

### Features

- +45 dBm Typical IP3
- 14 dB Typical Gain
- 1W Typical Output Power
- Single Positive Bias
- Surface Mount Package or Half Flange Package

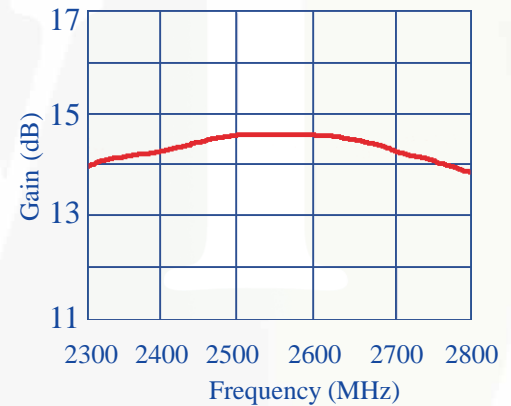
The MPS253011 is a modular amplifier designed to meet the ultralinear transmitter output requirements of worldwide ISM band systems and wireless cable distribution. The amplifier exhibits an extremely high IP3 (+45dBm) relative to the DC power consumed (3 W). The device is self contained with all matching and bias circuitry included. Typical applications for this device include output stages and for North American and European 2.4 GHz ISM band systems. It is useful for direct sequence and/or frequency hopped spread spectrum systems where excellent output linearity is required. Typical systems include wireless LAN, industrial telemetry, and wireless cable links.

### Specifications

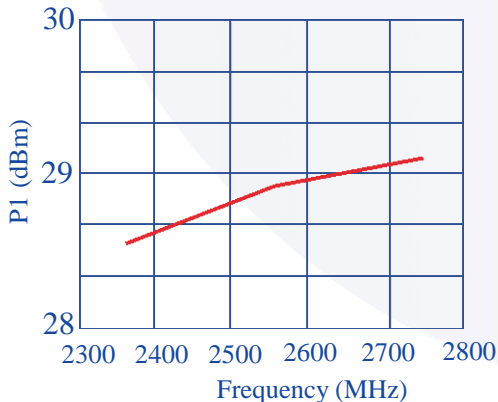
- Electrical at 25°C, V<sub>dd</sub>= 7.5 V, Z<sub>o</sub>= 50 Ω

Symbol	Parameter	Min.	Typical	Max	Unit
Freq	Frequency Range	2400		2700	MHz
SSG	Small Signal Gain	12	13		dB
P1dB	P out at 1 dB Compression		+30.0		dBm
IP3	Third-order Intercept	+42.0	+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/°C
I <sub>dd</sub>	DC Current		350	420	mA

Gain vs. Frequency

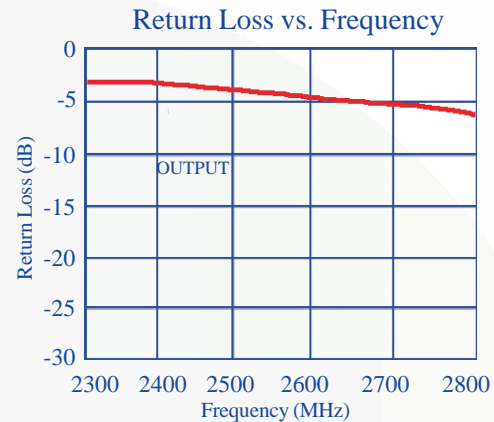
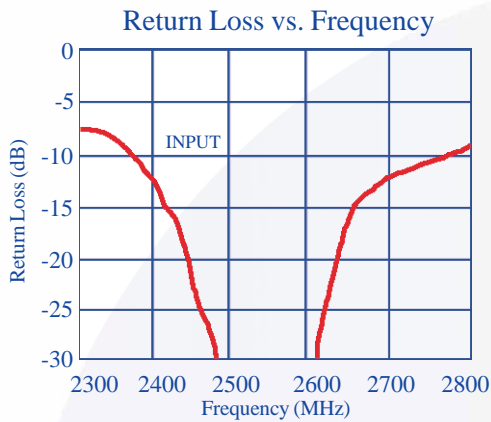


Output Power at P1dB

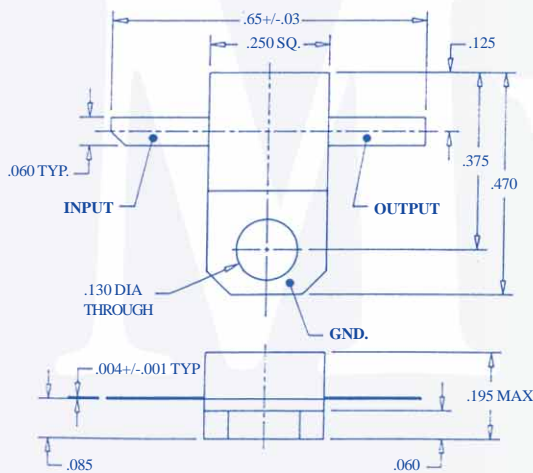


### Absolute Maximum Ratings

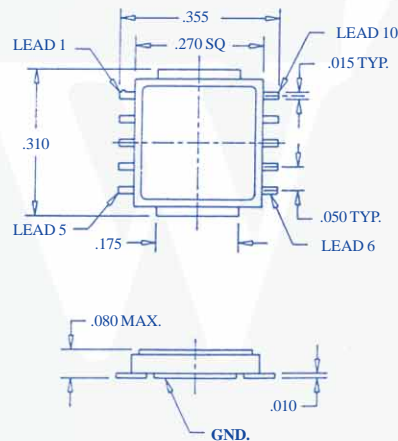
Maximum Bias Voltage	8.0 V
Maximum Continuous RF Input Power	950 mW
Maximum Peak Input Power	1400mW
Maximum Case Operating Temperature	+85°C
Maximum Storage Temperature	-65°C to +150°C



### Outline Diagrams



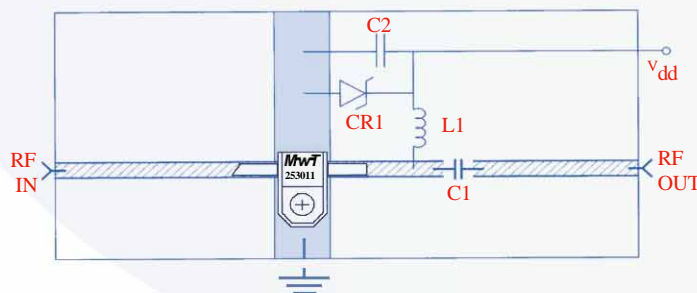
Package 85



Package 86 (HERMETIC)

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

### Application Circuit



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