TRANSCOM

TC1954

PRE.1_06/21/2006

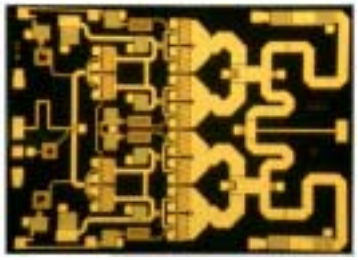
Preliminary

14 – 18 GHz 2W PA MMIC

FEATURES

- P_{1dB}: 33 dBm
- Small Signal Gain: 10 dB
- Bias Condition: 1400 mA @ 8 V

PHOTO ENLARGEMENT



DESCRIPTION

The TC1954 is a two stages PHEMT high power amplifier MMIC that operates from 14 to 18 GHz. The amplifier provides a typical 10 dB of gain and delivers 33 dBm of P_{1dB}. 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	14		18	GHz
SSG	Small Signal Gain		10		dB
P1dB	Output Power at 1dB Gain Compression		33		dBm
P3dB	Output Power at 3dB Gain Compression		34		dBm
VSWR, In	Input VSWR		3 : 1		------
VSWR, Out	Output VSWR		2 : 1		------
VDD	Supply Voltage (Positive)		8		Volt
Vg	Gate Voltage (Negative)	-0.5	-1.0	-1.5	Volt
IDD	Current Supply without RF		1400		mA
IDRF	Current Supply @ Pout = P_{1dB}		1500		mA
ηa	Power Added Efficiency		17		%

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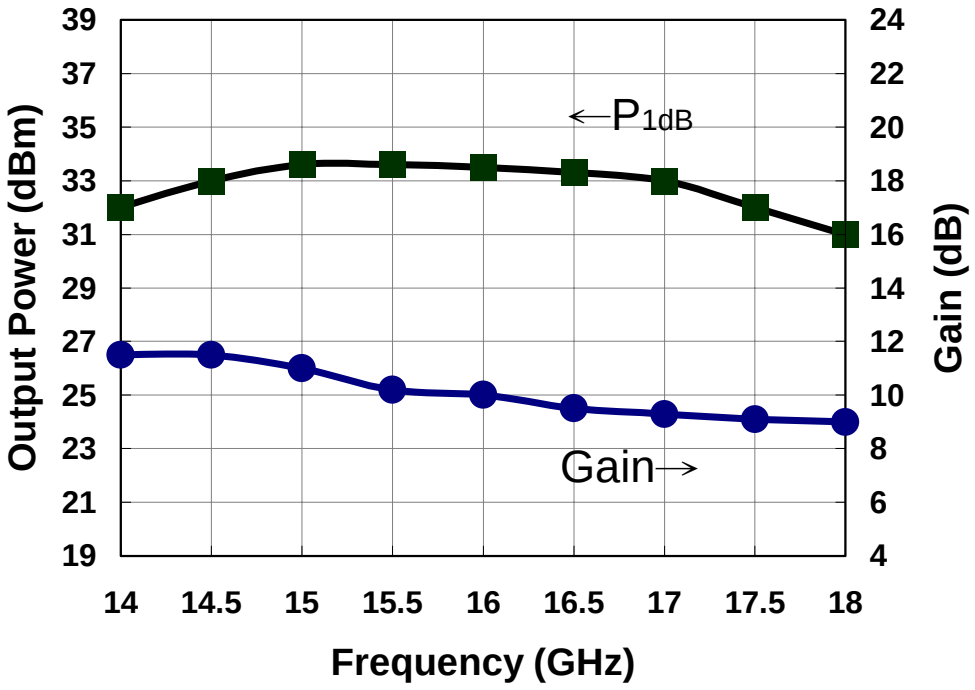
TYPICAL CHARACTERISTICS

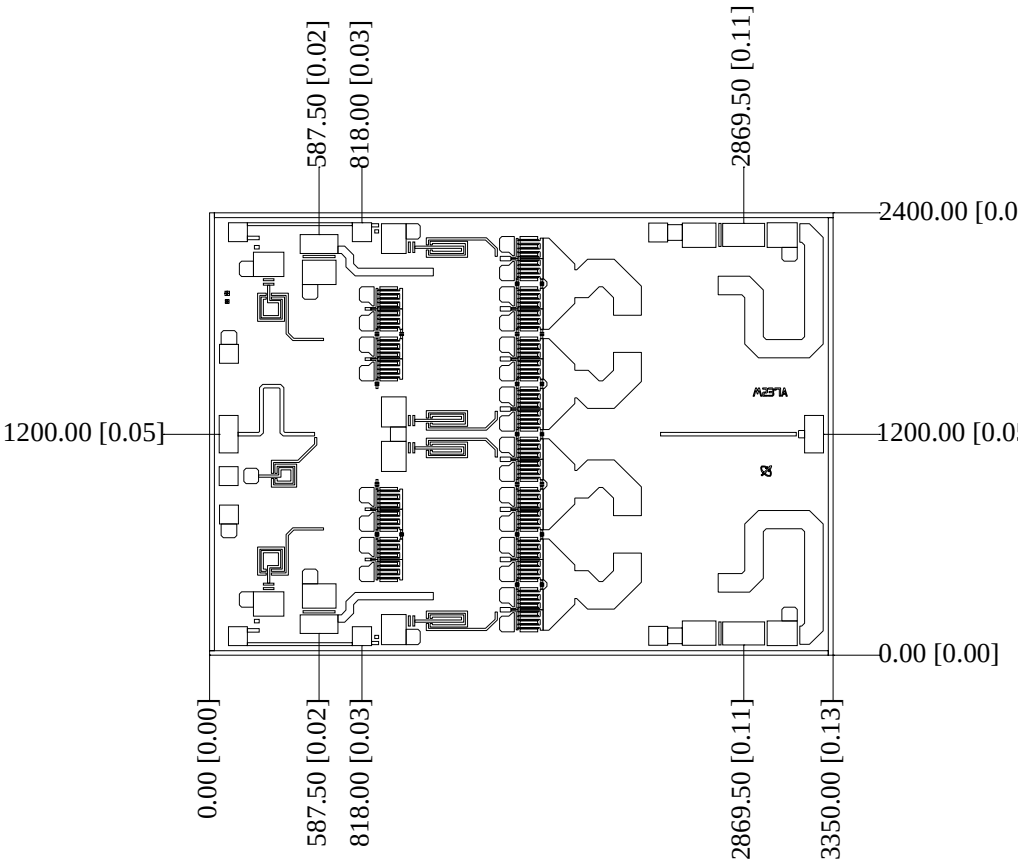
Pout VS Freq. & Gain VS Freq.



MECHANICAL OUTLINE

Units: Micrometer [Inch]

Thickness: 76.2 [0.003]



ASSEMBLY DIAGRAM