MPS-093011-82

800 to 1000 MHz Linear Amplifier

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Features

- +45 dBm Typical IP3
- +30 dBm Typical P1dB
- 16 dB Typical Gain
- Single Positive Bias
- Surface Mount Package

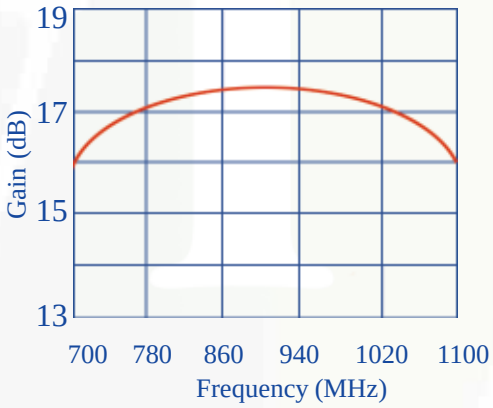
The MPS093011 is a modular amplifier designed to meet the ultralinear transmitter output requirements for many of the commercially available wireless systems. The amplifier is a class A, single stage amplifier based on a GaAs MESFET transistor. The amplifier exhibits an extremely high IP3 (+45dBm) relative tot he DC power consumed (3 W). The device is self contained with all matching and bias circuitry included.

Specifications

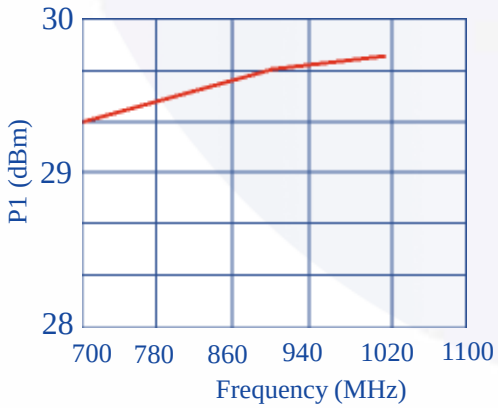
- Electrical at 25°C, Vdd= 7.5 V, Zo= 50 Ω

Symbol	Parameter	Min.	Typical	Max	Unit
Freq	Frequency Range	800		1000	MHz
SSG	Small Signal Gain	14	16		dB
P1dB	P out at 1 dB Compression		+30.0		dBm
IP3	Third-order Intercept	+43.0	+45.0		dBm
VSWR	Input VSWR		1.5:1/2.2:1		
ΔGOF	Gain Variation over Freq.		+/- 0.25	+/- 0.50	dB
ΔGOT	Gain Variation over Temp.		- 0.01		dB/℃
Idd	DC Current		350	420	mA

Gain vs. Frequency



Output Power at P1dB



- Absolute Maximum Ratings

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

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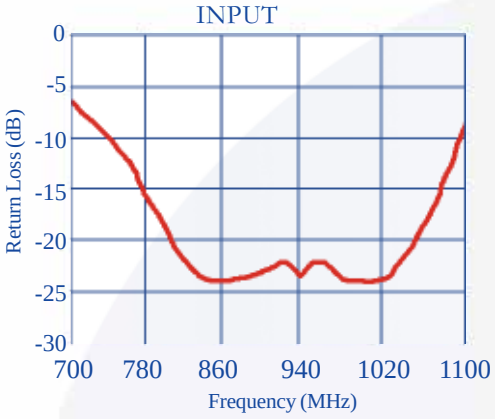
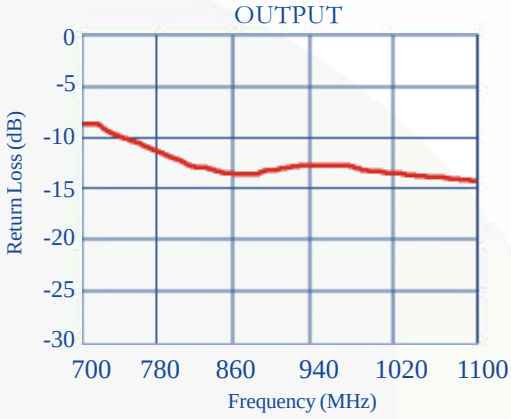
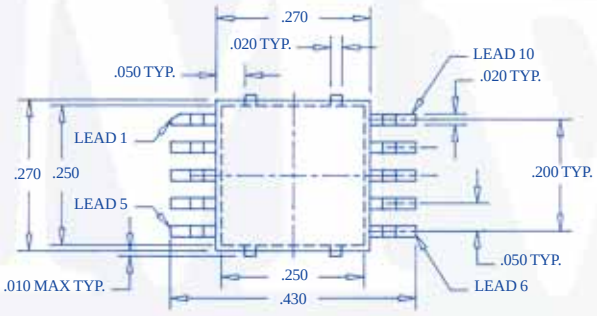
Return Loss vs. Frequency



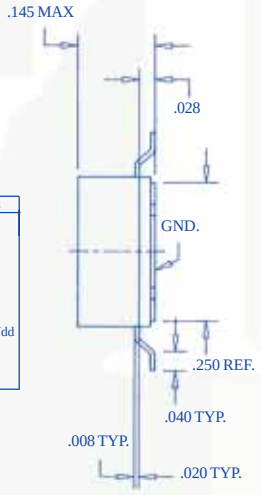
Return Loss vs. Frequency



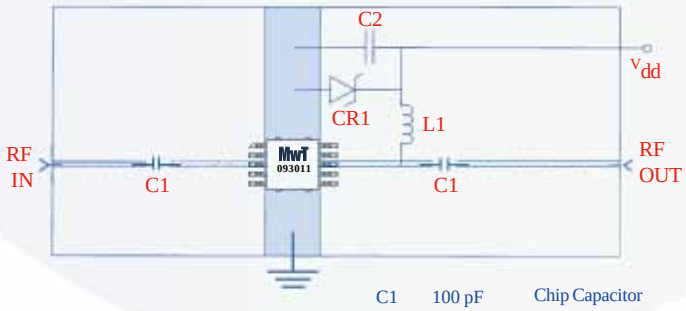
Outline Diagrams



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 μF	Capacitor
L1	160 nH	Printer or Wound Coil
CR1	8.0 V	Zener Diode
	50 Ω	Microstrip Line