

# SPD2020

## 25-Gb/s GaAs PIN Photodiode



### Key Features

- Large aperture (38  $\mu\text{m}$ )
- Low capacitance
- Die Level Hermeticity (DLH) Technology
- SG 2-pad configuration
- 19 GHz bandwidth

### Applications

- 25-Gb/s per channel links
- 25-Gigabit Ethernet (25GbE)
- NRZ 4 $\times$ 25-Gb/s SR4 datalinks
- Multimode datacom
- Active optical cables
- Fiber-optic transceivers, receivers, and transponders



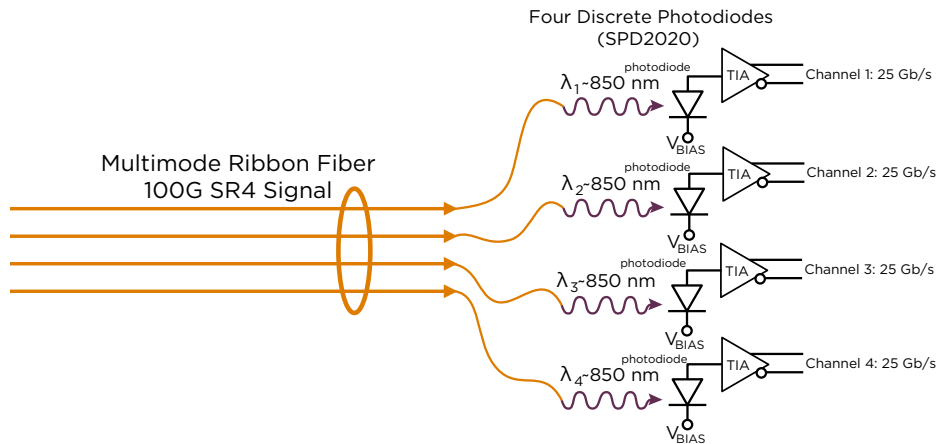
### Description

The Broadcom SPD2020 is a mesa-structured, GaAs-based PIN photodiode offering high responsivity, low dark current, and low capacitance for high-bandwidth, high-performance optical receiver designs. The photodiode's low parasitics make it ideal for high-speed, multimode 25-Gb/s applications in combination with today's high-performance 25-Gb/s single-channel transimpedance amplifiers (TIA). The SPD2020 is also available in a 1 $\times$ 4 array (SPD2020-4X) and a 1 $\times$ 12 array (SPD2020-12X). The SPD2020 has a slightly larger aperture (38  $\mu\text{m}$ ) than the similar SPD2025 (32  $\mu\text{m}$ ) to allow for easier optical alignment tolerances.

The SPD2020 is a single-channel device for 25 Gb/s operation. The complimentary SPD2020-4X is a 1 $\times$ 4 array version with 250  $\mu\text{m}$  channel-to-channel spacing.

Broadcom DLH Technology™ is applied to the semiconductor device coatings (passivation, etc.) on the photodiodes to enable the die themselves to act as the hermetic seal against GR-468-type environments.

### 100G SR4 into Four Discrete Photodiodes



### Ordering Information

GaAs PIN Photodiode: Blue tape, 6" hoop frames, max. 16,000 die/frame	SPD2020
GaAs PIN Photodiode: 2" Gel-Pak, vacuum release, max. 100 die/pack	SPD2020-GP