



Features

- High IP3 +34 dBm Typcal
- High P1dB +21 dBm Typical
- +5 Volt Bias
- Variable Gain
- 30% High Power Added Efficiency

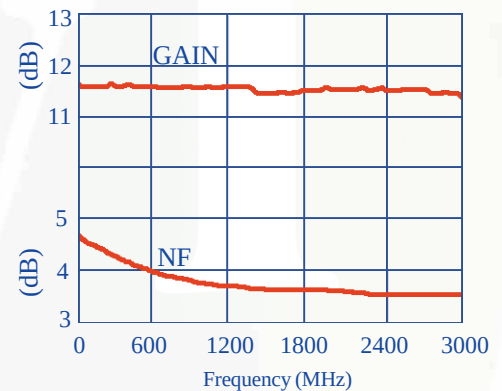
The MPS-013001-84 is an internally matched GaAs FET amplifier in a surface mount ceramic package. It is ideal for digital communications applications where excellent gain linearity and high efficiency at 5 Volt bias is required. The device may be directly soldered to a 50 ohm microstrip circuit without additional matching elements. Independent biasing of the gate allows external gain control or the amplifier may be operated with no gate bias.

Specifications

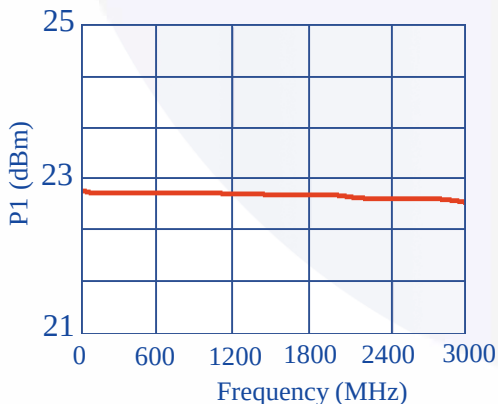
- Electrical at 25°C, Vdd= 5.0 V, Zo= 50 Ω

Symbol	Parameter	Min.	Typical	Max	Unit
Freq	Frequency Range	100		3000	MHz
SSG	Small Signal Gain	10.5	11.5		dB
P1dB	P out at 1 dB Compression	19.0	21.0		dBm
IP3	Third-order Intercept		34.0		dBm
VSWR	Input VSWR		1.6:1	2.5:1	
ΔGOF	Gain Variation over Freq.		+/- 0.5	+/- 0.8	dB
ΔGOT	Gain Variation over Temp.		-.008		dB/°C
I _{dd}	DC Current		90	160	mA
PAE	Power Added Efficiency		30		%
NF	Noise Figure(>500MHz/≤500MHz)	3.5/4.5	5.0/6.5		dB

Gain & NF vs. Frequency



Power Output at P1dB



• Absolute Maximum Ratings

Maximum Bias Voltage	6.0 V
Maximum Continuous RF Input Power	200 mW
Maximum Peak Input Power	300mW
Maximum Case Operating Temperature	+85°C
Maximum Storage Temperature	-65°C to +150°C



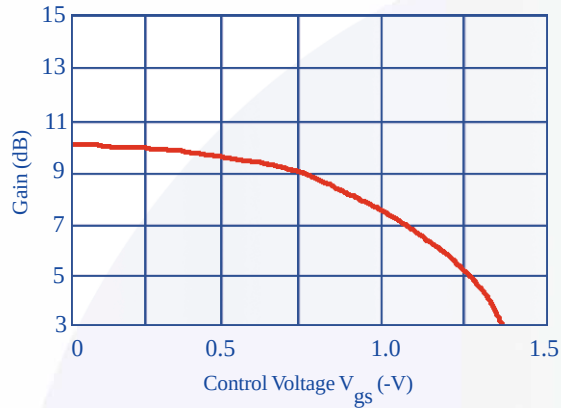
MPS-013001-84

100 to 3000 MHz Variable Gain Amplifier

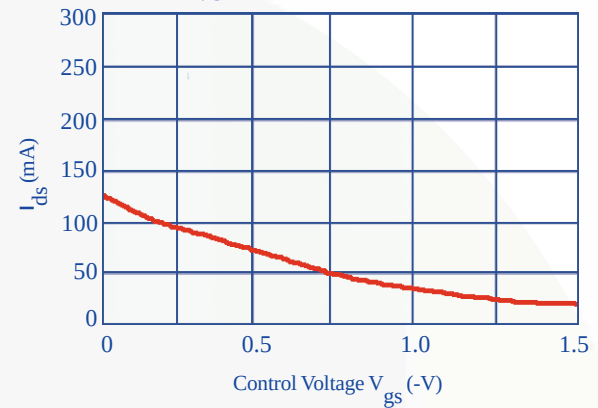
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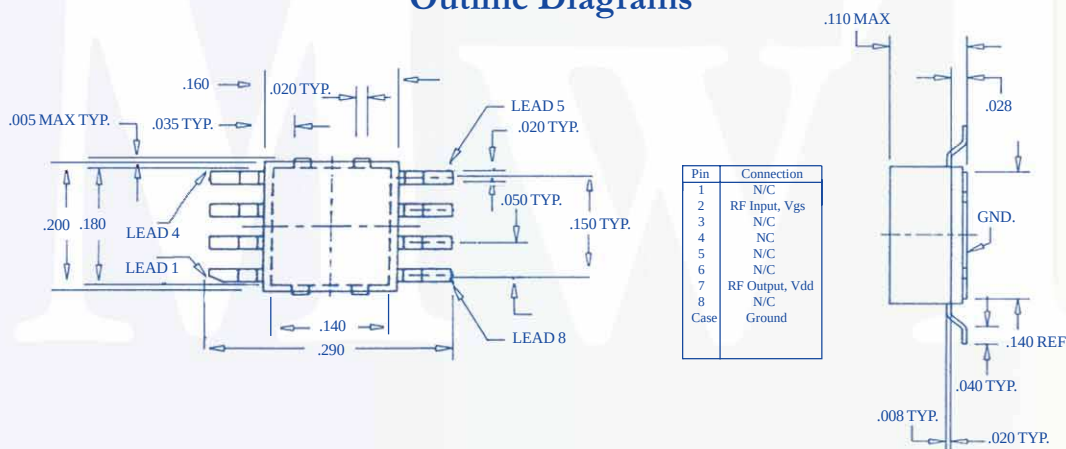
Gain vs. Control Voltage



I_{ds} vs. Control Voltage



Outline Diagrams



Application Circuit

