

### Features

- +36 dBm Typical IP3
- +24 dBm Typical P1dB
- 12 dB Typical Gain
- 10 Volt Bias
- Surface Mount Package or Half Flange Package

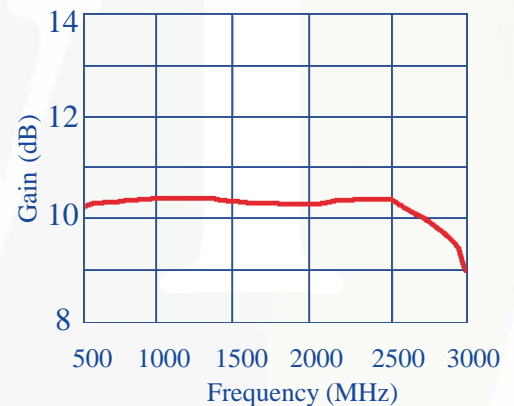
The MPS082509-85 is a broadband, self-biased GaAs FET amplifier. It is ideal for digital communications applications where excellent linearity is required. Typical applications for this device include driver stages for AMPS, TACS, NMT, IS-54, IS-95, PDC, and GSM. It is also useful for a micro-cell or pico-cell output stage. The device may be directly connected to a 50 ohm microstrip circuit without additional matching elements.

### Specifications

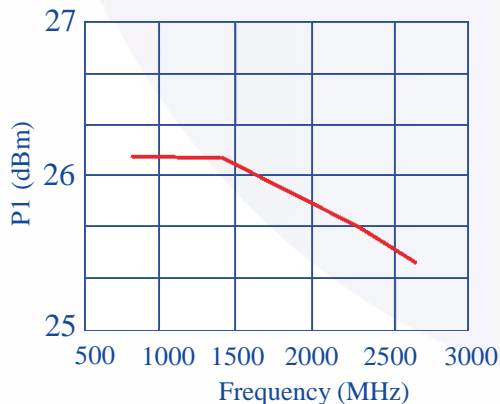
- Electrical at 25°C, V<sub>dd</sub>=12.0 V, Z<sub>o</sub>= 50Ω

Symbol	Parameter	Min.	Typical	Max	Unit
Freq	Frequency Range	800		2500	MHz
SSG	Small Signal Gain	10	12		dB
P1dB	P out at 1 dB Compression	+23.0	+25.5		dBm
IP3	Third-order Intercept		+36.0		dBm
VSWR	Input VSWR		2.0:1	2.5:1	
ΔGOF	Gain Variation over Freq.		+/- .5	+/- 1.0	dB
ΔGOT	Gain Variation over Temp.		-.01		dB/°C
I <sub>dd</sub>	DC Current		135	200	mA
NF	Noise Figure		5.0		dB
PAE	Power Added Efficiency		25		%

Gain vs. Frequency



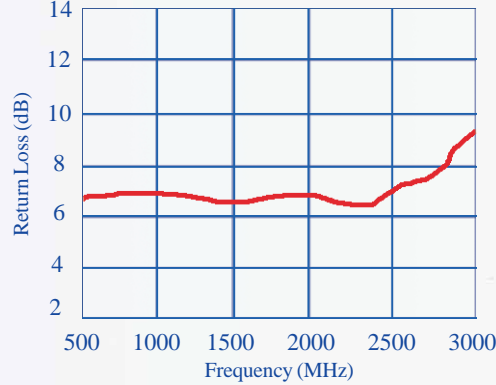
Output Power at P1dB



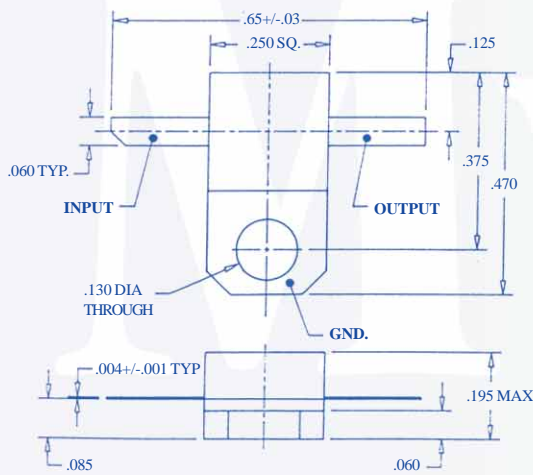
### Absolute Maximum Ratings

Maximum Bias Voltage	12.0 V
Maximum Continuous RF Input Power	300 mW
Maximum Peak Input Power	450mW
Maximum Case Operating Temperature	+85°C
Maximum Storage Temperature	-65°C to +150°C

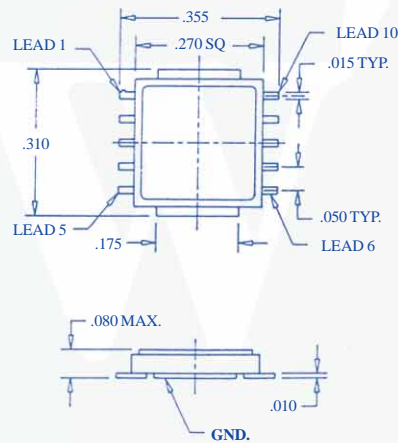
### Return Loss vs. Frequency



### Outline Diagrams



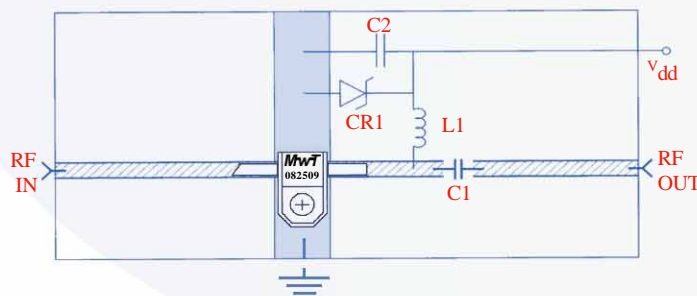
Package 85



Package 86 (HERMETIC)

Pin	Connection
1	N/C
2	N/C
3	RF Input
4	N/C
5	N/C
6	N/C
7	N/C
8	RF Output, Vdd
9	N/C
10	N/C
Case	Ground

### Application Circuit



- C1 100 pF Chip Capacitor
  - C2 .22 pF Capacitor
  - L1 160 nH Printer or Wound Coil
  - CR1 12.0 V Zener Diode
- 50 Ω Microstrip Line