



Features

- 1.2:1 Typical Output VSWR
- 14 dB Typical Gain
- +42 dBm Typical IP3
- Single Positive Bias
- +26 dBm Typical P1dB
- Surface Mount Package

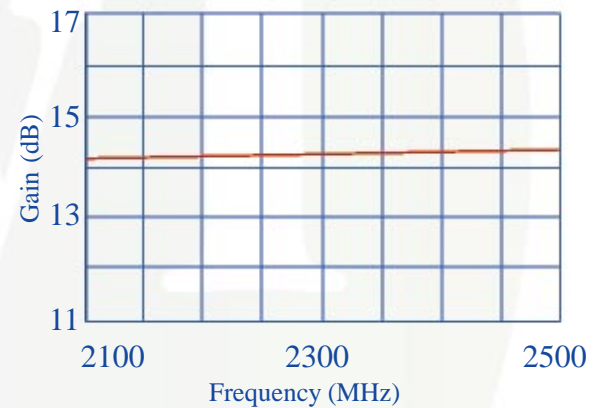
The MPS 2125A9D-82 is a high quality linearity modular amplifier designed to meet the ultralinear transmitter driver requirements for commercial IMT 2000 Wireless Local Loop (WLL) applications. Key advantages are low intermodulation performance for multi-carrier or wideband CDMA systems (IMD3 -70 dBc typical) and exceptionally low input/output return loss for ease of intergration.

Specifications

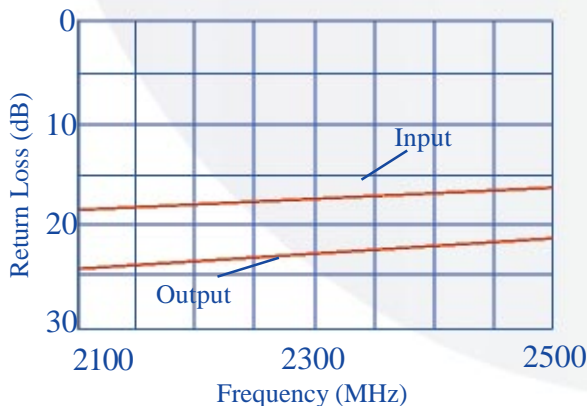
- Electrical at 25°C, Vdd= 7.5 V, Zo= 50 Ω

| Symbol | Parameter | Min. | Typical | Max | Unit |
|-----------------|---------------------------|-------|-------------|----------|-------|
| Freq | Frequency Range | 2100 | | 2500 | MHz |
| SSG | Small Signal Gain | 13 | 14 | | dB |
| P1dB | P out at 1 dB Compression | +25.0 | +26.0 | | dBm |
| IP3 | Third-order Intercept | +41.0 | +42.0 | | dBm |
| VSWR | VSWR, In/Out | | 1.4:1/1.2:1 | 1.5:1 | |
| ΔGOF | Gain Variation over Freq. | | +/- 0.20 | +/- 0.50 | dB |
| ΔGOT | Gain Variation over Temp. | | - 0.015 | | dB/°C |
| I _{dd} | DC Current | | 230 | 320 | mA |

Gain vs. Frequency



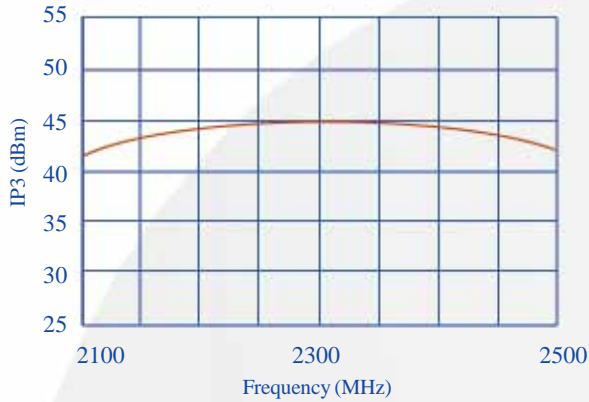
Return Loss vs. Frequency



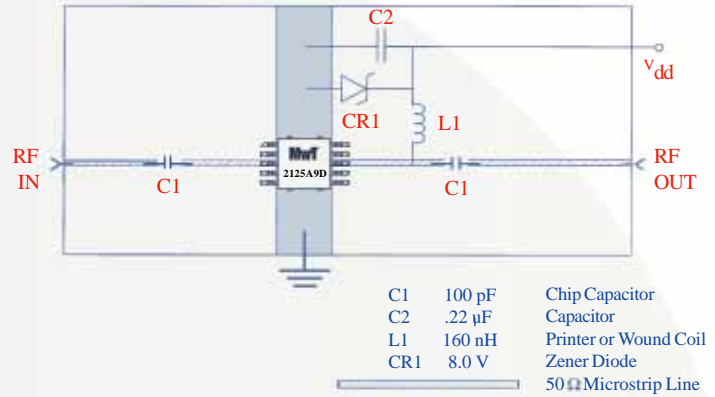
Absolute Maximum Ratings

| | |
|------------------------------------|-----------------|
| Maximum Bias Voltage | 8.0 V |
| Maximum Continuous RF Input Power | +25 dBm |
| Maximum Peak Input Power | +27 dBm |
| Maximum Case Operating Temperature | +85°C |
| Maximum Storage Temperature | -65°C to +150°C |

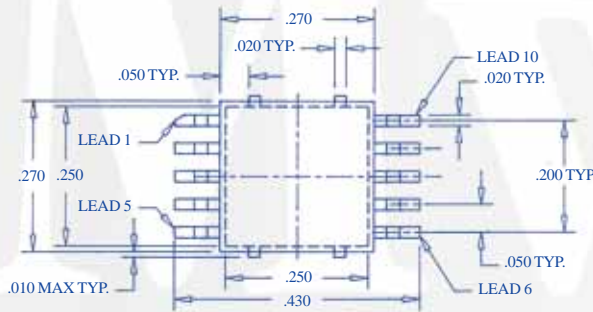
IP3 at 13 dBm/Tone



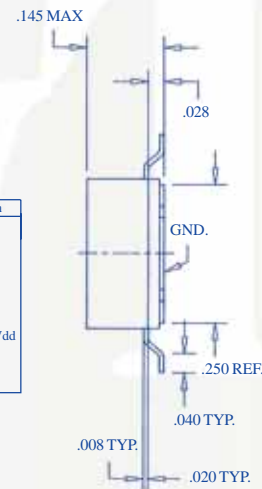
Application Circuit



Outline Diagrams



| 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 |



8-Tone IMD Testing (10 dBm Total Output Power)

