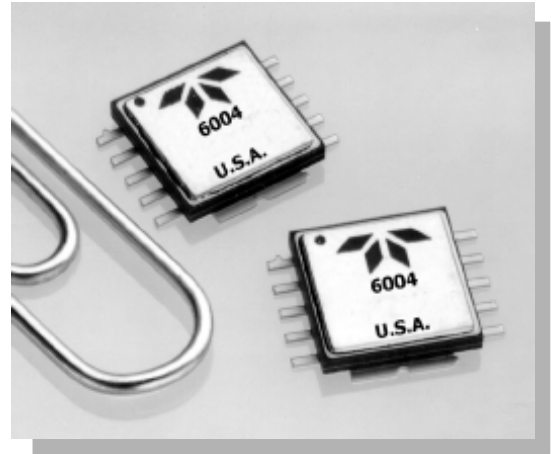


6004 5.725 to 5.825 GHz GaAs MMIC U-NII Band Power Amplifier

Features

- ◆ 27 dBm Linear Output Power
- ◆ 22 dB Small Signal Gain
- ◆ 38 dBm Third Order Intercept Point
- ◆ Thermally Efficient Moly-Copper Package



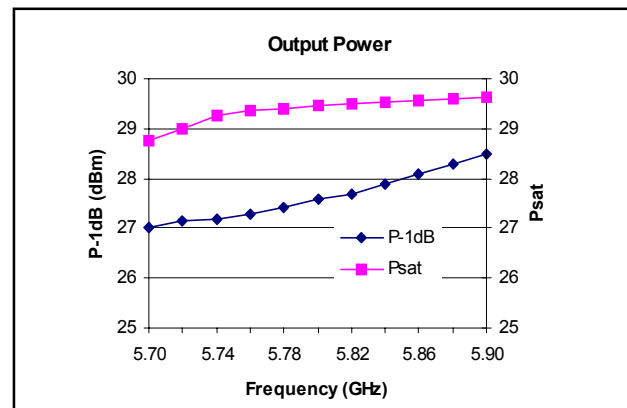
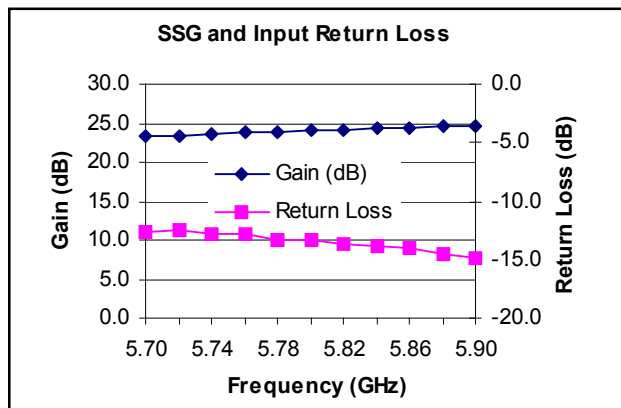
Product Description

The 6004 GaAs MMIC power amplifier is designed to operate in the FCC approved Unlicensed National Information Infrastructure (U-NII) band of 5.725 to 5.825 GHz. It provides a minimum of 22 dB gain, a minimum of +27 dBm linear output power when measured at 1 dB GCP, and has an IP3 of +38 dBm. It is housed in a thermally efficient moly-copper package and is capable of performing within typical commercial system operating temperature ranges.

Electrical Specifications (All Specifications at 25°C, $V_d = +7.0V$, $I_d = 600$ mA)

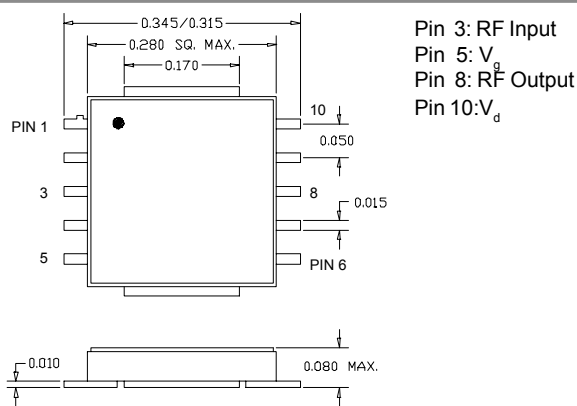
Parameter	Symbol	Min	Max	Typical	Units
Operating Frequency	F_{OP}	5.72	5.82	-	GHz
Small Signal Gain	S_{21}	22	-	24.0	dB
Input Return Loss	S_{11}	-	-	-10.0	dB
Reverse Isolation	S_{12}	-	-	52.0	dB
Output Power @ 1dB Gain Compression	P_{-1dB}	27	-	28.0	dBm
3rd Order Intercept Point	IP3	-	-	41.0	dBm
Temperature Coefficient of Gain	ΔS_{21}	-	-	-0.045	dB/°C

Gain and Output Power are 100% tested at 5.725 and 5.825 GHz



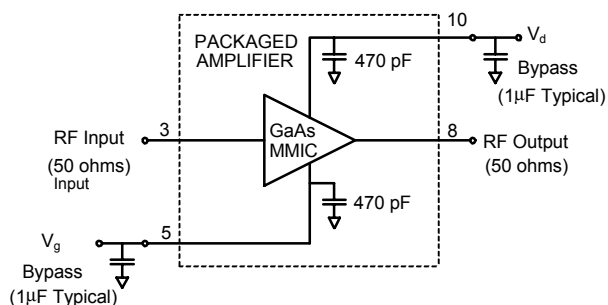
5.725 to 5.825 GHz GaAs MMIC Power Amplifier for U-NII Applications

Package Outline



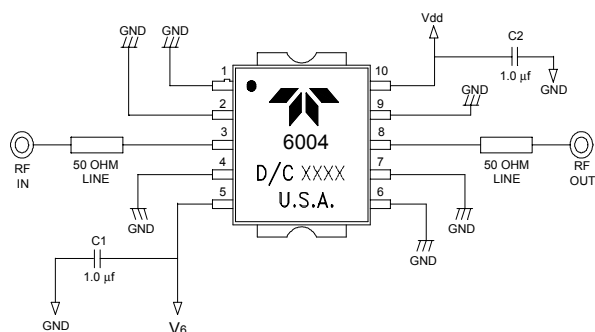
Tolerance: .XXX \pm 0.005

Typical Biasing Configuration

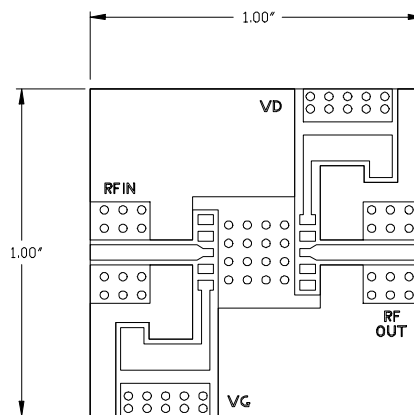


External Components Required:
Bypass Capacitors: 1µ F, typical
50 Ohm microstrip interface

Evaluation Circuit



Evaluation Board



Notes

1. Dual bias supply required.
2. DC supply sequencing or protection circuitry not included. See Amplifier Biasing Procedure
3. A 360 pF DC supply line decoupling capacitor is included on both V_d and V_g lines. (See typical biasing configuration shown above).
4. The last fixture or circuit should incorporate additional bypass capacity (25µfd) on the drain and gate bias terminals to prevent oscillations caused by feedback signals.
5. Supply (drain and gate) wire/leads should be as short as possible.
6. Close placement of external components to the power amplifier is essential for stability purposes.
7. TET recommends the unit be soldered to DC and RF ground for best results.
8. Pin numbers indicated on outline drawing are for user information only. Units are not labeled with pin numbers.
9. MASK drawing for circuit board available on the Teledyne Wireless website at www.teledynewireless.com.

Teledyne reserves the right to make changes without further notice to any specification herein. "Typical" parameters can and do vary.