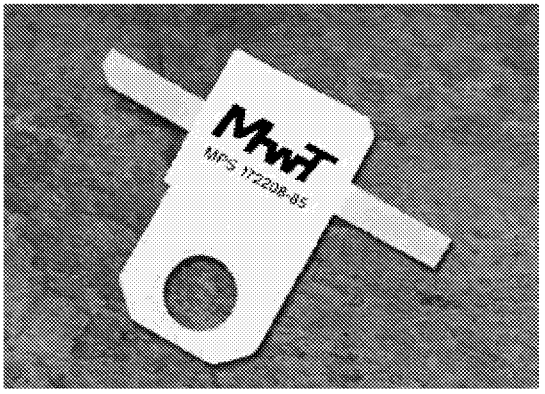
MPS-172208-85

1700 to 2200 MHz Self Biased GaAs FET Amplifier

Features

- +38 dBm Typical IP3
- +26.0 dBm Typical P1dB
- 13.0 dB Typical Gain
- +7.5 Volt Bias
- 25% Power Added Efficiency



Description

The MPS-172208-85 is a narrowband, self-biased GaAs FET amplifier designed for digital communications applications where excellent linearity is required. Typical applications include driver stages for DCS-1800, PCS-1900, PHS and DECT systems. The amplifier is directly connected to a 50 Ω microstrip circuit without additional matching elements.

Electrical Specifications at 25°C, V_{dd} = 7.5 V, Zo = 50 Ω

Symbol	Parameter	Minimum	Typical	Maximum	Unit
Freq	Frequency Range	1900		2000	MHz
SSG	Small Signal Gain	12	13		dB
P1dB	Pout at 1 dB Compression	+25.0	+26.0		dBm
IP3	Third-order Intercept[1]		+38.0		dBm
NF	Noise Figure		5.0		dB
VSWR	Input/Output VSWR		2.0:1	2.5:1	
ΔGOF	Gain Variation over Frequency		±0.2	±0.5	dB
ΔGOT	Gain Variation over Temperature			-.016	dB/°C
I_{dd}	DC Current		170	300	mA
PAE	Power Added Efficiency		25		%

[1] Two tone tests at Pout = +10 dBm for each tone; centered at 1950 MHz with 20 MHz seperation.

Absolute Maximum Ratings

Maximum Bias Voltage	8.0 V
Maximum Continuous RF Input Power	480 mW
Maximum Peak Input Power	720 mW
Maximum Case Operating Temperature	+85°C
Maximum Storage Temperature	-65°C to +150°C

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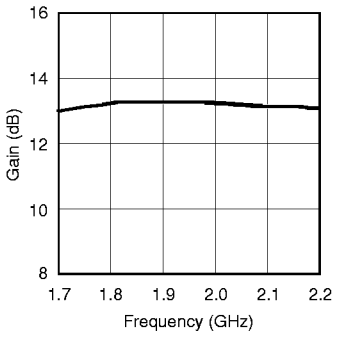
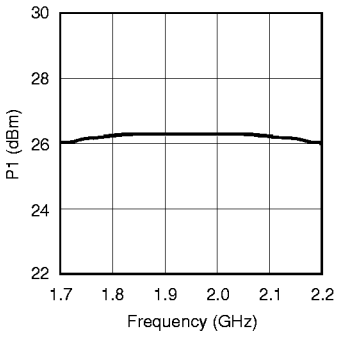
Typical Performance at 25°C

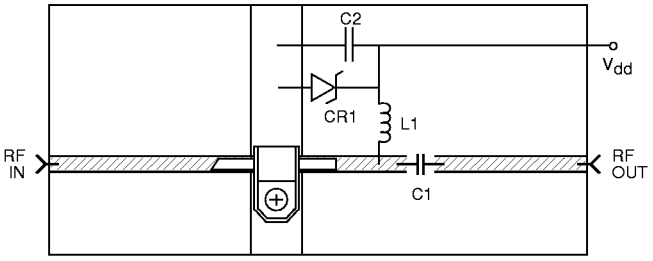
Gain vs. Frequency



Output Power at P1dB



Application Circuit

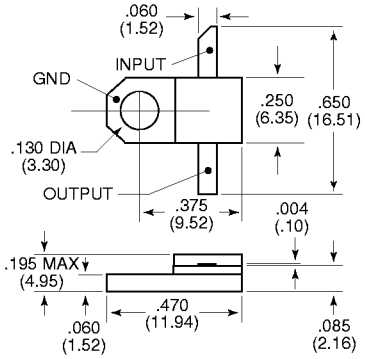


C1	100 pF	Chip Capacitor
C2	.22 µF	Capacitor
L1	160 nH	Printed or Wound Coil
CR1	8.0 V	Zener Diode
		50 Ω Microstrip Line

Board material FR-4 or equivalent.

Outline Diagram

Half Flange Package (-85)



Dimensions in inches and (mm)

Ordering Information

Part Number	Package
MPS-172208-85	Half Flange Package
MPS-172208-85EV	Half Flange Package on Evaluation Board

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