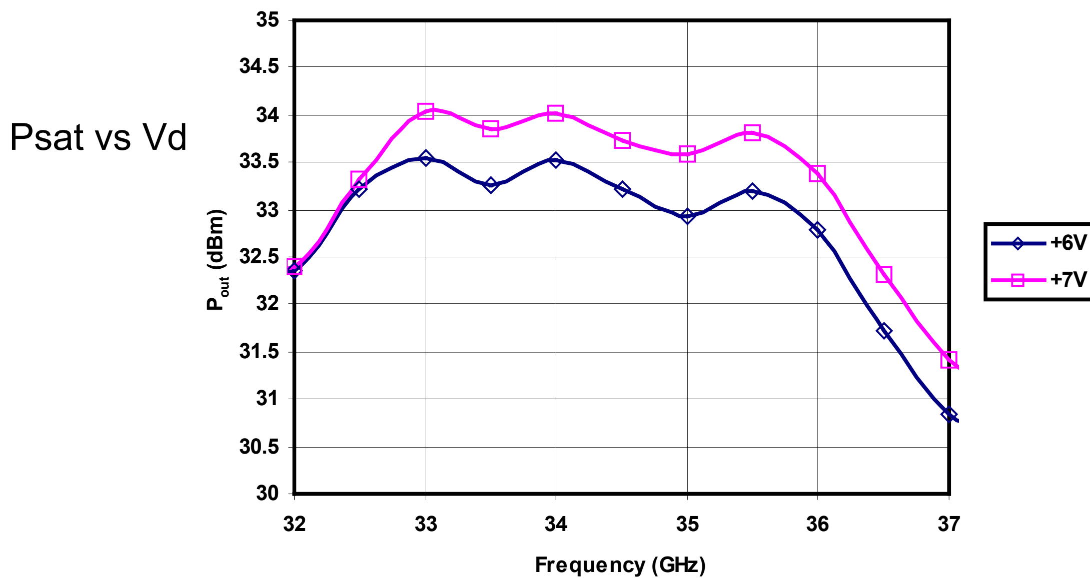
Pout



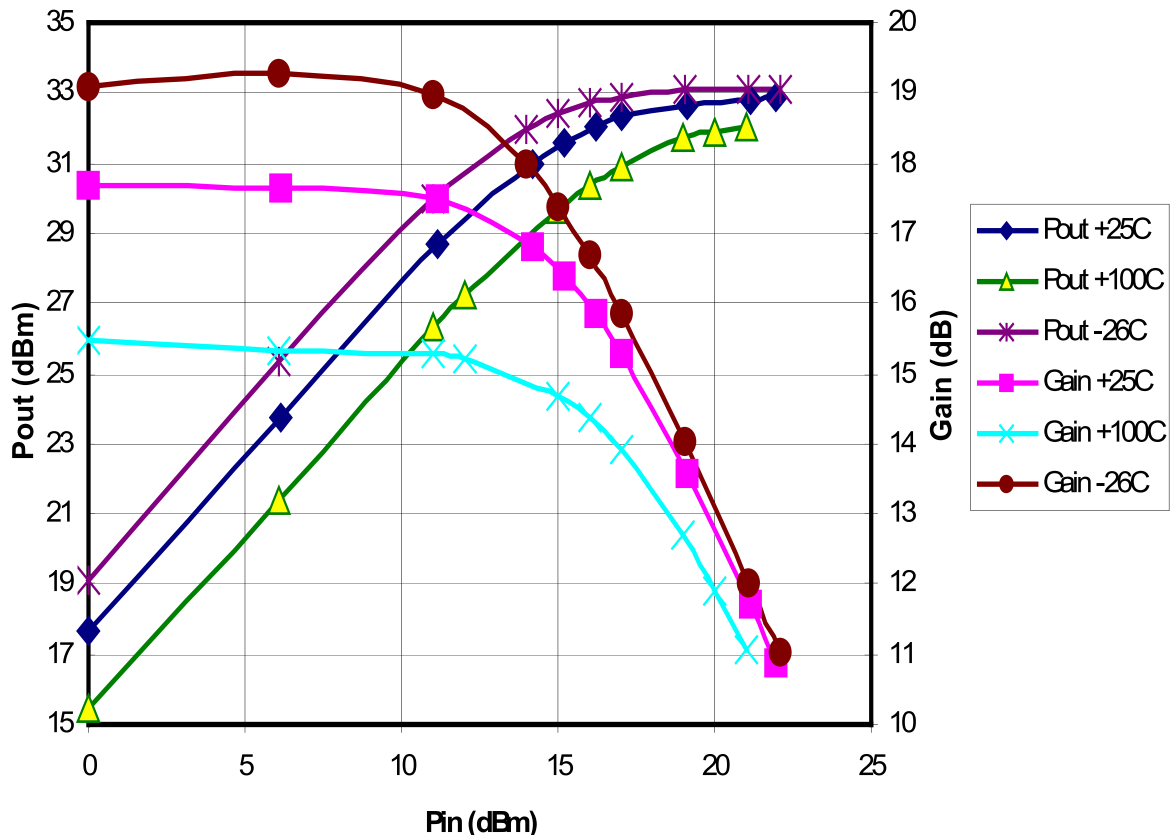
PAE



Psat vs Vd



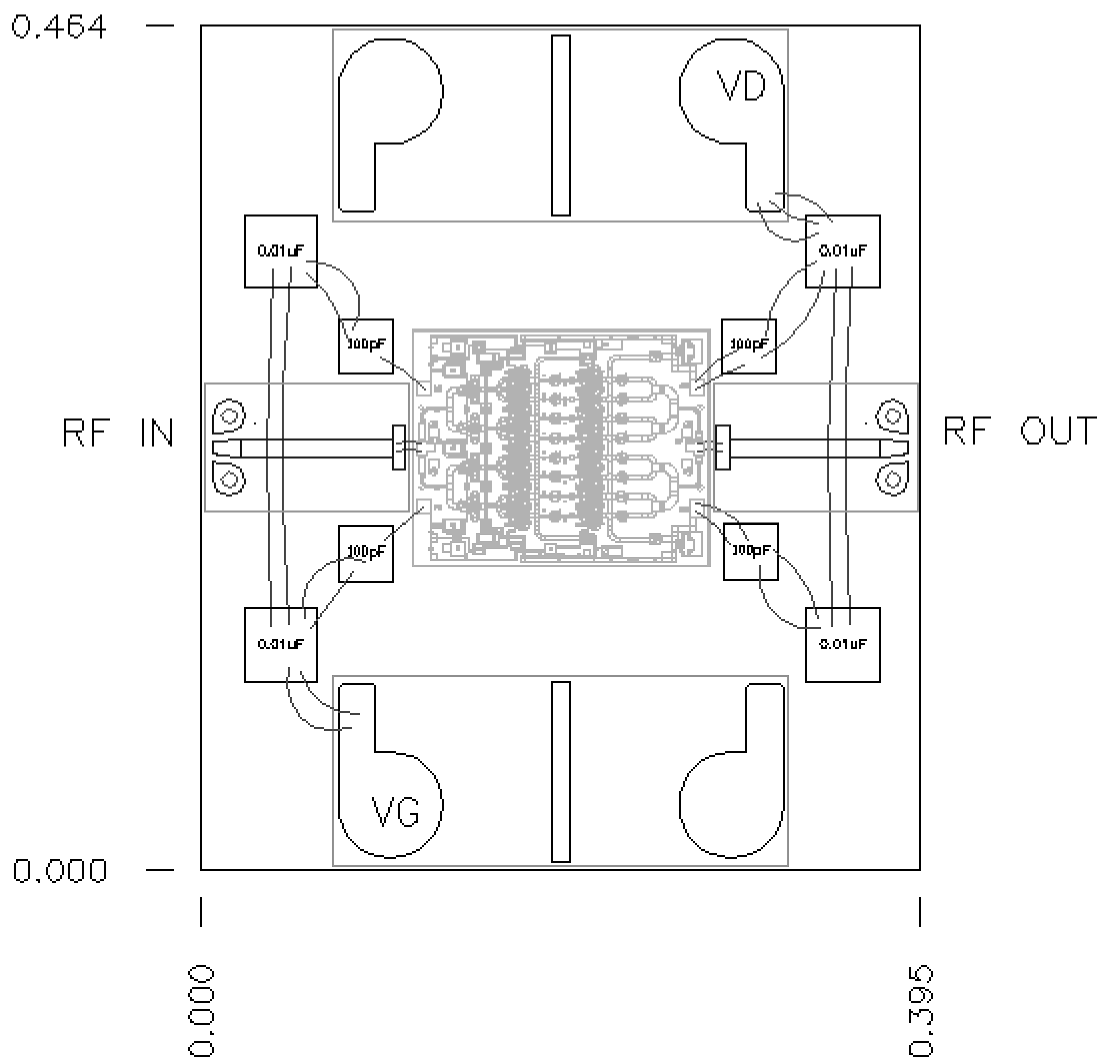
Note: Devices designated as EPU are typically early in their characterization process prior to finalizing all electrical and process specifications. Specifications are subject to change without notice.



Pout vs. Temperature Data Summary Matrix:

	T= -26C		T= +25C		T= +100C	
Freq (GHz)	min Pout	mean Pout	min Pout	mean Pout	min Pout	mean Pout
34	33	33	32.7	32.8	31.9	32
34.6	32.8	32.9	32.5	32.6	31.7	31.8
35.2	32.5	32.7	32.3	32.4	31.5	31.6
Ave. Pout (dBm)	32.8	32.9	32.5	32.6	31.7	31.8

Note: Devices designated as EPU are typically early in their characterization process prior to finalizing all electrical and process specifications. Specifications are subject to change without notice.



Chip Assembly and Bonding Diagram

GaAs MMIC devices are susceptible to damage from Electrostatic Discharge. Proper precautions should be observed during handling, assembly and test.

Assembly Process Notes

Reflow process assembly notes:

- AuSn (80/20) solder with limited exposure to temperatures at or above 300°C
- alloy station or conveyor furnace with reducing atmosphere
- no fluxes should be utilized
- coefficient of thermal expansion matching is critical for long-term reliability
- storage in dry nitrogen atmosphere

Component placement and adhesive attachment assembly notes:

- vacuum pencils and/or vacuum collets preferred method of pick up
- avoidance of air bridges during placement
- force impact critical during auto placement
- organic attachment can be used in low-power applications
- curing should be done in a convection oven; proper exhaust is a safety concern
- microwave or radiant curing should not be used because of differential heating
- coefficient of thermal expansion matching is critical

Interconnect process assembly notes:

- thermosonic ball bonding is the preferred interconnect technique
- force, time, and ultrasonics are critical parameters
- aluminum wire should not be used
- discrete FET devices with small pad sizes should be bonded with 0.0007-inch wire
- maximum stage temperature: 200°C

GaAs MMIC devices are susceptible to damage from Electrostatic Discharge. Proper precautions should be observed during handling, assembly and test.