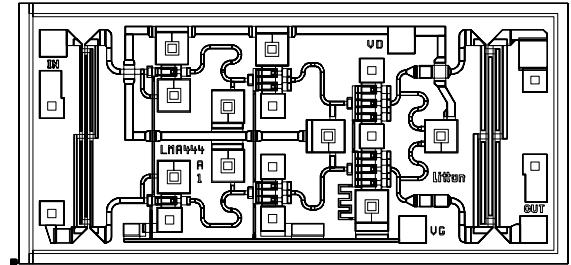


Typical Specifications

- +21dBm Output Power @ 1dB Gain Compression
- 15dB Typical Gain
- 10dB Input/Output Return Loss
- +5Volts Dual Bias Supply
- DC Decoupled RF Input and Output
- Chip Size : 0.95mmX2mm (.038"X.079")
- Chip Thickness : 100µm (.004")
- Pad Dimension : 100X100µm²



Description

The LMA444 is a medium power PHEMT amplifier that operates from 37 to 40GHz. This 3-stage amplifier provides 15dB linear power gain with 1dB gain compression power output of greater than +21dBm. The LMA444 Millimeter Wave point to point and point to multi-point radio link applications. Ground is provided to the circuitry through vias to the backside metallization.

Electrical Specifications at T_a=25°C

(V_{DD}=+5V, Z_{IN}=Z_{OUT}=50Ω)

| Symbol | Parameter | Test Conditions | Limit | | | Units |
|-------------------|-----------------------------|------------------------|-------|------|------|-------|
| | | | Min. | Typ. | Max. | |
| BW | Operating Bandwidth | | 37 | | 40 | GHz |
| S ₂₁ | Small Signal Gain | @ .75 I _{DSS} | 14 | 15 | | dB |
| I _{DSS} | Drain Current at Saturation | @ I _{DSS} | 300 | 360 | 450 | mA |
| ΔS ₂₁ | Small Signal Gain Flatness | | | ±1 | ±2 | dB |
| RL _{IN} | Input Return Loss | | | -10 | | dB |
| RL _{OUT} | Output Return Loss | | | -10 | | dB |
| S ₁₂ | Reverse Isolation | | | -40 | | dB |
| P _{-1dB} | 1-dB Gain Compression Power | @ .75 I _{DSS} | 17 | 19 | | dBm |
| P _{SAT} | Saturated Output Power | | | 20 | | dBm |

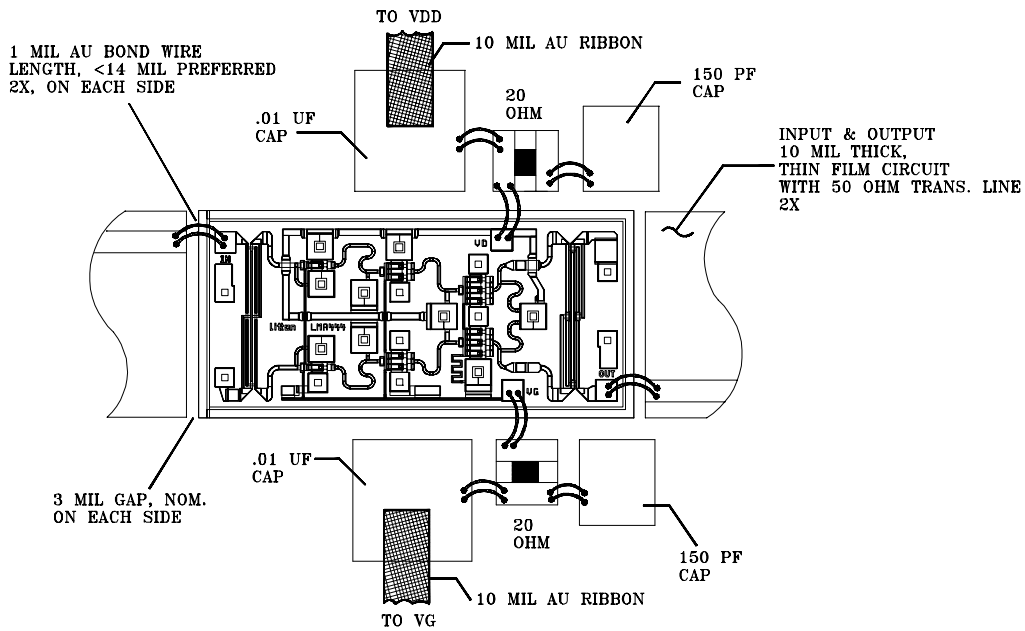
Absolute Maximum Ratings

| Symbol | Parameter/Conditions | Min. | Max. | Units |
|------------------|--------------------------------------|------|------|-------|
| V _{DD} | Drain Supply Voltage | | 8 | Volts |
| I _{DD} | Total Drain Current | | 495 | mA |
| P _{IN} | RF Input Power | | 15 | dBm |
| P _t | Power Dissipation | | 4 | W |
| T _{CH} | Operating Channel Temperature | | 150 | °C |
| T _{STG} | Storage Temperature | -65 | 165 | °C |
| T _{MAX} | Max. Assembly Temp. (1 min. max.) | | 300 | °C |

Notes:

1. This GaAs MMIC is susceptible to damage from Electrostatic Discharge. Proper precautions should be used when handling these devices.
2. Specifications subject to change without notice.

Assembly Diagram



Mechanical Outline

