



PPD-6002
Threshold Detector
.1 to 6 GHz

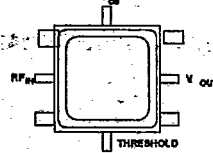
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FEATURES

- Frequency Range: 0.1 to 6 GHz
- Threshold Externally Programmable with One Resistor or Voltage
- Temperature Compensated Threshold
- TTL Output
- 12 mA (typ) Power Consumption @ +15 VDC
- Surface Mount Package

APPLICATIONS

- System Built-in Test (BIT)
- Channel RF Activity Monitoring
- Excessive VSWR Indicator
- Gain Switch Control
- Surface Mount Assembly



PP-25DD, p. 16-34

DESCRIPTION

The PPD-6002 is a sensitive microwave threshold detector which provides efficient and accurate RF level measurement at critical system points. It contains a Schottky diode detector, a precision integrated circuit operational amp, comparator

and a temperature compensated voltage reference assembly. The unit is built with chip and wire construction on a thin-film substrate for small size and ruggedness.

ELECTRICAL SPECIFICATIONS (Measured in a 50-ohm system @ +15 VDC nominal unless otherwise noted)

Symbol	Characteristic	Typical T _c = 25°C	Guaranteed Specifications		Unit
			T _c = 0° to 50°C	T _c = -55° to +85°C	
—	Frequency (Min.)	.1-6	.1-6	.1-6	GHz
—	Input Flatness (Max.) P _N = -10 to +10 dBm	±0.7	±1.0	±1.0	dB
—	Input Operating Range	-10 to +10	-10 to +10	-10 to +10	dBm
—	Input VSWR (Max.) P _N = -10 dBm	1.5:1	2.0:1	2.0:1	—
—	Input Power (Max.)	+15	+15	+15	dBm
—	Threshold Temp. Stability (Max.) @ -10 dBm Input Power	—	±1.0	±1.5	dB
—	@ 0 dBm Input Power	—	±1.7	±1.0	dB
—	@ +10 dBm Input Power	—	±0.5	±0.7	dB
—	Threshold Control Level @ -10 dBm Input Power	75/220	—	—	mV/Ω
—	@ 0 dBm Input Power	250/800	—	—	mV/Ω
—	@ +10 dBm Input Power	900/3100	—	—	mV/Ω
—	Threshold Hysteresis	—	—	—	—
—	Resistance Control	0.5	—	—	dB
—	Voltage Control	0.1	—	—	dB
—	Control Terminal Current	0.3	—	—	mA
—	Output Compatibility	TTL	TTL	TTL	—
—	Output at P _N Threshold (Min.)	2.7	2.7	2.7	V
—	Output Short Circuit Current (Min.)	3.0	3.0	3.0	mA
—	Output Sink Current (Min.) V _o = 0.7 V	2.0	2.0	2.0	mA
—	Output for Input Power Change > 3 dB above CW Threshold	—	—	—	—
—	Rise Time	30	—	—	ns
—	Fall Time	80	—	—	ns
—	Propagation Delay	1000	—	—	ns
—	Supply Voltage	—	—	—	—
—	As Specified	+15	—	—	VDC
—	Operational	+11 to +16	—	—	VDC
—	Supply Current	—	—	—	—
—	@ +15 Volts (Max.)	12	15	15	mA
—	Package	PP-25DD	—	—	—

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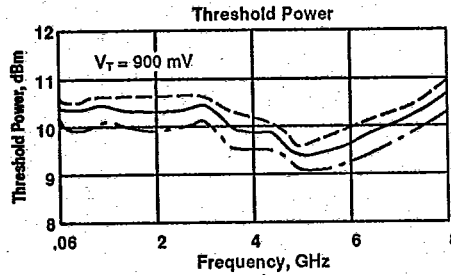
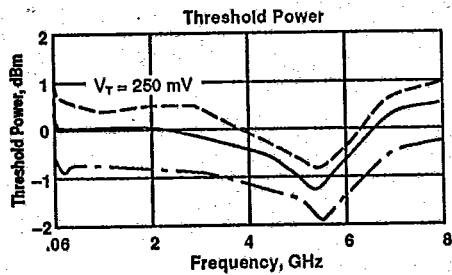
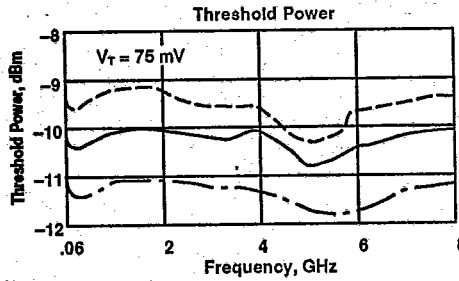
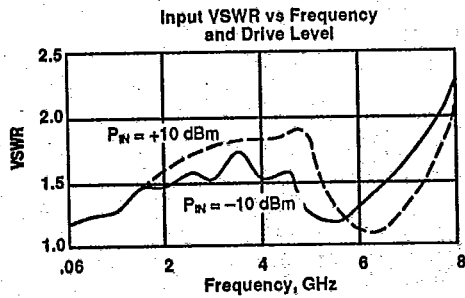
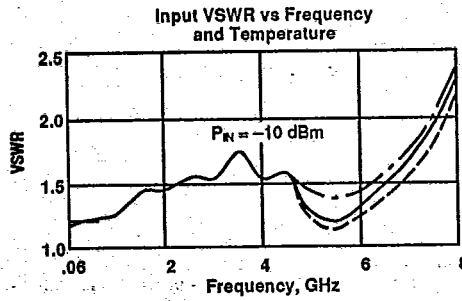
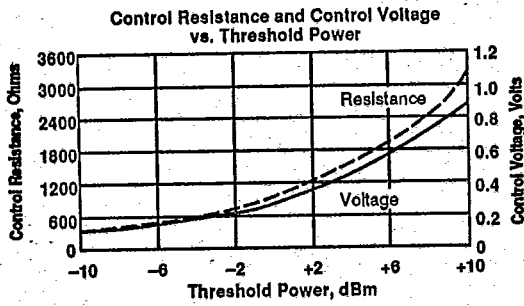
MAXIMUM RATINGS

DC Voltage	+17 Volts	Operating Case Temperature	-55°C to +125°C
DC Voltage Reference	+2 Volts	Storage Temperature	-62°C to +150°C
Continuous RF Input Power	+15 dBm	"R" Series Burn-In Temperature	125°C

WEIGHT: (typical) 0.21 grams

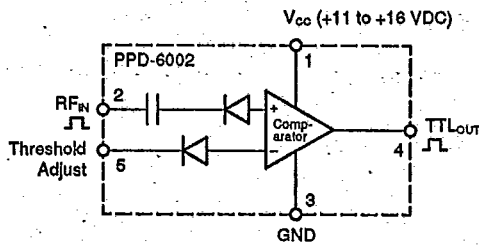
TYPICAL PERFORMANCE OVER TEMPERATURE (@ +15 VDC unless otherwise noted)

KEY: +25°C ———
+85°C - - - -
-55°C ·····



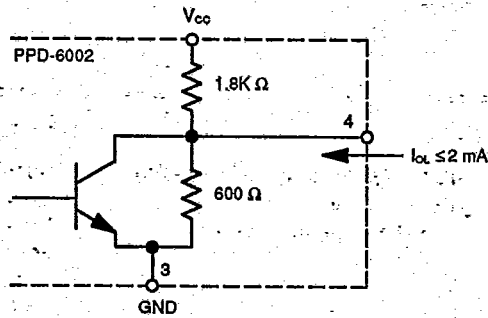
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SIMPLIFIED SCHEMATIC

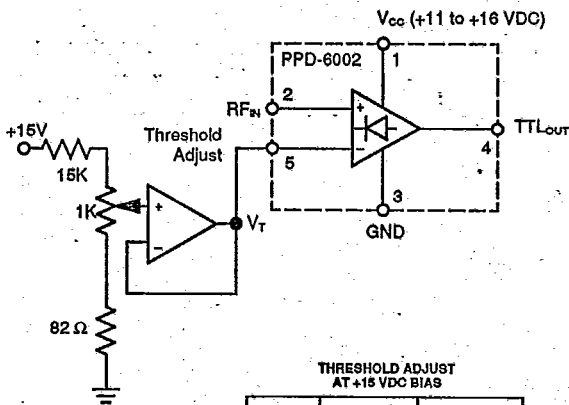


OUTPUT SCHEMATIC

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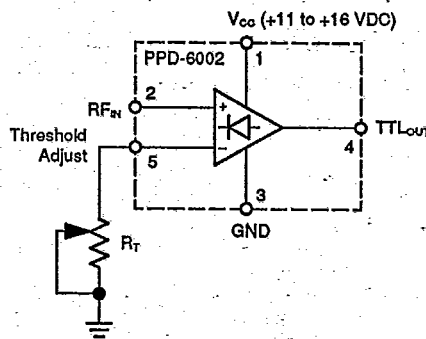
VOLTAGE CONTROL



THRESHOLD ADJUST
AT +15 VDC BIAS

V_T	SENSITIVITY (Typ)	HYSTERESIS (Typ)
75 mV	-10 dBm	0.1 dB
250 mV	0 dBm	0.1 dB
800 mV	+10 dBm	0.1 dB

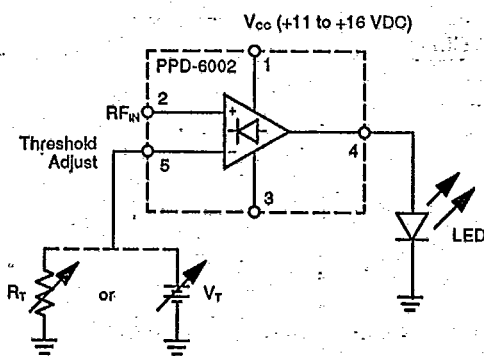
RESISTIVE CONTROL



THRESHOLD ADJUST
AT +15 VDC BIAS

R_T	SENSITIVITY (Typ)	HYSTERESIS (Typ)
220 Ω	-10 dBm	0.5 dB
800 Ω	0 dBm	0.5 dB
3100 Ω	+10 dBm	0.5 dB

INDICATOR DRIVE



RECEIVER GAIN ADJUST

