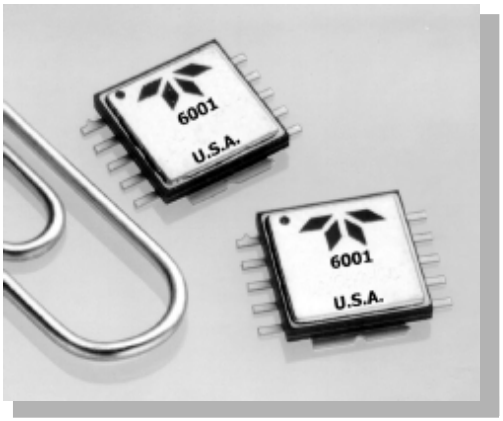
6001
5.150 to 5.300 GHz GaAs MMIC Hiperlan Band Power Amplifier



Features

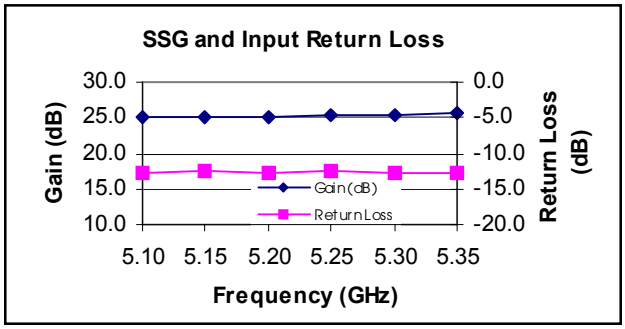
- +23 dBm Output Power @1 dB Gain Compression
- 23 dB Minimum Small Signal Gain
- 34dBm Third Order Intercept Point
- Surface Mount, Thermally Optimum Moly-Copper Package

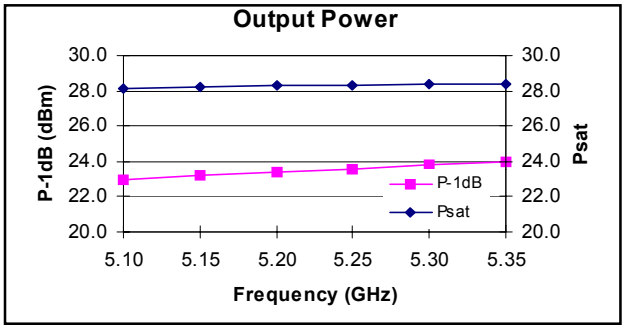
Product Description

The 6001 GaAs MMIC power amplifier is designed to operate in the Hiperlan band of 5.150 to 5.300 GHz. It provides a minimum of 23 dB gain, a minimum of +23 dBm linear output power when measured at P-1dB, and a minimum IP3 of 33dBm. It is housed in a thermally optimum copper-tungsten surface mount package and is capable of performing within typical commercial system operating temperature ranges.

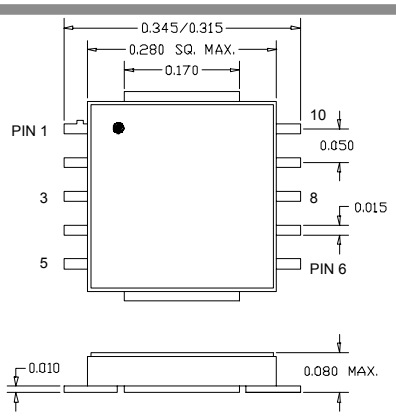
Electrical Specifications (All Specifications at 25°C, V_d = +7.0V, I_d = 600 mA)

Parameter	Symbol	Min	Max	Typical	Units
Operating Frequency	F_{OP}	5.15	5.30	-	GHz
Small Signal Gain	S_{21}	23	-	25.0	dB
Input Return Loss	S_{11}	-	-	-10.0	dB
Reverse Isolation	S_{12}	-	-	52.0	dB
Output Power @ 1dB Gain Compression	P_{-1dB}	23	-	24.0	dBm
3rd Order Intercept Point	IP3	-	-	34.0	dBm
Temperature Coefficient of Gain	ΔS_{21}	-	-	-0.045	dB/°C





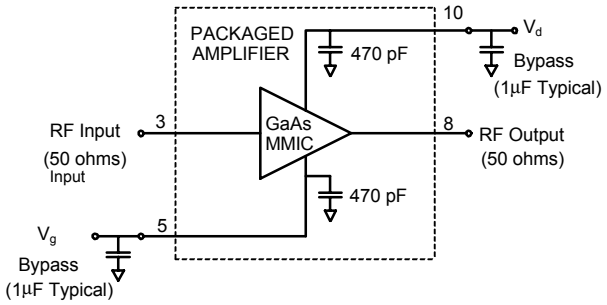
Package Outline



Pin 3: RF Input
Pin 5: V_g
Pin 8: RF Output
Pin 10:V_d

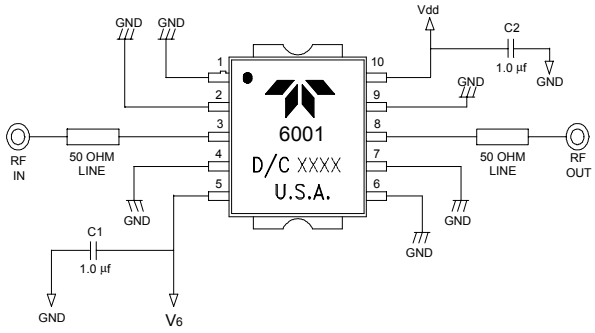
Tolerance: .XXX ±0.005

Typical Biasing Configuration

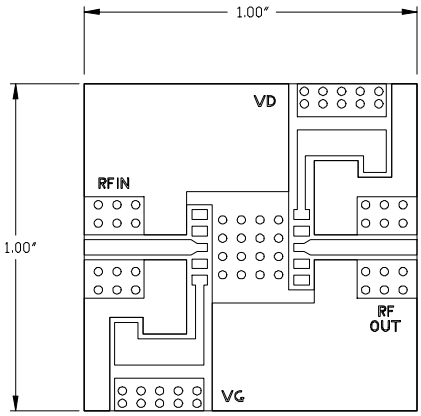


External Components Required:
Bypass Capacitors: 1µ F, typical
50 Ohm microsrtip interface

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 (25ufd) 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.