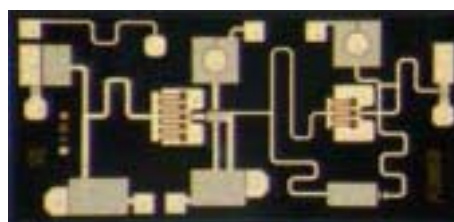


## 12.5 – 15.5 GHz 21dBm MMIC

### FEATURES

- P<sub>1</sub> dB: 21 dBm
- Small Signal Gain: 15 dB
- IP3: 30 dBm
- Bias Condition: 100 mA @ 8V

### PHOTO ENLARGEMENT



### DESCRIPTION

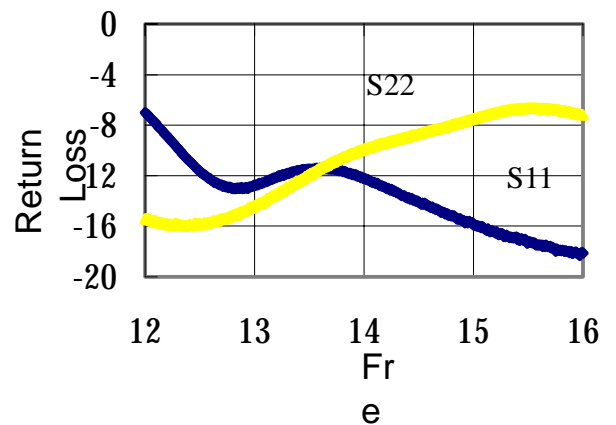
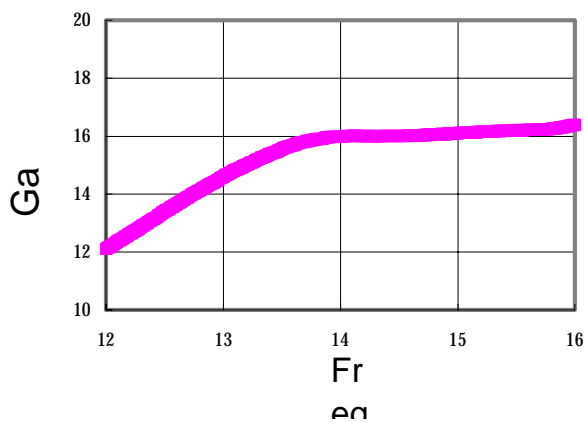
The TC1931D is a two stages PHEMT medium power amplifier MMIC that operates from 12.5 to 15.5 GHz. The amplifier provides a minimum of 15 dB gain and delivers 21 dBm of P1dB. The MMIC is fabricated using Transcom's proprietary matured GaAs PHEMT process. The process features full passivation for increased 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
<b>FREQ</b>	Frequency Range	12.5		15.5	GHz
<b>SSG</b>	Small Signal Gain @ 15 GHz	15	16		dB
<b>P1 dB</b>	Output Power at 1 dB Gain Compression	20	21		dBm
<b>P3 dB</b>	Output Power at 3 dB Gain Compression	21	22		dBm
<b>IP3</b>	Third Order Intercept Point	29	30		dBm
<b>VSWR, IN</b>	Input VSWR		2:1		
<b>VSWR, OUT</b>	Output VSWR		2:1		
<b>VDD</b>	Supply Voltage		8		Volt
<b>Vg</b>	Gate Voltage	-0.5	-1.0	-1.5	Volt
<b>IDD</b>	Bias Current		100		mA

**ABSOLUTE MAXIMUM RATINGS at 25 °C**

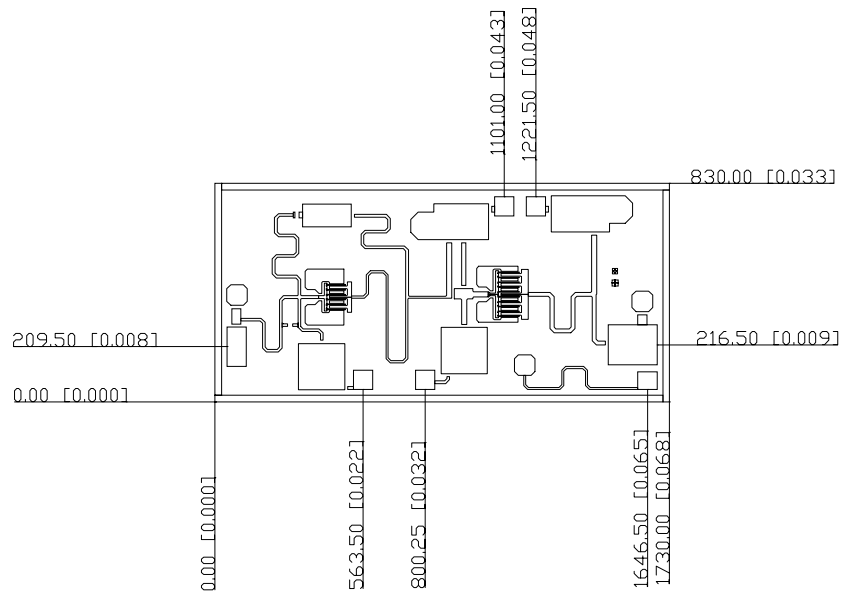
Symbol	Parameter	Rating
$V_{DS}$	Drain-Source Voltage	10 V
$V_{GS}$	Gate-Source Voltage	-5 V
$I_D$	Drain Current	200 mA
$P_T$	Continuous Dissipation	2 W
$P_{in}$	Input Power, CW	10 dBm
$T_{CH}$	Channel Temperature	175 °C
$T_{STG}$	Storage Temperature	- 65 °C to +175 °C



**MECHANICAL OUTLINE**

Units: micrometer (inch)

Thickness: 76.2 (0.003)

 Chip Size:  $\pm 58$  (0.002)

**ASSEMBLY DIAGRAM**
