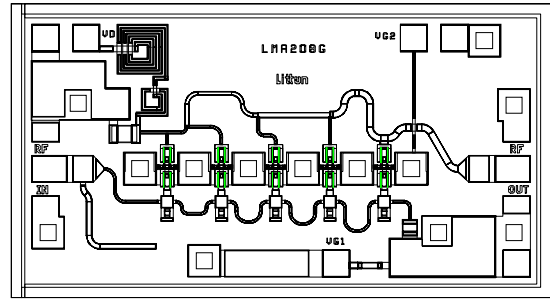


Features

- 10dB Typical Gain
- 19dBm 1-dB Gain Compression Power
- 15dB Input/Output Return Loss Typical
- 2-26GHz Frequency Bandwidth
- DC Decoupled RF Input and Output
- Chip Size : 1.986mmX1.082mm (.078"X.043")
- Chip Thickness : 100µm
- Pad Dimension : 100µm²



Description

The Filtronic LMA208G is a medium power PHEMT amplifier that operates from 2 to 26GHz. This 5-stage travelling wave amplifier provides 10dB nominal gain and 1-dB gain compression power output of greater than 19dBm. The LMA208G is designed for use as wideband driver amplifier in ECM (Electronic Counter-Measure) and commercial communication system applications. Ground is provided to the circuitry through vias to the backside metallization.

Electrical Specifications at T_a=25°C

(VDD=+4.0V, Z_{in}=Z_{out}=50Ω)

Symbol	Parameter	Test Conditions	Limit			Units
			Min.	Typ.	Max.	
BW	Operating Bandwidth		2		26	GHz
S21	Small Signal Gain	@ .75Idss	8	10		dB
Idss	Drain Current at Saturation	Idss @ Vg=0 V	120	260	360	mA
ΔS21	Small Signal Gain Flatness			±1.2	±1.5	dB
RLin	Input Return Loss		-9.5	-13		dB
RLout	Output Return Loss		-6.5	-14		dB
S12	Reverse Isolation		-20	-30		dB
P-1dB	1-dB Gain Compression Power	@ .75Idss	16	19		dBm
Psat	Saturated Output Power			21		dBm

Absolute Maximum Ratings

Symbol	Parameter/Conditions	Min.	Max.	Units
Vdd	Drain Supply Voltage		7	Volts
Idd	Total Drain Current		225	mA
Pin	RF Input Power		12	dBm
Pt	Power Dissipation		1.5	W
Tch	Operating Channel Temperature		150	°C
Tstg	Storage Temperature	-65	165	°C
Tmax.	Max. Assembly Temp. (1 min. max.)		300	°C

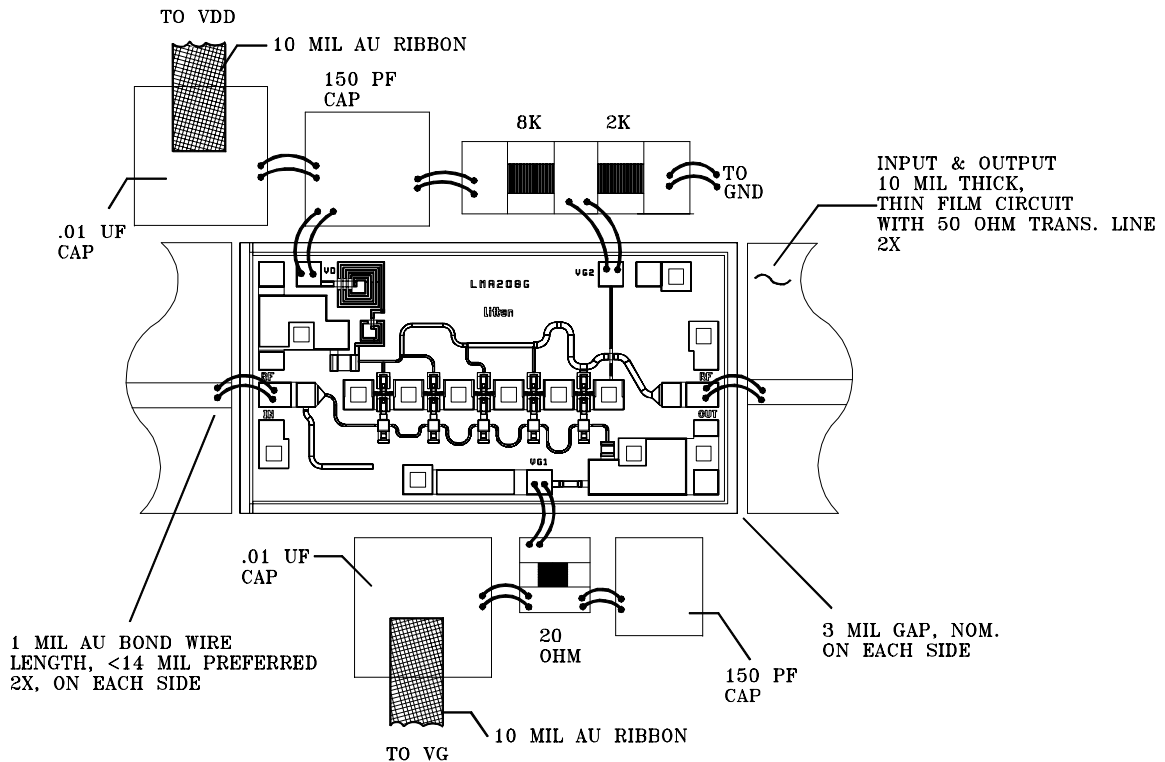
Notes:

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.

DSS 010 WC

Assembly Diagram

STANDARD BIAS



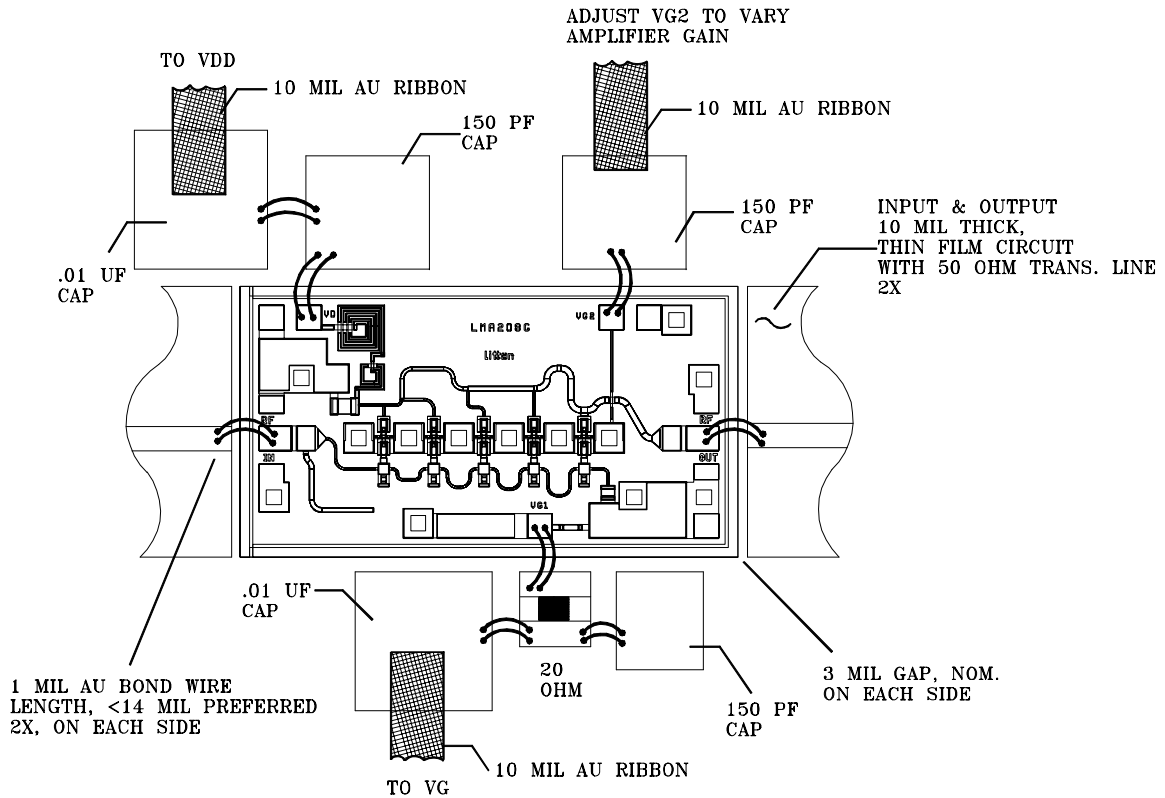
Notes:

- 1.) Recommended lead bond technique is thermo-compression wedge bonding with 0.001" (25µm) diameter wire. The bond tool force shall be 35-38 gram. Bonding stage temperature shall be 230-240°C, heated tool (150-160°C) is recommended. Ultrasonic bonding is not recommended.
- 2.) The recommended die attach is an eutectic 80/20 Gold/Tin solder, using a stage temperature of 285-290°C. Maximum time at temperature is 1 minute. Use of forming gas (90% N₂, 10% H₂) for best results.
- 3.) Bond on bond or stitch bond acceptable.
- 4.) Conductor over conductor acceptable. Conductors must not short.

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Assembly Diagram

VARIABLE BIAS

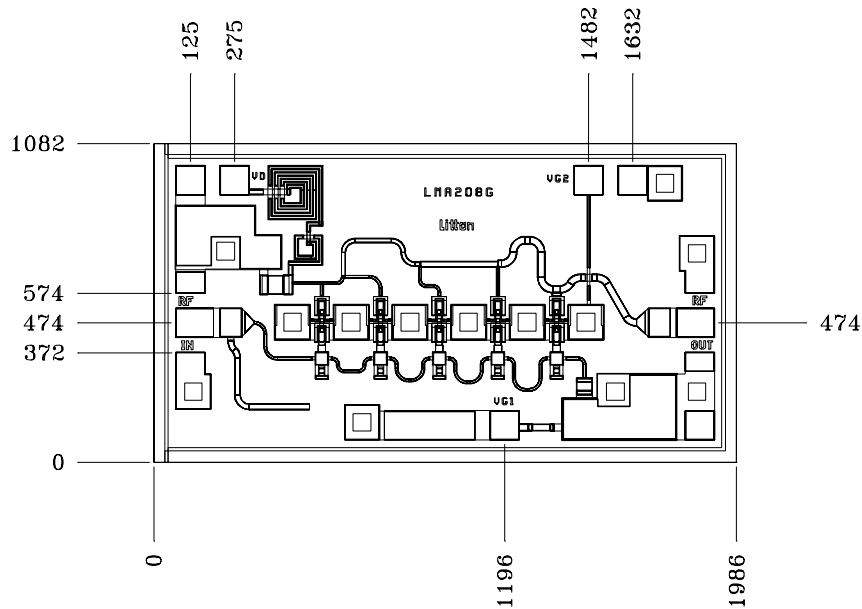


Notes:

- 1.) Recommended lead bond technique is thermocompression wedge bonding with 0.001" (25µm) diameter wire. The bond tool force shall be 35-38 gram. Bonding stage temperature shall be 230-240°C, heated tool (150-160°C) is recommended. Ultrasonic bonding is not recommended.
- 2.) The recommended die attach is an eutectic 80/20 Gold/Tin solder, using a stage temperature of 285-290°C. Maximum time at temperature is 1 minute. Use of forming gas (90% N₂, 10% H₂) for best results.
- 3.) Bond on bond or stitch bond acceptable.
- 4.) Conductor over conductor acceptable. Conductors must not short.

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Mechanical Outline



Notes:

- 1.) Unless Otherwise specified.
- 2.) All units are in micron (μm).
- 3.) All bond pads are $100 \times 100 \mu\text{m}^2$.
- 4.) Bias pad (V_{DD}) size is $100 \times 121.5 \mu\text{m}^2$.

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