

## High-Speed Silicon PIN Photodiodes

**Rise Times as Fast as 0.35 nsec**

**Unmounted for Easy System Integration**

Melles Griot's 13 DSH series of high-speed silicon PIN photodiodes offers excellent high-frequency response in a sealed can for mechanical ruggedness and reliable operation. These devices feature low dark current and capacitance, making them ideal for low-throughput, large-bandwidth applications such as fiber optic communications and data links, video systems, and industrial sensing.

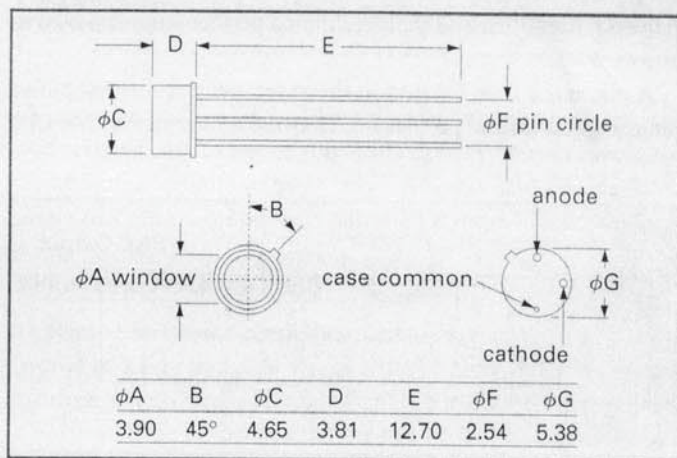
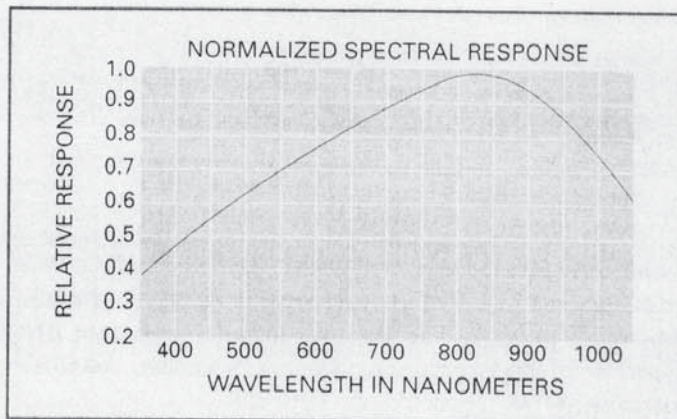
These detectors are offered both individually and in a post-mountable package. The benefit of the individual detectors is flexibility in integrating companion electronic sensing circuitry, in addition to mounting and overall system integration. The mounted detectors (*see the following page*) solve the most common problems generally associated with high-speed devices: diminution of the device's inherent frequency response due to insufficient bias, inappropriate electrical connections, or incorrect termination.

### SPECIFICATIONS: HIGH-SPEED SILICON PIN PHOTODIODES

Material: Silicon

Spectral Response: 350–1100 nm

Responsivity: 0.4 A/W @ 830 nm, typical



### High-Speed Silicon PIN Photodiodes<sup>1</sup>

| Active Area (mm <sup>2</sup> ) | Rise Time at -9 VDC (nsec) | NEP at -9 VDC (W/√Hz) | Dark Current at -9 VDC (nA) | Capacitance at -9 VDC (pf) | Breakdown Voltage min at 10 μA | Response at 830 nm (A/W) | PRODUCT NUMBER |
|--------------------------------|----------------------------|-----------------------|-----------------------------|----------------------------|--------------------------------|--------------------------|----------------|
| 0.04                           | 0.35 typ<br>1.0 max        | $6.3 \times 10^{-15}$ | 0.02 typ<br>1.0 max         | 1.0 typ                    | 30                             | 0.35 min<br>0.4 max      | 13 DSH 001     |
| 0.20                           | 1.0 typ<br>2.0 max         | $9.0 \times 10^{-15}$ | 0.05 typ<br>1.0 max         | 2.5 typ                    | 30                             | 0.35 typ<br>0.4 max      | 13 DSH 003     |
| 0.80                           | 2.5 typ<br>3.5 max         | $2.2 \times 10^{-14}$ | 0.25 typ<br>1.0 max         | 5.5 typ                    | 30                             | 0.35 typ<br>0.4 max      | 13 DSH 005     |

Note: <sup>1</sup>All specifications listed for an ambient temperature of 22°C.