DET–100 PHOTO DETECTORS & PREAMPLIFIERS

Hinds' detection systems are specifically designed for use with high frequency optical signals including those generated in Photoelastic Modulator (PEM) applications.

Hinds' detection features include:

- Frequency response. DC to several times the operating frequency of the PEM being used.
- Dark-current and/or background DC null.
- Preamplification for current to voltage conversion and buffering for impedance matching to signal cables.
- For many applications, separate lowpass or DC signals and wide-band AC signals derived from the detector output.

PHOTO DETECTOR/ PREAMPLIFIERS

These detectors are supplied in cylindrical housings 2-5/8 inches long by 2-1/2 inches in diameter, with a ¼ x 20 tapped hole for post mounting.

Typical Performance
(5mm^2, photoconductive, Red/IR)

- Power, bipolar, +/- 12 to 18 volts.
- Operating Temperature Range, 0° to 70° C.
- Current to Voltage Transfer Ratio, 2000 mV/mA.
- Frequency Bandwidth, DC to 1 MHz.
- Spectral Response, 350 to 950 nm.
- Noise Equivalent Power, 5 x 10^{-13}.

Silicon detector models are available in either photovoltaic or photoconductive versions, and in either red/IR or UV/visible spectral sensitivity. A photovoltaic germanium detector/preamplifier is also available.

The DET-100 detectors include a universal power supply and also have the option of receiving power from the SCU-100.

DET–100 MODEL OPTIONS

MODEL	TYPE	SPECTRAL RANGE, nm	ACTIVE AREA	FREQUENCY RESPONSE	MAXIMUM LIGHT INPUT POWER[1]	DETECTOR DC OUTPUT[2]
001	Si-PC	350 - 950	5 mm^2	DC – 1 MHz	6.5 mW	8.2 V_{DC}
002	Si-PC	350 - 950	16 mm^2	DC – 1 MHz	6.6 mW	7.7 V_{DC}
003	Si-PV	350 - 950	5 mm^2	DC – 350 kHz	6.5 mW	6.4 V_{DC}
004	Si-PV	350 - 950	16 mm^2	DC – 300 kHz	6.5 mW	6.8 V_{DC}
005	Si-PV	200 - 950	5 mm^2	DC – 400 kHz	6.1 mW	6.4 V_{DC}
006	Si-PV	200 - 950	20 mm^2	DC – 200 kHz	2 mW	2.25 V_{DC}
007	Ge-PV	800 -1600	3 mm^2	DC – 260 kHz	6.1 mW	0.81 V_{DC}

PC = Photoconductive PV = Photovoltaic

[1] For linear response, 632.8 nm laser
[2] Into a 5.6k load at maximum light input

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