TRANSCOM

TC1956

PRE1_20060621

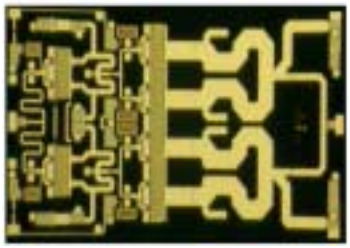
Preliminary

13.75 – 14.5 GHz 37.5 dBm HPA MMIC

FEATURES

- Pout: 37.5 dBm
- Small Signal Gain: 12 dB
- Bias Condition: 1000 mA @ 8 V

PHOTO ENLARGEMENT



DESCRIPTION

The TC1956 is a two stages PHEMT high power amplifier MMIC that operates from 13.75 to 14.5 GHz. The amplifier provides a typical 12 dB of gain and delivers 37.5 dBm of Pout. The MMIC is fabricated using Transcom's proprietary matured GaAs PHEMT process. The process features full passivation for increased performance and reliability. All devices are 100 % DC tested to assure consistent quality. Bond pads are gold plated for either thermocompression or thermosonic wire bonding. Backside gold plating is compatible with standard AuSn die-attach.

ELECTRICAL SPECIFICATIONS (Ta = 25 °C)

SYMBOL	DESCRIPTION	MIN	TYP	MAX	UNITS
FREQ	Frequency Range	13.75		14.5	GHz
SSG	Small Signal Gain		12		dB
Pout	Output Power		37.5		dBm
VSWR, IN	Input VSWR		2:1		-
VSWR, OUT	Output VSWR		2:1		-
VDD	Supply Voltage		8		Volt
Vg	Gate Voltage		-1.3		Volt
IDD	Bias Current Without RF		1000		mA
IDRF	Current Supply @ Pout		2800		mA
η_a	Power Added Efficiency		23		%

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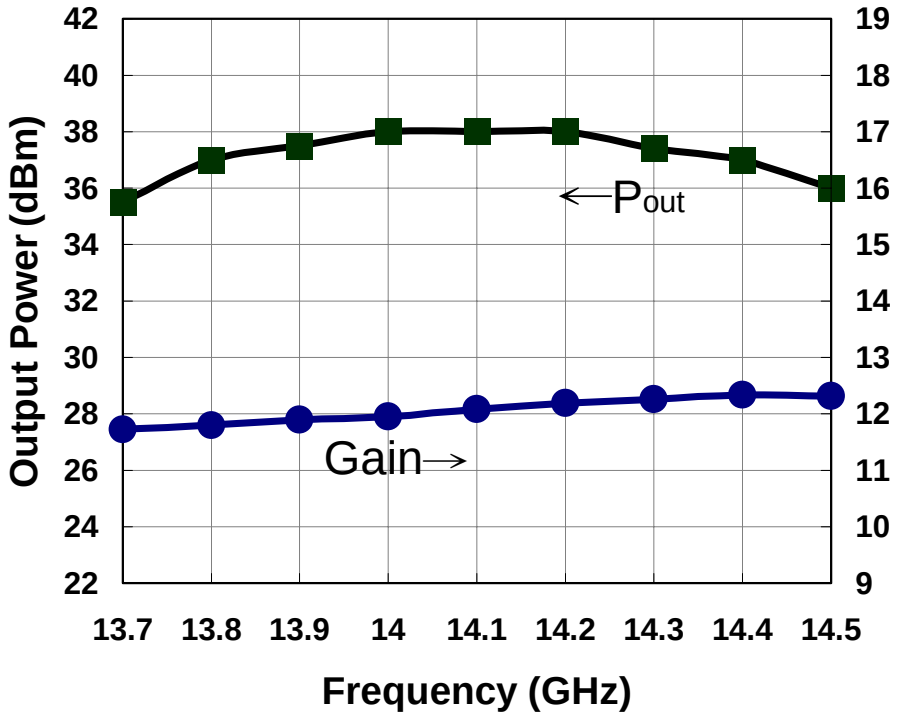
TYPICAL CHARACTERISTICS

Pout VS Freq. & Gain VS Freq.

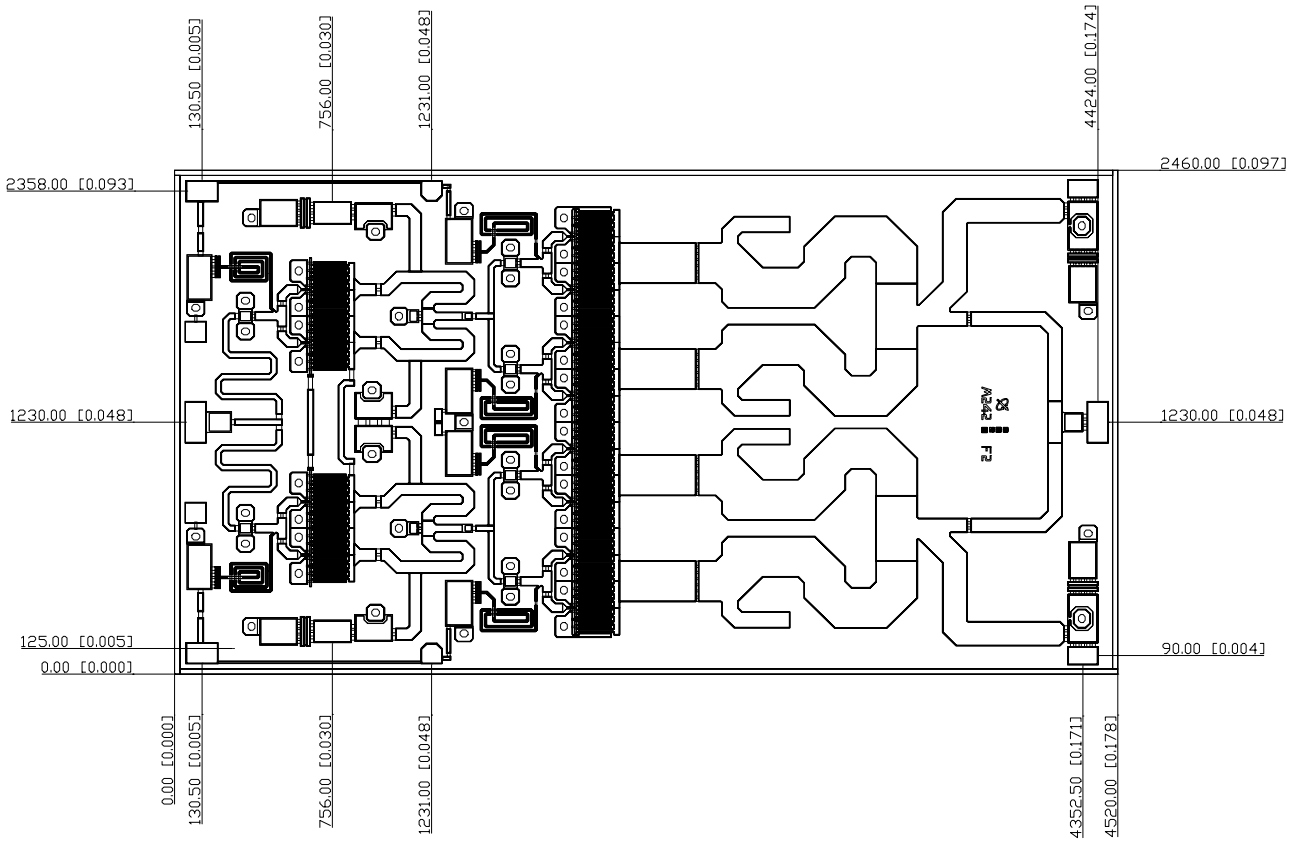


MECHANICAL OUTLINE

Units: micrometer (inch)

Thickness: 76.2 (0.003)

Chip Size: ± 50.8 (0.002)



ASSEMBLY DIAGRAM