

**PRELIMINARY**
**2 - 20 GHz 20 dBm MMIC**
**FEATURES**

- Small Chip Size: 43.6 mils x 90 mils
- P<sub>-1</sub> dB: 22.5 dBm typical
- Small Signal Gain: 11.5 dB typical
- Bias Condition: 250 mA @ 8 V
- Single Bias supply

**DESCRIPTION**

The TC1901 is a broadband general-purpose medium power MMIC amplifier that operates in 2 to 20 GHz frequency range. The amplifier provides a 11.5 dB of typical gain and delivers 22.5 dBm of typical output power. The MMIC is fabricated using a mature GaAs PHEMT process. The process features all 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	2		20	GHz
<b>SSG</b>	Small Signal Gain	10	11.5		dB
<b>GOF</b>	Small Signal Gain Flatness		± 0.6	± 0.8	dB
<b>P<sub>-1</sub> dB</b>	Output Power at 1 dB Gain Compression	21.5	22.5		dBm
<b>IP3</b>	Third Order Intercept Point		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>IDD</b>	Current Supply	225	250	275	mA