



MPS-080817N-85

806 to 849 MHz Low Noise Receiver Amplifier

Features

- Very Low Noise 0.8 dB Typical
- High +36 dBm Typical IP3
- 13.5 dB Typical Gain
- 7.5 Volt Bias
- 26% High Power Added Efficiency



PRELIMINARY

Description

The MPS-080817N-85 is a low noise, high dynamic range amplifier designed for ultra linear receiver applications in the 806 to 849 MHz frequency range. The circuit is matched to 50 Ω and employs a single stage GaAs FET with internal matching to provide exceptional noise figure, 0.8 dB combined with extremely high IP3, +36 dBm. Typical applications are cellular base station receivers, Tower mounted LNA's, smart antenna systems picocell repeaters and receiver multi-couplers.

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

Symbol	Parameter	Minimum	Typical	Maximum	Unit
Freq	Frequency Range	806		849	MHz
SSG	Small Signal Gain	12	13.5		dB
P1dB	Pout at 1 dB Compression		+23		dBm
IP3	Third-order Intercept ¹	+33	+36		dBm
NF	Noise Figure		0.8	1.0	dB
VSWR	Input VSWR		2.0:1	2.5:1	
Δ GOF	Gain Variation over Frequency		± 0.2	± 0.5	dB
Δ GOT	Gain Variation over Temperature		-0.15		dB/°C
I _{dd}	DC Current		180	250	mA
PAE	Power Added Efficiency		26		%

¹ Two tone test at +5 dBm per output tone.

Absolute Maximum Ratings

Maximum Bias Voltage	8.0 V
Maximum Continuous RF Input Power	950 mW
Maximum Peak Input Power	1400 mW
Maximum Case Operating Temperature	+85°C
Maximum Storage Temperature	-65°C to +150°C

Ordering Information

Part Number	Package
MPS-080817P-85	Half Flange Package
MPS-080817P-85EV	Half Flange Package on Evaluation Board

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