Detectors For Fiber Optic Communication

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EECE 598

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Detectors

- Senses the luminescent power and translates it into a varying electric current
- Must meet high performance requirements
- Have reasonable cost in relation to network
- Have long operating life

Different Types of Detectors

Photo Multipliers

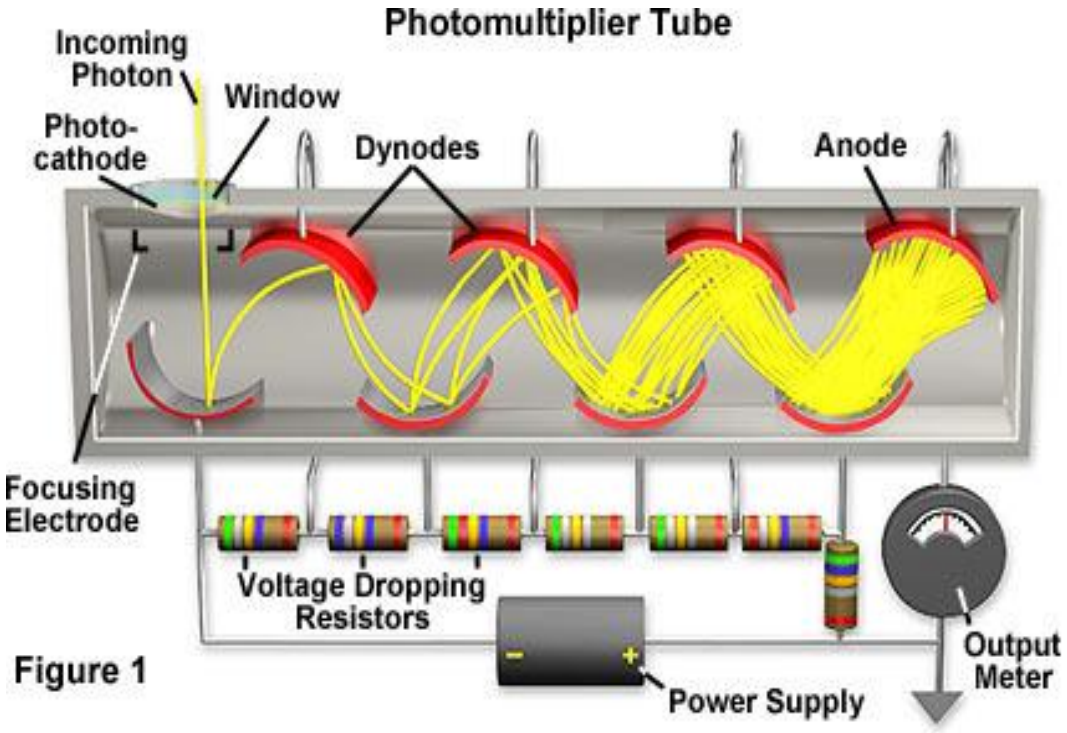
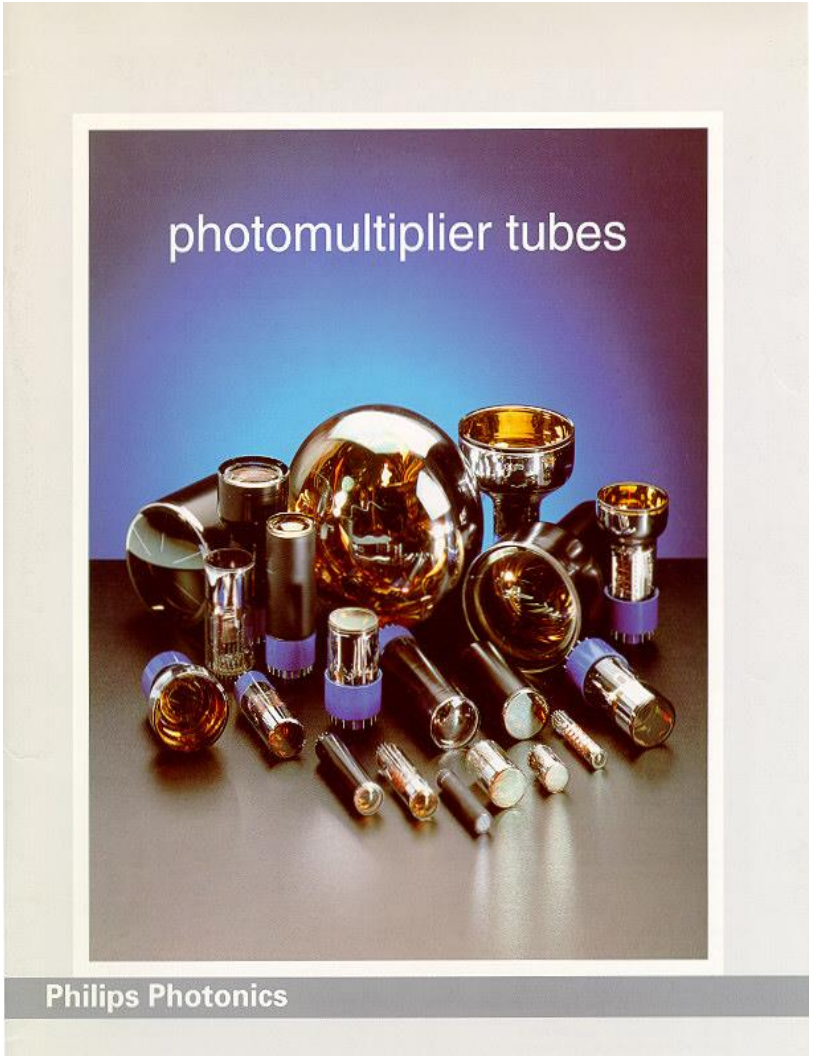
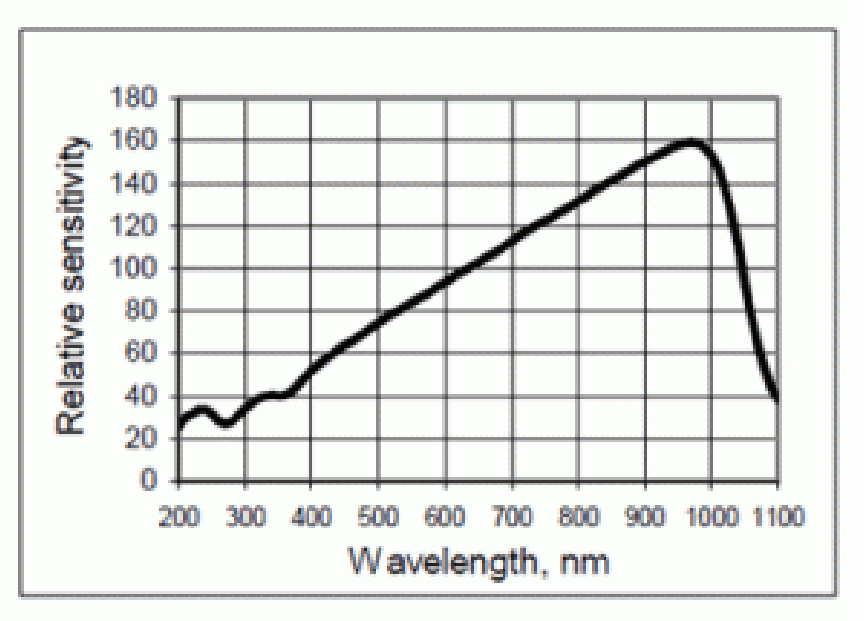


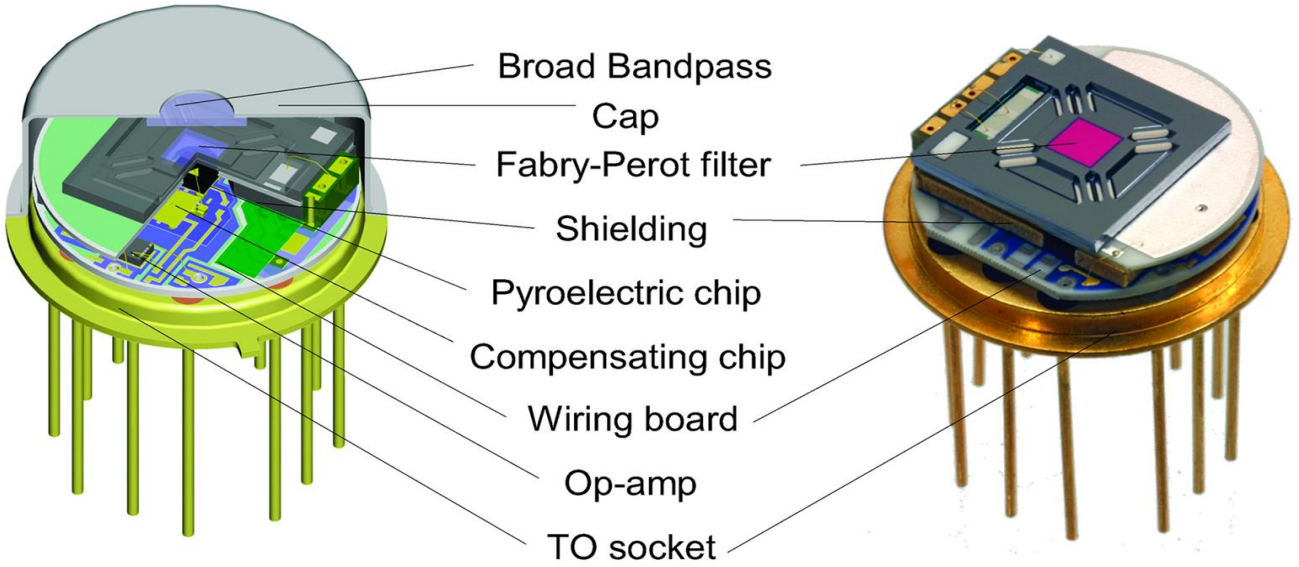
Figure 1



Different Types of Detectors

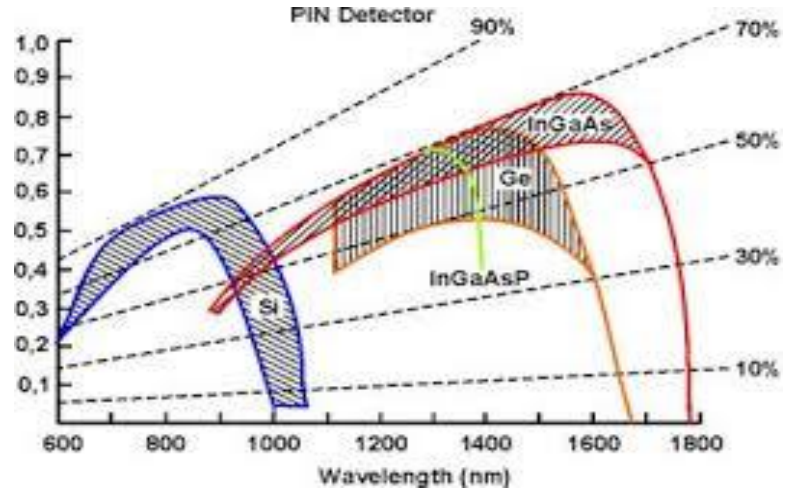
Pyroelectric Photodetector

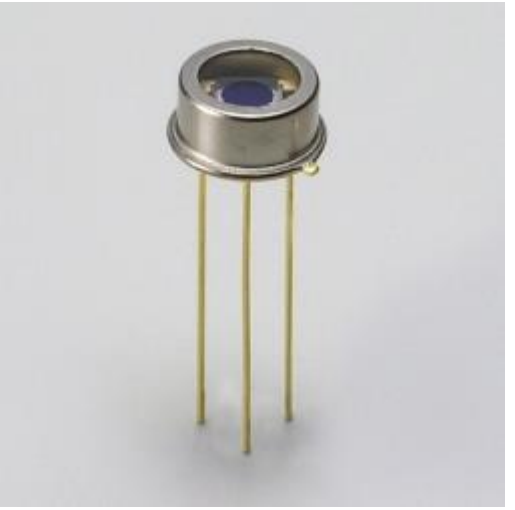


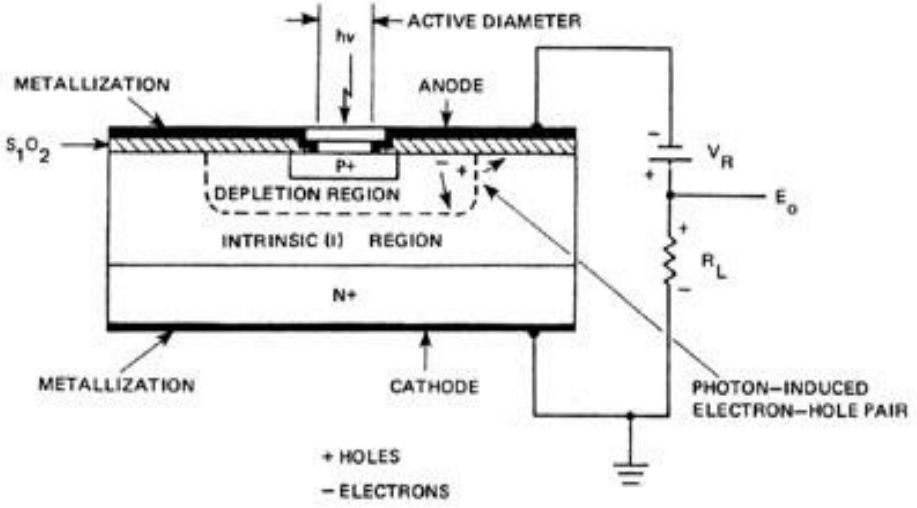


Different Types of Detectors

PIN Photodiode

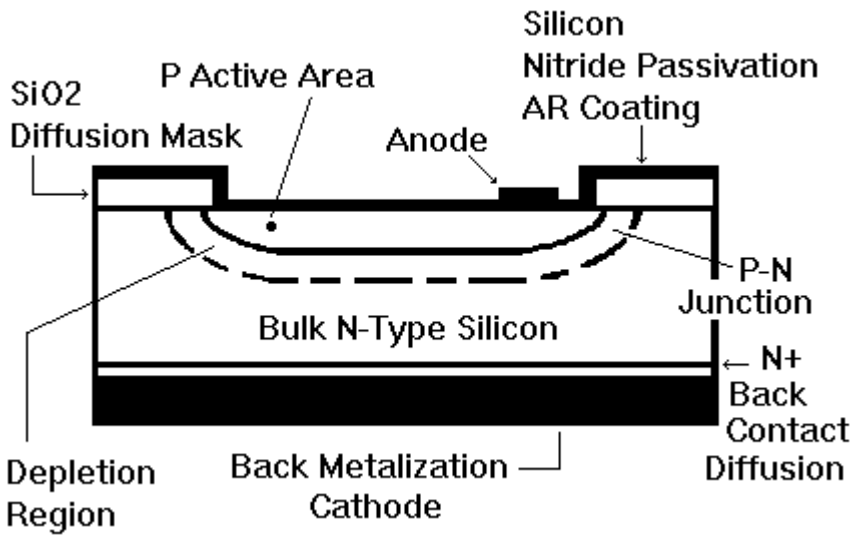






Different Types of Detectors

Double Heterostructure Photodiode



- Designed so that on the intrinsic layer absorbs light
- Popular structure uses InGaAs for intrinsic layer for wavelengths from 1250-1650nm
- Design similar to laser diodes

Different Types of Detectors

Avalanche Photodiode

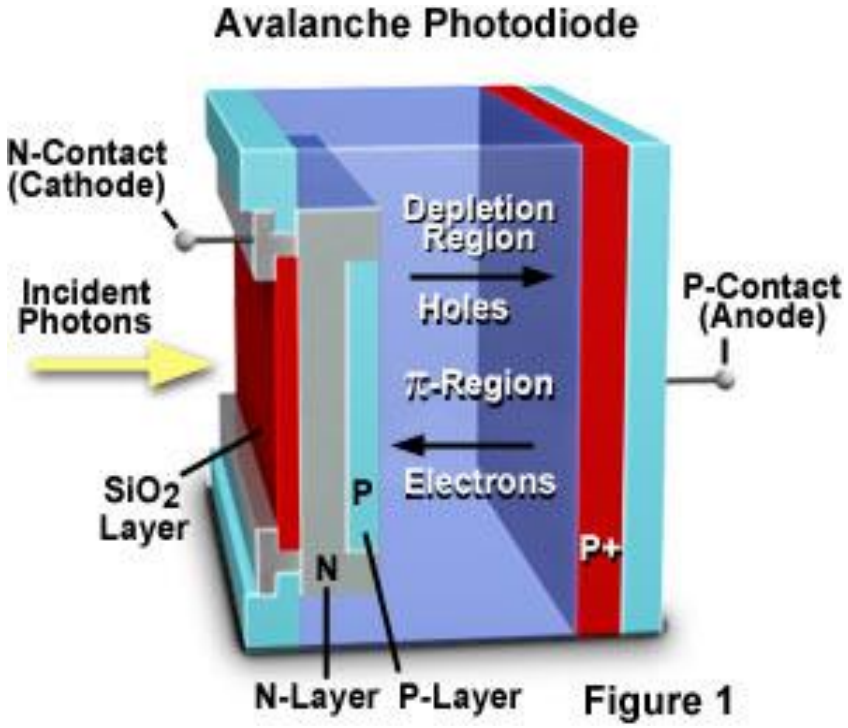


Figure 1