



## Features

- Very Low Noise 1.1 dB Typ.
- High +44 dBm Typ. IP3
- 14.5 dB Typical Gain
- 7.5 Volt Bias
- 26% High Power Added Efficiency

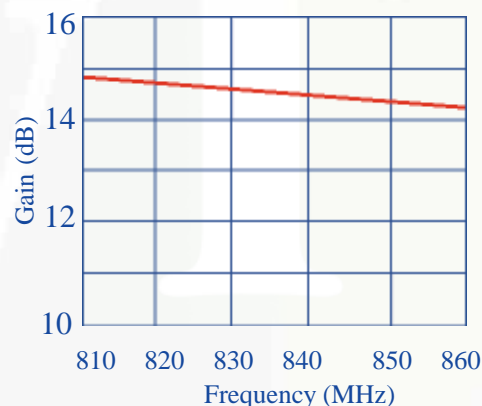
The MPS-080817P-82 is a low noise, high dynamic range amplifier designed for ultralinear receiver applications in the 806 to 849 MHz frequency range. The circuit is matched to 50 ohm and employs a single stage GaAs FET with internal matching to provide exceptional noise figure, 1.1 dB combined with extremely high IP3, +44 dBm. Typical applications are cellular base station receivers, Tower mounted LNA's, smart antenna systems, picocell repeaters and receiver multi-couplers.

## Specifications

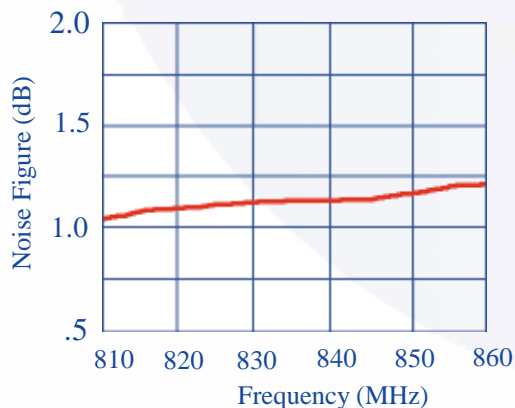
- Electrical at 25°C, V<sub>dd</sub>= 7.5 V, Z<sub>o</sub>= 50 Ω

Symbol	Parameter	Min.	Typical	Max	Unit
Freq	Frequency Range	806		849	MHz
SSG	Small Signal Gain	13	14.5		dB
P1dB	P out at 1 dB Compression		+28.0		dBm
IP3	Third-order Intercept	+42	+44.0		dBm
NF	Noise Figure		1.1	1.5	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.		- .015		dB/°C
I <sub>dd</sub>	DC Current		330	400	mA
PAE	Power Added Efficiency		26		%

Gain vs. Frequency



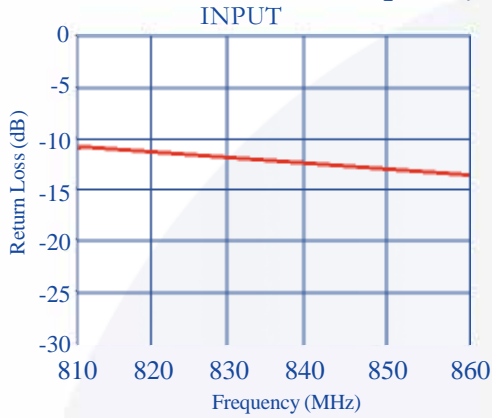
Noise Figure vs. Frequency



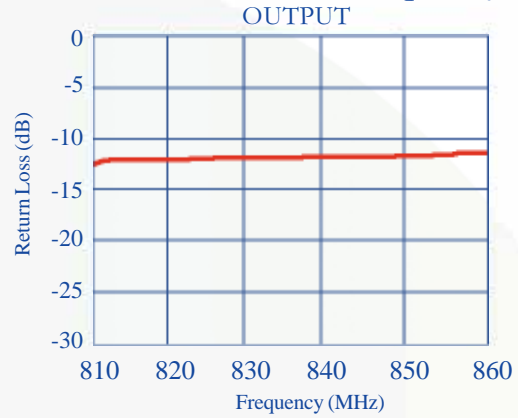
## • Absolute Maximum Ratings

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

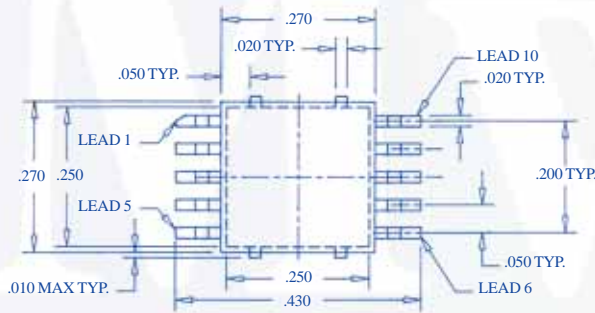
### Return Loss vs. Frequency



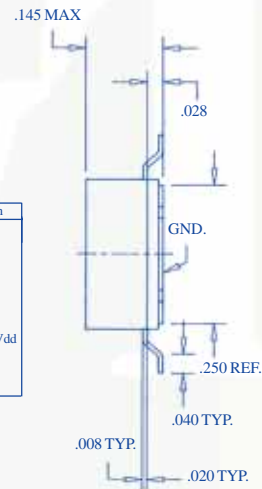
### Return Loss vs. Frequency



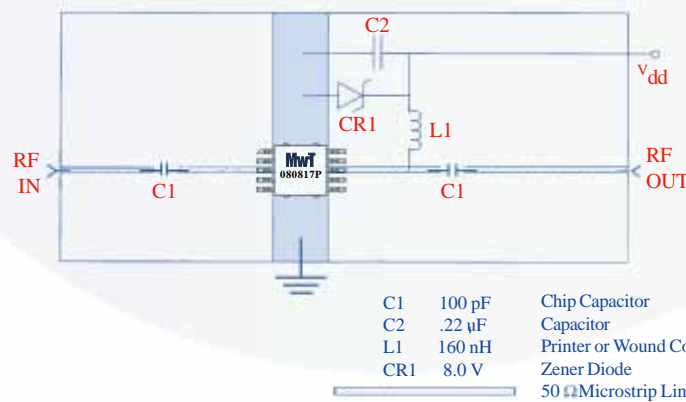
### Outline Diagrams



Pin	Connection
1	N/C
2	N/C
3	RF Input
4	NC
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  $\mu$ F Capacitor
  - L1 160 nH Printer or Wound Coil
  - CR1 8.0 V Zener Diode
- 50  $\mu$ Microstrip Line