



Surface Mount Analog Level Detector 20 to 2000 MHz

Technical Data

PSD-2001-25

Features

- Wideband
- Temperature Compensated
- Low VSWR
- Small Size, Surface Mount
- Operates at $\pm 5V$

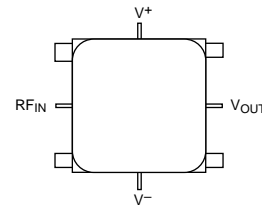
Applications

- Level Control
- Signal Monitoring

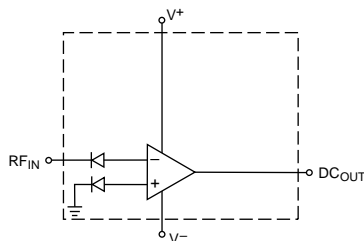
Description

The PSD-2001 is a wideband analog level detector which provides low drift RF level measurement at critical system points. It contains a Schottky diode detector and a precision op-amp. The unit is built with chip and wire construction on a thin-film substrate for small size and ruggedness.

Pin Configuration SM-25DA



Schematic



Maximum Ratings

Parameter	Maximum
DC Voltage	± 22 Volts
Continuous RF Input Power	+20 dBm
Operating Case Temperature	-55 to +125°C
Storage Temperature	-62 to +150°C
"R" Series Burn-In Temperature	+125°C

Thermal Characteristics

θ_{JC}	35°C/W
Temperature Rise (No Load)	9°C
Temperature Rise (Output S.C.)	30°C

Weight: (typical) 0.5 grams

Electrical Specifications(Measured in 50 Ω system @ ± 15 VDC nominal unless otherwise noted)

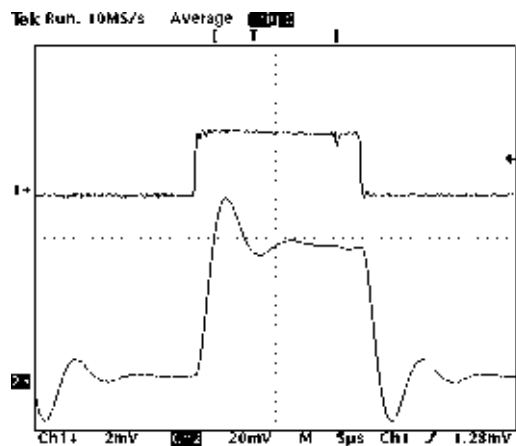
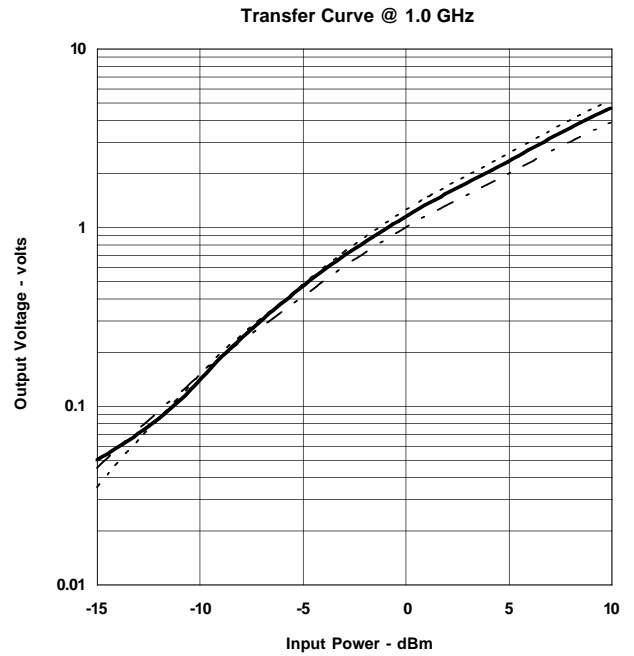
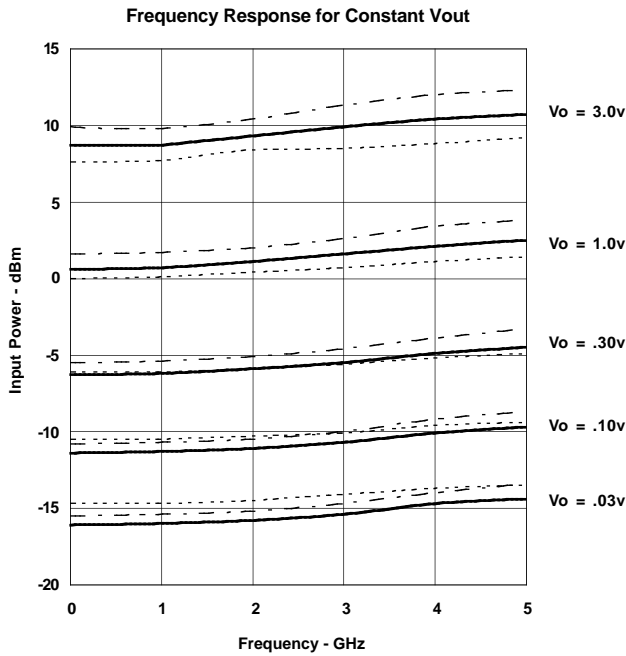
Symbol	Characteristic	Typical $T_C = 25^\circ\text{C}$	Guaranteed Specifications		Unit
			$T_C = 0$ to 50°C	$T_C = -55$ to $+85^\circ\text{C}$	
—	Frequency	20–2000		20–2000	MHz
—	VSWR (Small Signal) Max.	1.5:1		1.8:1	—
—	Sensitivity, Pin = 0 dBm, Min.	1.0		.9	V
—	Power Flatness, referred to input, Max., (Vout = 100 mV)	± 0.1	± 0.3	± 0.3	dB
—	Output Resistance	15		—	Ω
—	Output Offset	± 10		—	mV
—	Output Offset Drift	20 p-p		—	mV
—	RF to Video Isolation	40		—	dB
—	Rise Time	2.0		—	μs
—	Supply Voltage ¹	± 15		—	VDC
—	Supply Current (Vout = 0 V)	2.0		—	mA

NOTES: Ground is through package leadframe (bottom).

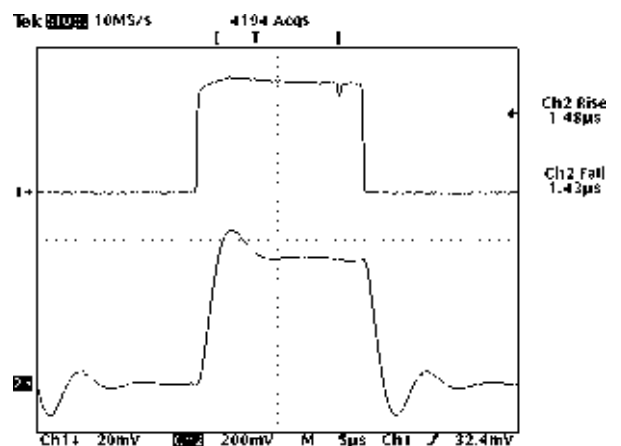
1. Usable down to ± 5 V

Typical Performance Over Temperature (@ ±15 VDC unless otherwise noted)

Key: +25°C ———
 +85°C - - - -
 -55°C - - - -

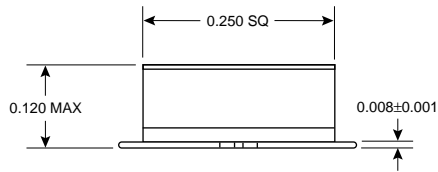
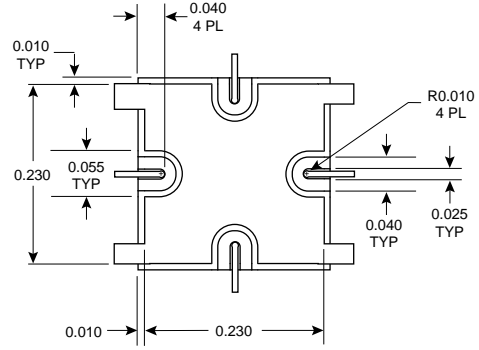
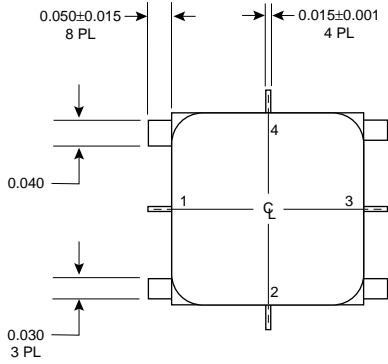


Pulse Response
 Top Trace: Input pulse at Pin = -15 dBm
 Bottom Trace: Detector Response



Pulse Response
 Top Trace: Input pulse at Pin = -5 dBm
 Bottom Trace: Detector Response

Case Drawings



PKG #	PIN DESIGNATION			
	1	2	3	4
SM-25	RF IN	GND	RF OUT	+V
SM-25F	RF IN	V-CONT	RF OUT	+V
SM-25DA	RF IN	-V	VID OUT	+V
SM-25DD	RF IN	CTL	TTL OUT	+V

NOTES:

1. MAXIMUM TEMPERATURE EXPOSURE IS 260°C FOR 10 SECONDS.
2. DIMENSIONS IN INCHES.
3. TOLERANCES: xx ± .01
xxx ± .005

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