

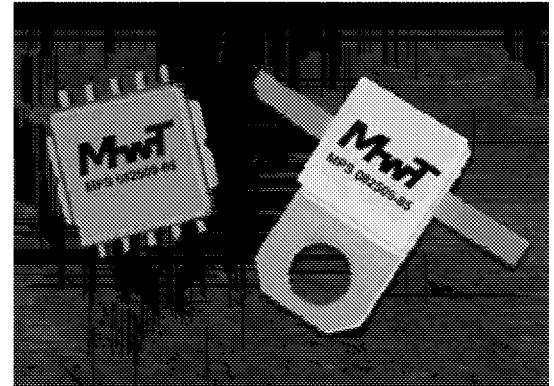


MPS-082509-85/-86

800 to 2500 MHz High Linearity Amplifier

Feature

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



Description

The MPS-082509-85 is 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 systems. It is also useful for a micro-cell or pico-cell output stage. The device may be directly connected to a 50 Ω microstrip circuit without additional matching elements.

Electrical Specifications at 25°C, V_{dd} = 10.0 V, Z_o = 50 Ω

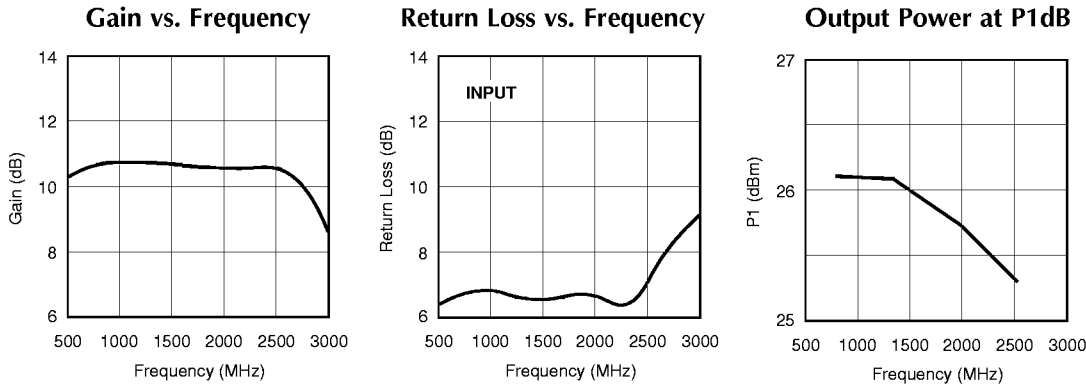
Symbol	Parameter	Minimum	Typical	Maximum	Unit
Freq	Frequency Range	800		2500	MHz
SSG	Small Signal Gain	10	12		dB
P1dB	Pout at 1 dB Compression	+23.0	+25.5		dBm
IP3	Third-order Intercept ¹		+36.0		dBm
NF	Noise Figure		5.0		dB
VSWR	Input/Output VSWR		2.0:1	2.5:1	
Δ GOF	Gain Variation over Frequency		\pm .5	\pm 1.0	dB
Δ GOT	Gain Variation over Temperature		-.01		dB/°C
I _{dd}	DC Current		135	200	mA
PAE	Power Added Efficiency		25		%

¹ Two tone tests at Pout = +13 dBm for each tone; centered at 1500 MHz with 20 MHz separation.

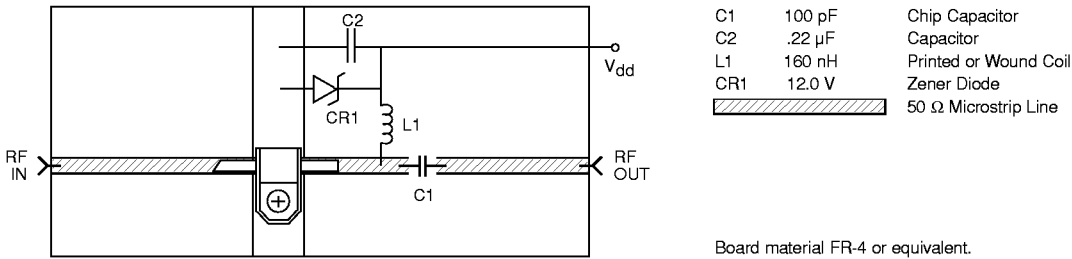
Absolute Maximum Ratings

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

Typical Performance at +25°C

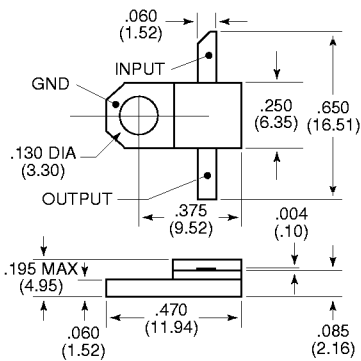


Application Circuit

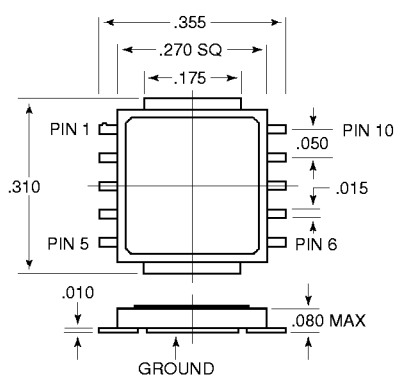


Outline Diagram

Half Flange Package (-85)



10 Lead Flat Pack (-86)



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, V _{dd}
9	N/C
10	N/C
Case	Ground

Dimensions in inches and (mm)

Ordering Information

Part Number	Package
MPS-082509-85	Half Flange Package
MPS-082509-86	10 Lead Flat Pack
MPS-082509-85EV	Half Flange Package on Evaluation Board
MPS-082509-86EV	10 Lead Flat Pack on Evaluation Board