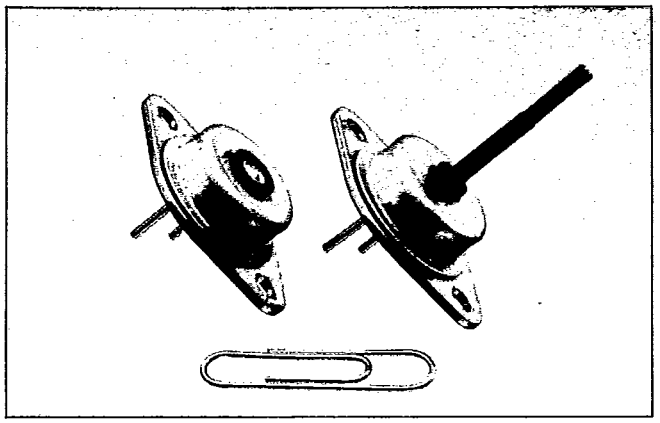
FAST COMPONENT DETECTORS

CD SERIES

T-41-45



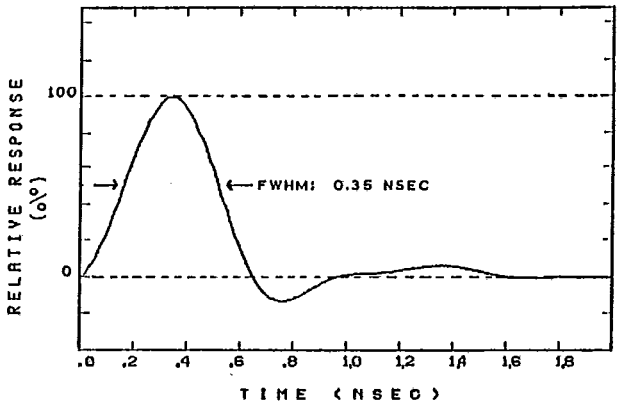
DESCRIPTION

The CD series detectors are designed for requirements less stringent than those met by the ultra high speed detector instruments and are an ideal choice for high performance at low cost. Mounted in a specially designed microwave circuit and housed in a TO 3 package these devices provide excellent performance for many high speed applications. Lens, window amd fiber pigtailed options are available. As an additional option, the photodetectors can be mounted on a small 50 ohm stripline printed circuit board. This provides terminals to connect the required bias voltage as well as a 50 ohm SMA style electrical connector output.

SPECIFICATIONS

Characteristics	Units	Model Number 10	20
Material	—	Si	Ge
Diode Type	—	PIN	PN
Active Area LxW	µm	500x500	250x250
Risetime (max.)	ps	250	250
FWHM (max.)	ps	400	400
Freq. Bandwidth (-3dB)	GHz	1.0	1.0
Peak Responsivity	mA/mW	0.2	0.2
Peak Resp. (into 50 ohm)	mV/mW	10	10
NEP (Peak Resp.) x 10^{-11}	W/√Hz	9.5	9.5
Max. Avg. Input Power	mW	25	25
Max. Peak Input Power	W	1	1
Output Impedance	ohms	50	50
Bias Voltage	V(-)	45	18
Current Limit	mA	5	5

PULSE RESPONSE



A typical pulse response from a CD10 Detector

OPTICAL INPUT OPTIONS

-W A 4 mm diameter 0.5 mm thick glass window.

-L A glass lens with a 4 mm diameter and a focal length of 2.5 mm. This lens is suitable for focusing a collimated beam or a slightly convergent beam onto the diode.

-F Two meters of optical fiber. The fiber is high quality multimode 50/125 µm core/cladding communications type fiber with a numerical aperture of 0.2. This makes the units suitable for use in singlemode or multimode fiberoptic systems.

PRINTED CIRCUIT BOARD OPTION

-PCB A printed circuit board approximately 8x5 cm (3x2 in) designed to hold the TO3 can. The PCB includes bias voltage terminals and a female SMA style launcher for the output. The detector is soldered onto this board.

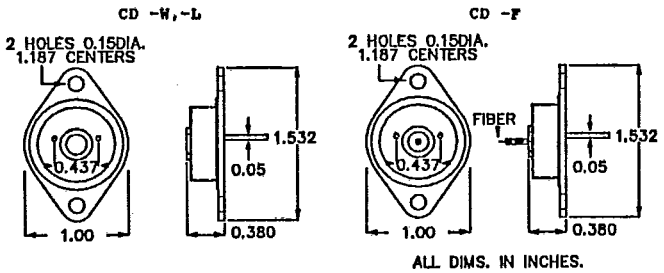
NOTE:

The CD series detectors have been optimized for use in a 50 ohm system. To achieve the pulsewidths and bandwidths specified here it is necessary to mount the detectors very carefully into a 50 ohm system. Where possible, the -PCB option is advised.

ORDERING INFORMATION

- The CD series component photodetectors are complete as encased in the TO3 can. With the PCB option the TO3 can is soldered to the printed circuit board.
- The complete units can generally be shipped within one to three weeks of receipt of order.
- **TO ORDER SPECIFY:** CD ___ — ___ — (___)
  - Model Number
  - Optical Input Option
  - PCB Option (if applicable)

MECHANICAL SPECIFICATIONS



ALL DIMS. IN INCHES.