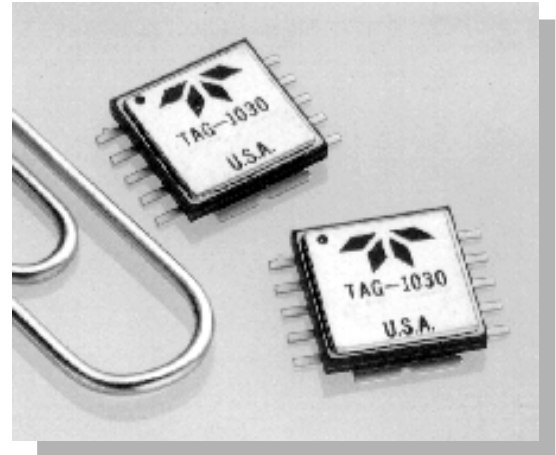


## TAG-1030 5.725 to 5.825 GHz GaAs MMIC U-NII Band Power Amplifier

### Features:

- ◆ 25 dBm Minimum Linear Output Power
- ◆ 20 dB Small Signal Gain
- ◆ 35 dBm 3<sup>rd</sup> Order Intercept Point
- ◆ Surface Mount Thermally Efficient Moly-Copper Package

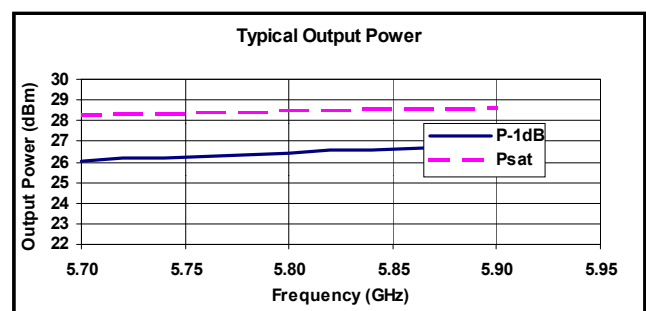
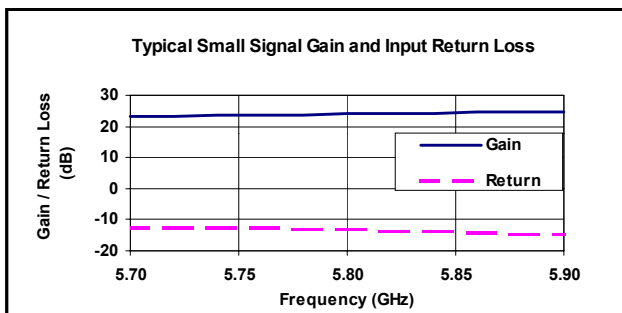


### Product Description

The TAG-1030 GaAs MMIC power amplifier is designed to operate in the ETSI approved Unlicensed band of 5.725 to 5.825 GHz. It provides a minimum of 20 dB gain, a minimum of +25 dBm linear output power when measured at 1 dB GCP, and has an IP3 of +35 dBm. It is housed in a thermally efficient moly-copper surface mount package and is capable of performing within typical commercial system operating temperature ranges.

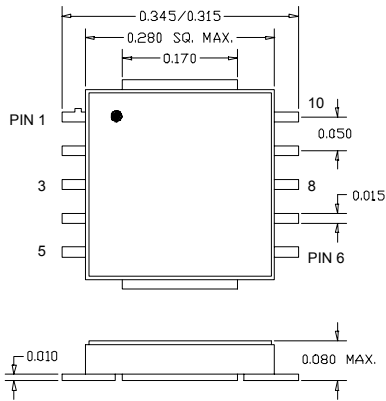
### Electrical Specifications (All Specifications at 25°C, $V_d = +7.0V$ , $I_d = 500$ to 700 mA)

Parameter	Symbol	Frequency	Min	Max	Typical	Units
Small Signal Gain	$S_{21}$	5.7 to 5.9 GHz	20.0	-	23.0	dB
Input Return Loss	$S_{11}$	5.7 to 5.9 GHz	-	-	-10.0	dB
Reverse Isolation	$S_{12}$	5.7 to 5.9 GHz	-	-	52.0	dB
Output Power @ 1dB Gain Compression	$P_{-1dB}$	5.7 GHz	25.0	-	26.0	dBm
		5.8 GHz	25.0	-	26.3	dBm
		5.9 GHz	25.0	-	26.8	dBm
Temperature Coefficient of Gain	$\Delta S_{21}$	5.7 to 5.9 GHz	-	-	-0.045	dB/°C



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

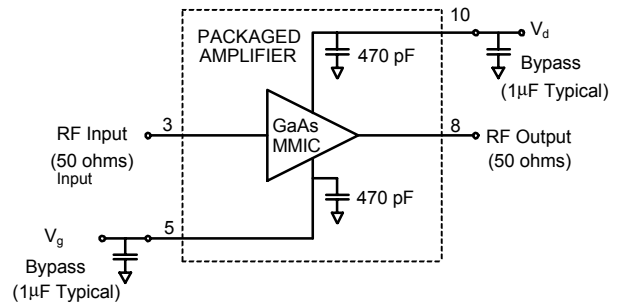
### Package Outline



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

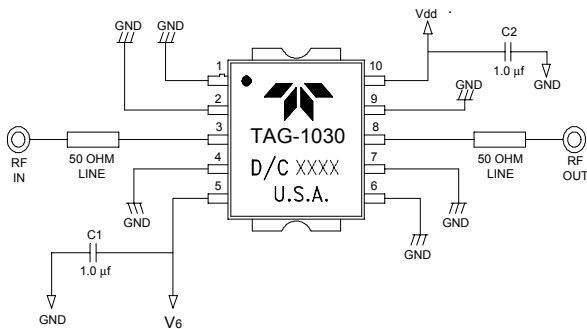
Tolerance: .XXX  $\pm$  0.005

### Typical Biasing Configuration

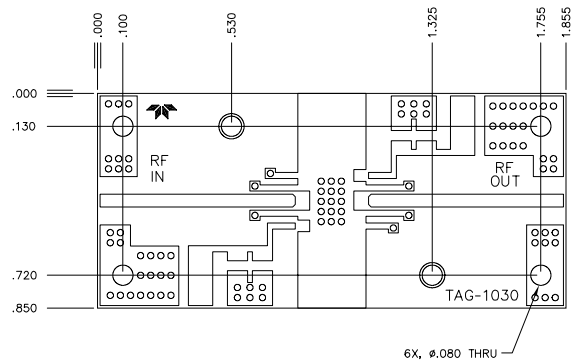


External Components Required:  
 Bypass Capacitors: 1µ F, typical  
 50 Ohm microstrip interface

### 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 (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](http://www.teledynewireless.com).

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