



Features

- +38 dBm Typical IP3
- +26 dBm Typical P1dB
- 13 dB Typical Gain
- 7.5 Volt Bias
- 25% Power Added Efficiency

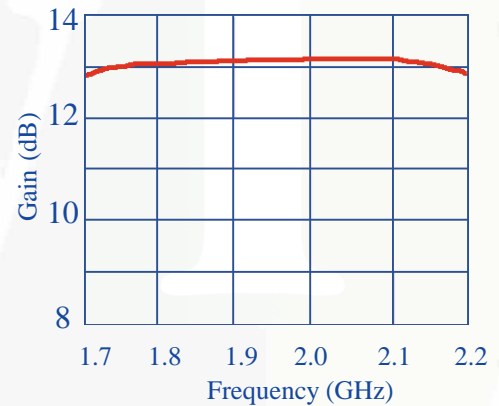
The MPS-172208-82 is a narrowband, self-biased GaAs FET amplifier designed for digital communications applications where excellent linearity is required. Typical applications include driver stages for DCS-1800, PCS-1900, PHS and DECT systems. The amplifier is directly connected to a 50 ohm microstrip circuit without additional matching elements.

Specifications

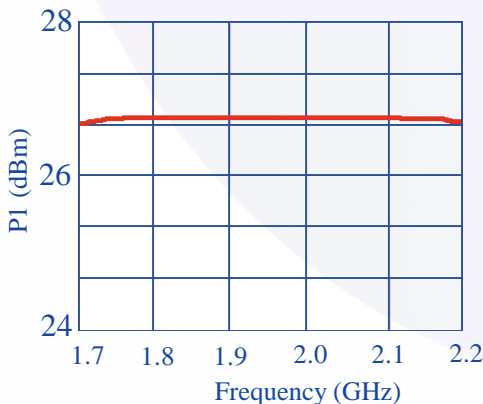
- Electrical at 25°C, V_{dd}= 7.5 V, Z_o= 50 Ω

| Symbol | Parameter | Min. | Typical | Max | Unit |
|-----------------|---------------------------|-------|---------|--------|-------|
| Freq | Frequency Range | 1900 | | 1000 | MHz |
| SSG | Small Signal Gain | 12 | 13 | | dB |
| P1dB | P out at 1 dB Compression | +25.0 | +26.0 | | dBm |
| IP3 | Third-order Intercept | | +38.0 | | dBm |
| NF | Noise Figure | | 5.0 | | dB |
| VSWR | Input VSWR | | 2.0:1 | 2.5:1 | |
| ΔGOF | Gain Variation over Freq. | | +/-0.2 | +/-0.5 | dB |
| ΔGOT | Gain Variation over Temp. | | | -0.16 | dB/°C |
| I _{dd} | DC Current | | 380 | 450 | mA |
| PAE | Power Added Efficiency | | 25 | | % |

Gain vs. Frequency



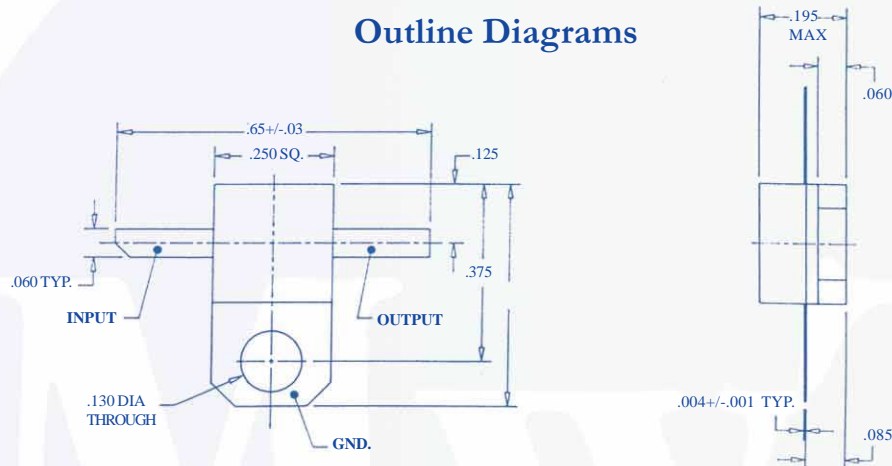
Output Power at P1dB



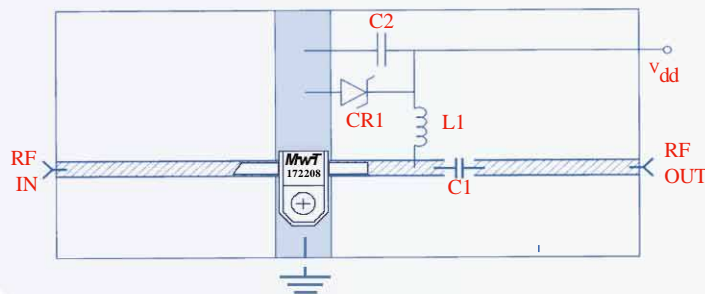
• Absolute Maximum Ratings

| | |
|------------------------------------|-----------------|
| 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 |

Outline Diagrams



Application Circuit



| | | |
|-----|--------|-----------------------|
| C1 | 100 pF | Chip Capacitor |
| C2 | .22 uF | Capacitor |
| L1 | 160 nH | Printer or Wound Coil |
| CR1 | 8.0 V | Zener Diode |
| | | 50 Ω Microstrip Line |