

2-6 GHz MMIC CHIP AMPLIFIERS

FEATURES

10-dB GAIN BLOCK
DIRECTLY CASCADABLE
ON-CHIP GAIN CONTROL
LOW CURRENT
SINGLE SUPPLY VOLTAGE

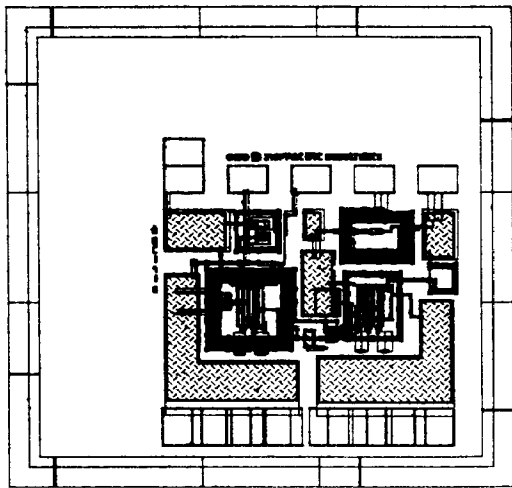
Pacific Monolithics MMIC amplifiers are easy-to-use gain stages. The components are small, highly reliable and highly efficient. Useful in almost any microwave system, these amplifiers may be used as stand-alone gain stages, or they may be directly cascaded for higher gains. This amplifier is a general-purpose gain block with gain control built in. It may be used for AGC, temperature compensation, or as a switch.

MIL-STD 883 screening available

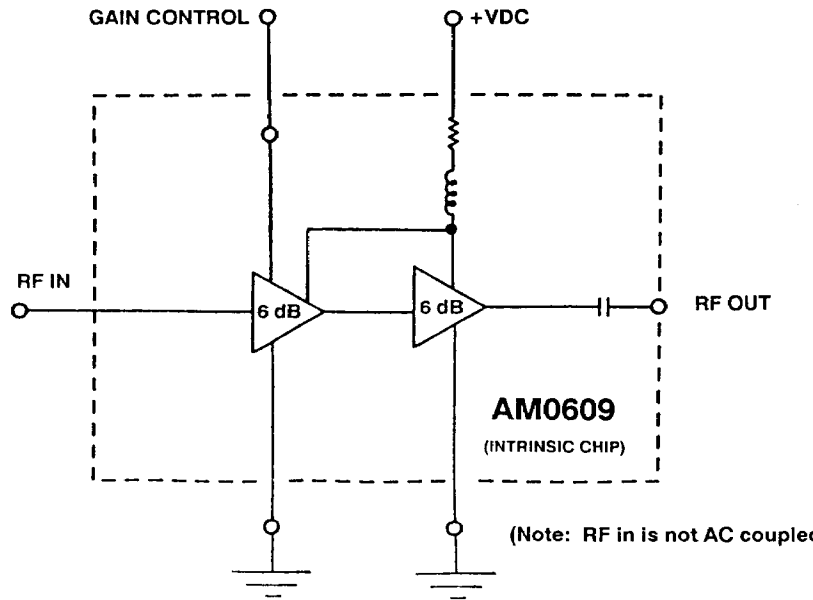
PERFORMANCE SPECIFICATIONS

PARAMETER	MIN	TYP	MAX	UNITS
Small Signal Gain	10	12		dB
Gain Flatness		± 0.4	± 0.5	dB
Input VSWR			2.0:1	
Output VSWR			2.0:1	
Power Output (1-dB compression)	12	14		dBm
Noise Figure		8	9	dB
Isolation	25	30		dB
Gain Control On/Off Ratio	30			dB
Gain Control Voltage		+1 to -5		Vdc
Harmonics at 1-dB Compression	-15	-20		dB
Third-Order Intercept Point	20	25		dB
Bias Voltage	8		15	Vdc
Current at 8 Volts		40	50	mA
Operating Temperature	-54		+100	°C

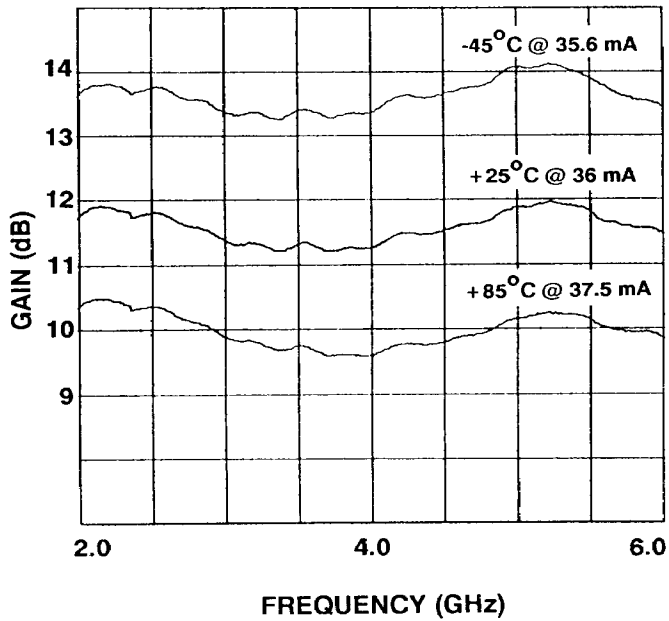
All data taken at 8 V. Performance guaranteed at 25°C.



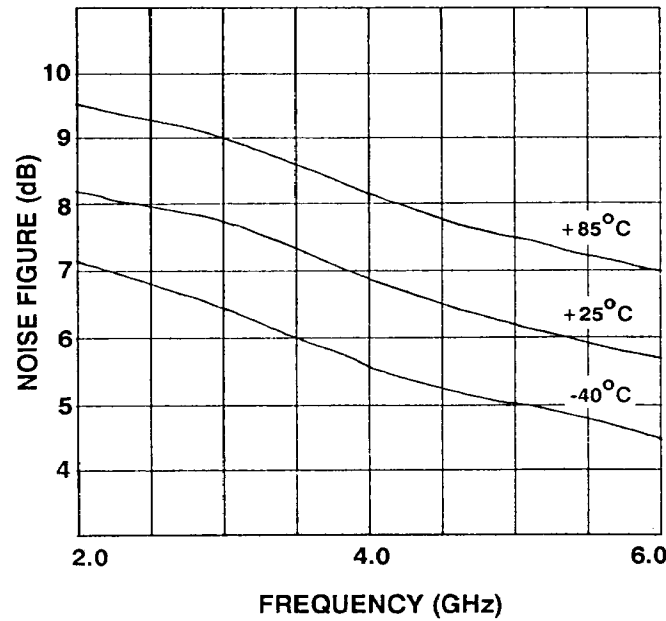
CHIP SIZE: 48x48 MILS

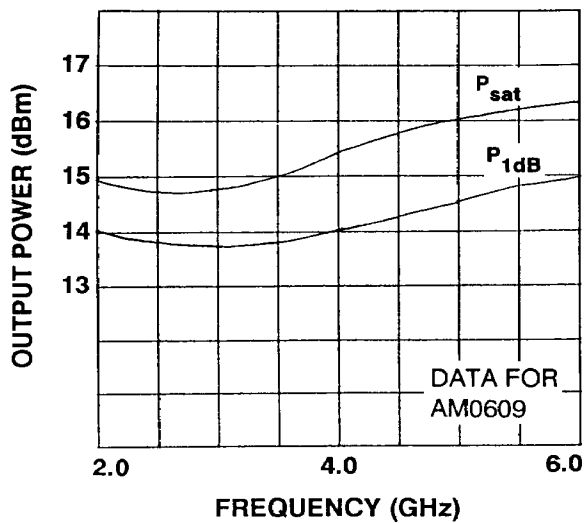
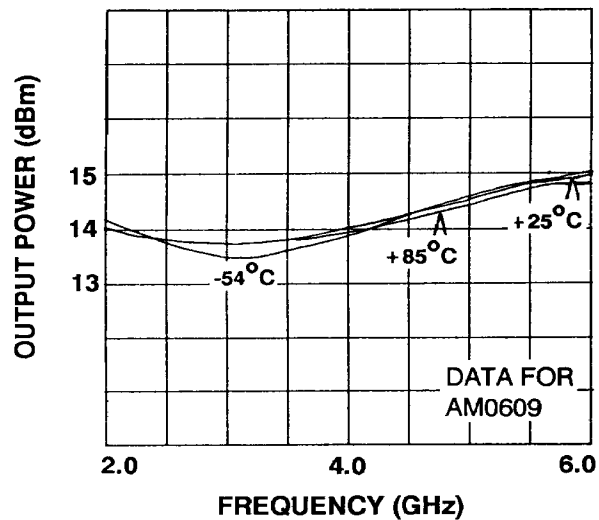
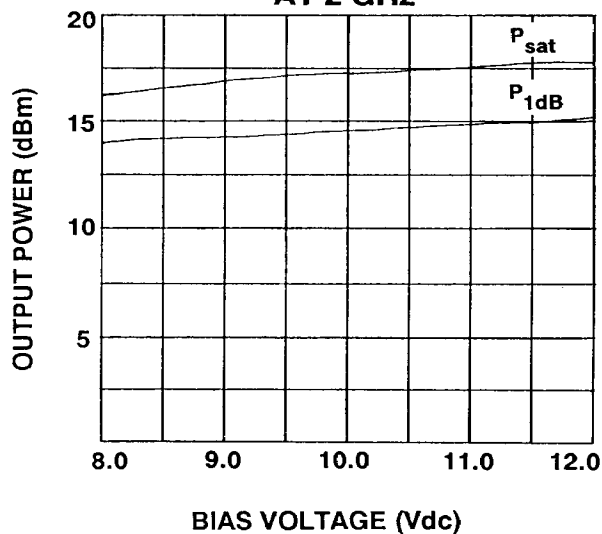
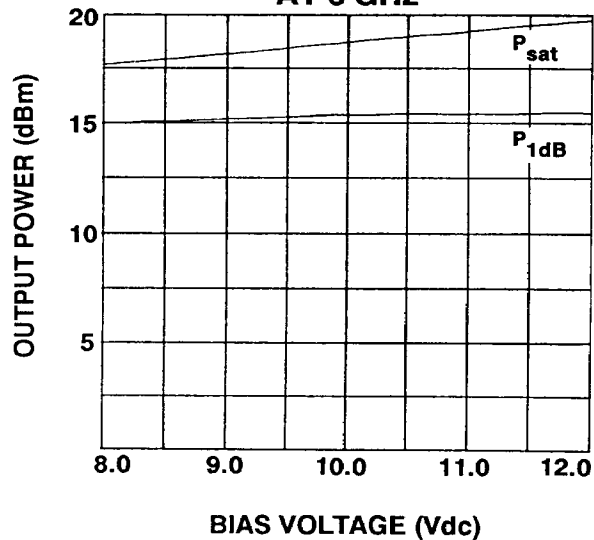
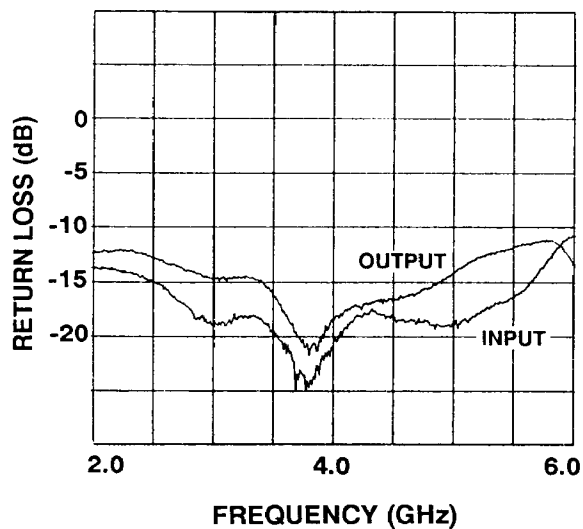
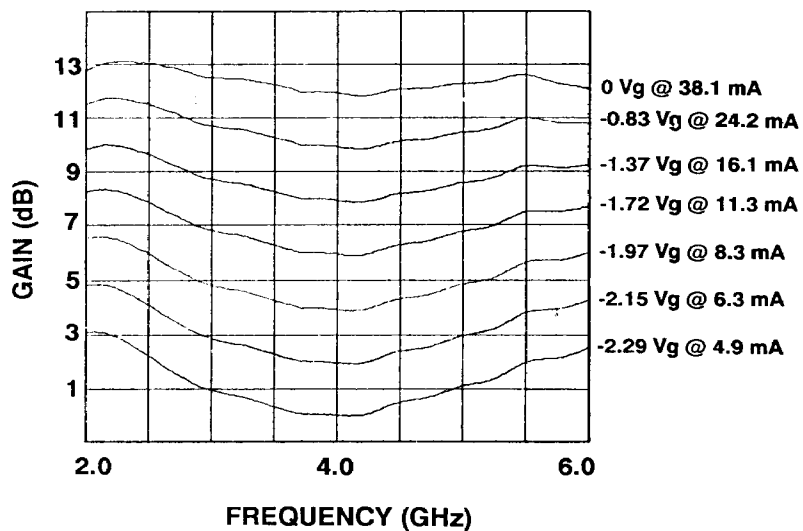


SMALL-SIGNAL GAIN

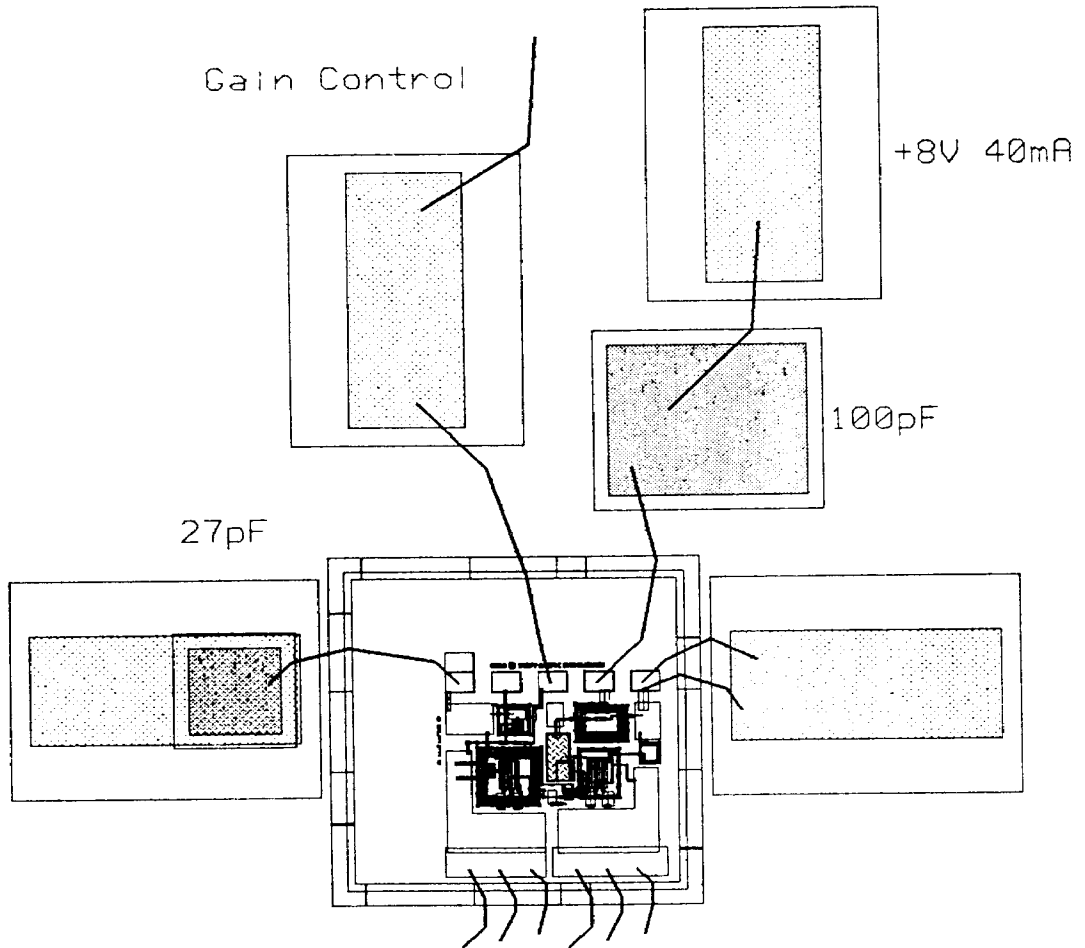


NOISE FIGURE



POWER OUT **P_{1dB} vs. TEMPERATURE****POWER OUT vs. BIAS VOLTAGE AT 2 GHz****POWER OUT vs. BIAS VOLTAGE AT 6 GHz****RETURN LOSS****GAIN vs. CONTROL VOLTAGE**

ASSEMBLY DIAGRAM



(Note: Long input bond wire is 50 mil)

S-PARAMETERS

(Includes bond wires as shown in assembly diagram)

Frequency	S ₁₁	S ₂₁	S ₁₂	S ₂₂
1.60 GHz	0.170 142.95	3.326 57.88	0.012 -163.52	0.214 -115.74
2.00 GHz	0.184 146.20	3.861 14.28	0.016 167.69	0.177 -140.95
2.40 GHz	0.205 141.10	3.932 -18.80	0.019 151.15	0.156 168.25
2.80 GHz	0.204 136.47	3.796 -44.26	0.020 132.65	0.156 127.00
3.20 GHz	0.190 128.60	3.718 -65.96	0.021 122.29	0.169 98.98
3.60 GHz	0.154 118.09	3.690 -84.58	0.023 114.07	0.171 79.49
4.00 GHz	0.103 98.58	3.717 -102.78	0.024 107.85	0.167 64.41
4.40 GHz	0.060 45.13	3.777 -120.73	0.024 101.47	0.157 53.45
4.80 GHz	0.094 -28.51	3.847 -139.29	0.025 95.19	0.144 43.97
5.20 GHz	0.178 -58.73	3.898 -157.96	0.025 90.61	0.136 37.84
5.60 GHz	0.268 -77.61	3.859 -177.64	0.024 86.97	0.137 33.47
6.00 GHz	0.341 -93.97	3.732 162.02	0.023 83.87	0.146 31.08
6.40 GHz	0.387 -109.87	3.456 141.30	0.021 85.47	0.162 26.74

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