TRANSCOM

TC1931D

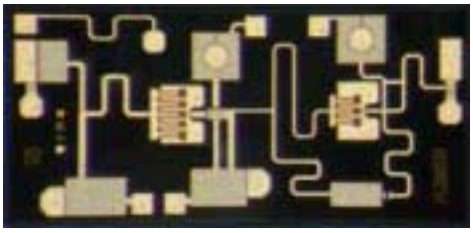
REV.2_04/12/2004

12.5 – 15.5 GHz 21dBm MMIC

FEATURES

- P_{-1} dB: 21 dBm
- Small Signal Gain: 15 dB
- IP3: 30 dBm
- Bias Condition: 100 mA @ 8V

PHOTO ENLARGEMENT



DESCRIPTION

The TC1931D is a two stages PHEMT medium power amplifier MMIC that operates from 12.5 to 15.5 GHz. The amplifier provides a minimum of 15 dB gain and delivers 21 dBm of P1dB. 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	12.5		15.5	GHz
SSG	Small Signal Gain @ 15 GHz	15	16		dB
P1 dB	Output Power at 1 dB Gain Compression	20	21		dBm
P3 dB	Output Power at 3 dB Gain Compression	21	22		dBm
IP3	Third Order Intercept Point	29	30		dBm
VSWR, IN	Input VSWR		2:1		
VSWR, OUT	Output VSWR		2:1		
VDD	Supply Voltage		8		Volt
Vg	Gate Voltage	-0.5	-1.0	-1.5	Volt
IDD	Bias Current		100		mA

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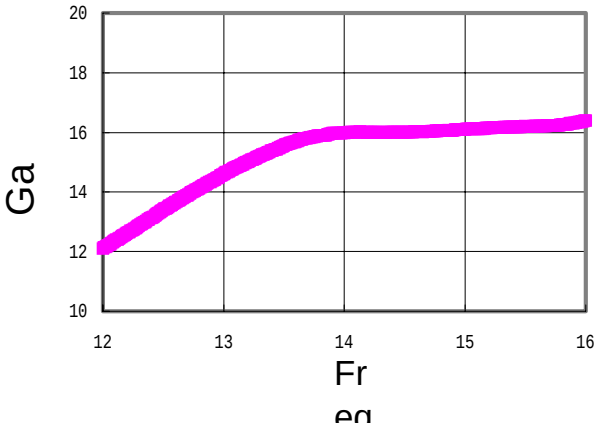
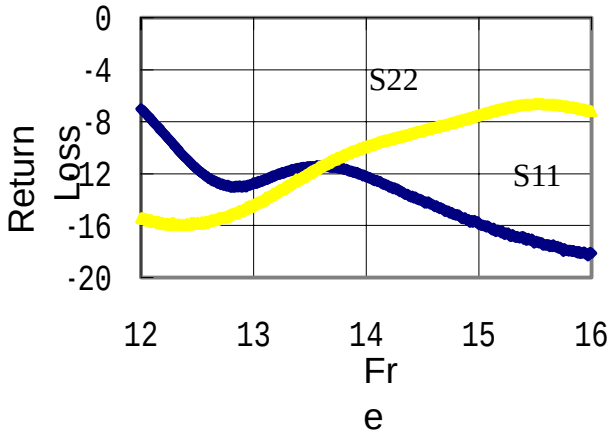
ABSOLUTE MAXIMUM RATINGS at 25 °C

Symbol	Parameter	Rating
V_{DS}	Drain-Source Voltage	10 V
V_{GS}	Gate-Source Voltage	-5 V
I_D	Drain Current	200 mA
P_T	Continuous Dissipation	2 W
P_{in}	Input Power, CW	10 dBm
T_{CH}	Channel Temperature	175 °C
T_{STG}	Storage Temperature	- 65 °C to +175 °C



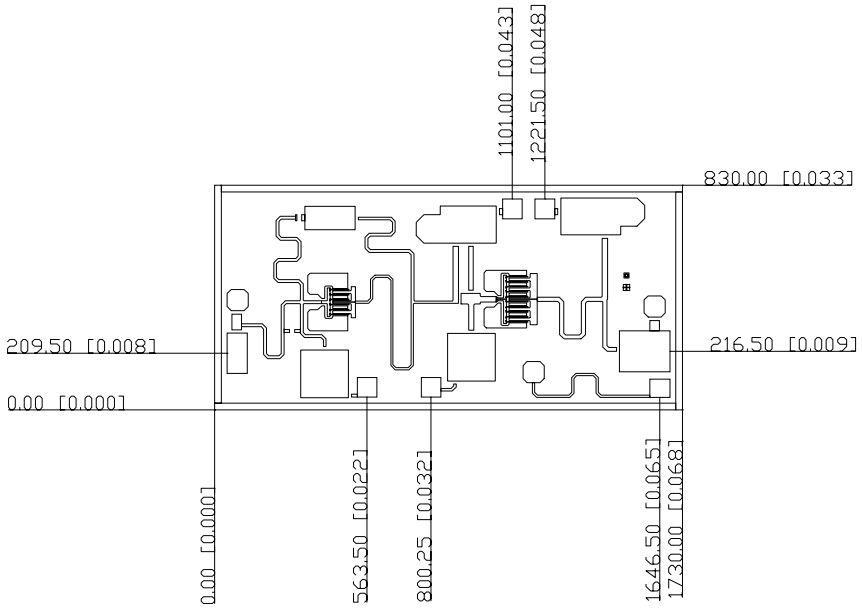


MECHANICAL OUTLINE

Units: micrometer (inch)

Thickness: 76.2 (0.003)

Chip Size: ± 58 (0.002)



ASSEMBLY DIAGRAM