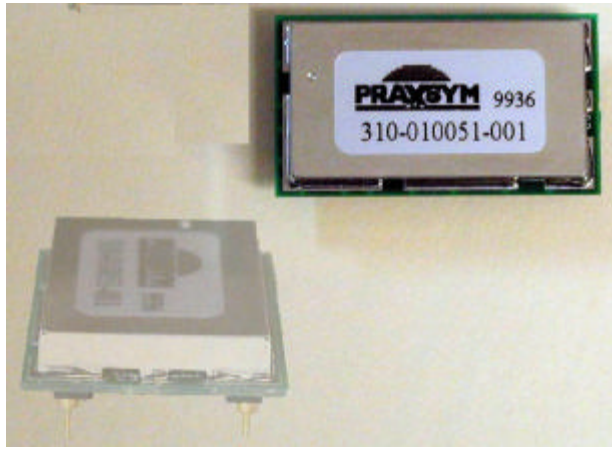
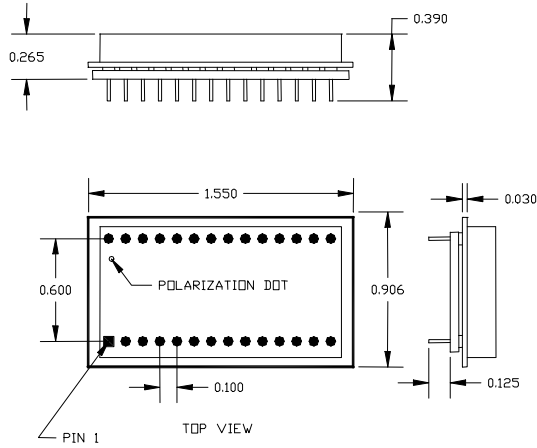


LOW FREQUENCY POWER DETECTOR 100 kHz - 400 MHz



dimensions and connections



PIN CONNECTIONS

RF IN	2
DC INPUT	13
FREQ COMP	15
PDET OUT	16
TEMP	19
EXTERNAL INTCPT	26
GND	1,3-12,14,17,18, 20-25,27,28

features

- Broad bandwidth
- Linear power detection (mV / dB)
- Excellent log conformity
- -30 to 70°C operating range
- Integral temperature sensor
- +/- 0.5 dB measurement error (freq)

description

The PDM series of power detectors yields repeatable measurement of power with nearly log-linear perfection. The detector tracks the input power changes to allow the user to monitor the output power of an amplifier or the condition of an antenna.

Unlike power detection methods based solely upon diodes, Praxsym's power monitor exhibits a linear mV/dB response as opposed to the diode detector's logarithmic mV/dB response.

The shielded housing prevents the detector from responding to fields in the environment.

typical specifications

Frequency (MHz)	0.1 - 400
Range (dB)	35
Input (dBm)	+10
VSWR	1.5:1
PDet @ 10 dBm (V)	4.40
PDet @ -10 dBm (V)	3.35
PDet @ -30 dBm (V)	2.30

All specifications above measured at 25°C

DC Power: 5.5 - 12 V @ 15 mA maximum

absolute maximum ratings

Temp, Case Operating:	-30 to 70°C
Temp, Storage:	-55 to 150°C
RF Input:	+20 dBm
DC Volts:	+15.0V

LOW FREQUENCY POWER DETECTOR 100 kHz - 400 MHz

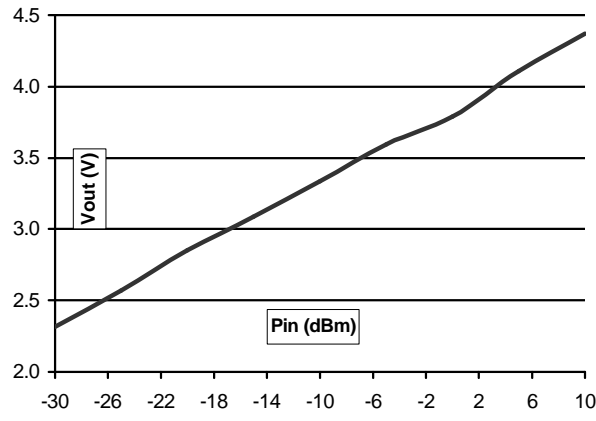


Figure 1 – Output Response

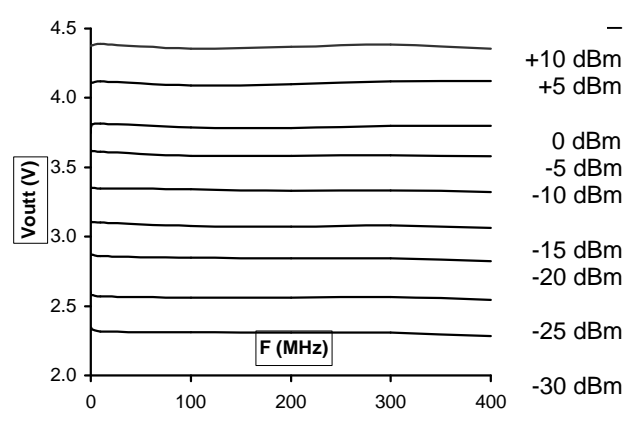


Figure 2 – Output vs. Frequency

Power (dBm)	100 kHz	1 MHz	10 MHz	100 MHz	200 MHz	300 MHz	400 MHz
10	4.377	4.380	4.387	4.357	4.367	4.383	4.357
5	4.111	4.110	4.116	4.090	4.097	4.120	4.124
0	3.750	3.809	3.815	3.784	3.782	3.796	3.797
-5	3.621	3.614	3.610	3.583	3.581	3.585	3.576
-10	3.353	3.349	3.345	3.343	3.327	3.333	3.321
-15	3.110	3.103	3.099	3.076	3.073	3.078	3.065
-20	2.873	2.869	2.860	2.846	2.845	2.844	2.824
-25	2.598	2.576	2.569	2.561	2.562	2.567	2.544
-30	2.345	2.331	2.315	2.310	2.309	2.307	2.283

Table 1 – Typical Detector Response

Deviation	100 kHz	1 MHz	10 MHz	100 MHz	200 MHz	300 MHz	400 MHz
Max	0.0	0.0	-0.1	0.4	0.4	0.3	0.0
Min	-0.5	-0.5	-0.5	0.0	0.1	0.0	0.0

Table 2 – Typical Deviation from 400 MHz 0 dBm Value

Using the FreqComp and ExtIntcpt pins, the output voltage response can be dynamically adjusted to compensate for device variations or modulation error. FreqComp is summed directly to the output value. ExtIntcpt adjusts the response at approximately 8 dB / V. Do not exceed 5.0 V on either pin.

In addition to the internal temperature compensation, the detector circuit generates a linear temperature voltage (mV/°C) which may be used for external second order correction.