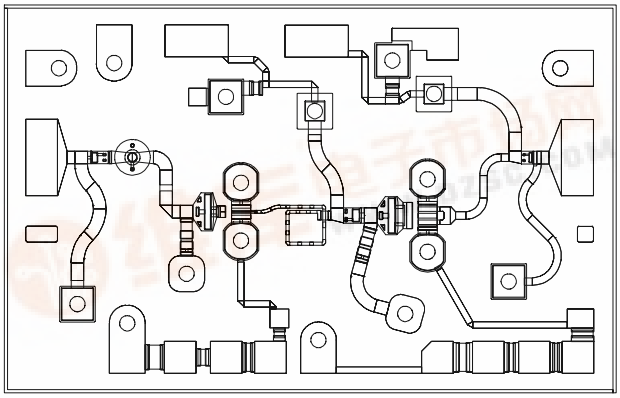
TriQuint SEMICONDUCTOR

Advance Product Information

May 3, 2000

17-21 GHz Intermediate Power Amplifier TGA9088A-EPU



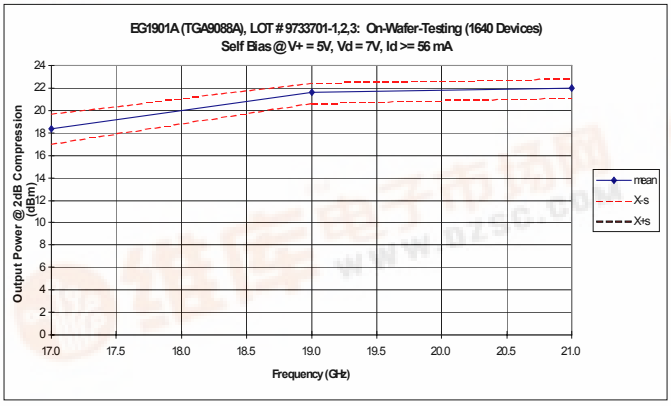
Chip Dimensions 2.41mm x 1.52 mm x 0.1mm

Key Features and Performance

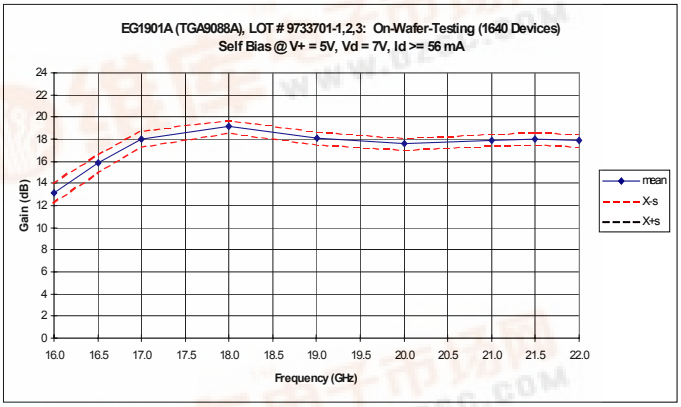
- 0.25um pHEMT Technology
- 17-21GHz Frequency Range
- 22 dBm @ P2dB Nominal Pout
- 18.5 dBm Nominal Gain
- IRL>18 dB, ORL>10 dB
- 7V, 66mA Self Bias

Primary Applications

- Satellite Systems
- Point-to-Point Radio



Measured Pout at 2dB Gain Compression



Measured Small Signal Gain

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

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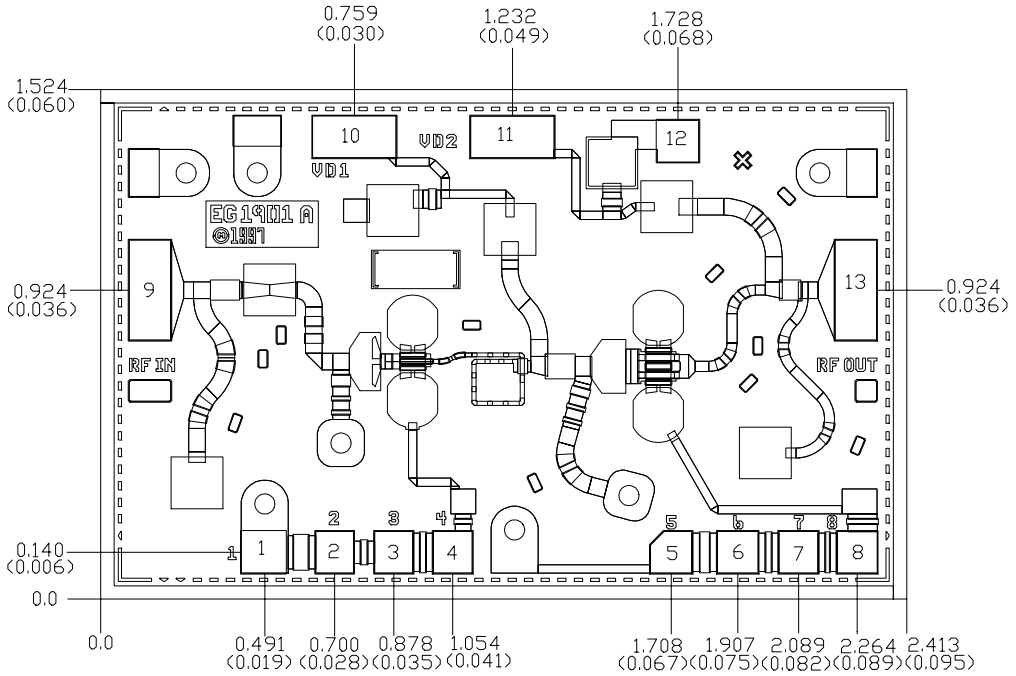

Units: millimeters (inches)
Thickness: 0.1016 (0.004)
Chip edge to bond pad dimensions are shown to center of bond pad
Chip size tolerance: +/- 0.051 (0.002)

Bond pad #1 (GND)	0.130 x 0.137
Bond pad #2 (GND)	0.114 x 0.125
Bond pad #3 (GND)	0.116 x 0.125
Bond pad #4 (GND)	0.118 x 0.125
Bond pad #5 (GND)	0.125 x 0.125
Bond pad #6 (GND)	0.125 x 0.123
Bond pad #7 (GND)	0.125 x 0.119
Bond pad #8 (GND)	0.125 x 0.121
Bond pad #9 (RF input)	0.125 x 0.300
Bond pad #10 (VD1)	0.125 x 0.250
Bond pad #11 (VD2)	0.125 x 0.250
Bond pad #12 (GND)	0.125 x 0.125
Bond pad #13 (RF output)	0.125 x 0.300

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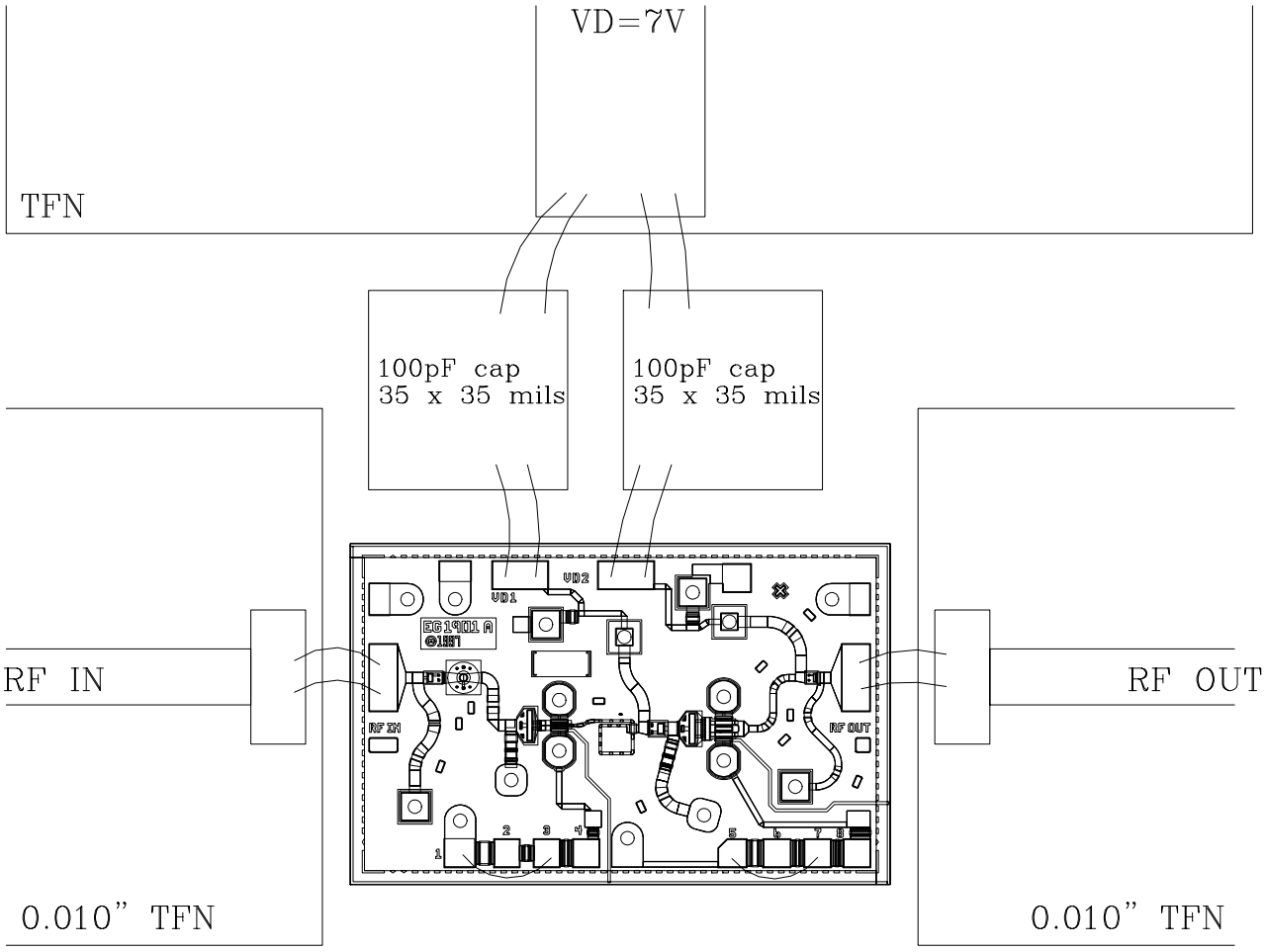

Chip Assembly and Bonding Diagram

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

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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

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