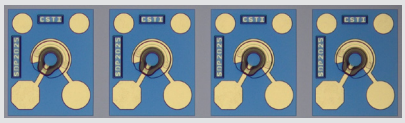
BROADCOM®

Product Brief

SPD2025-4X

28-Gb/s GaAs, 1×4 Array PIN Photodiode with 250-µm Channel Spacing



Key Features

- Large aperture
- 24 GHz bandwidth
- Low capacitance
- Die Level Hermeticity (DLH) Technology
- PAM-4 ready
- SG 2-pad configuration

Applications

- 4×28-Gb/s links
- 100-Gigabit Ethernet (100GbE) SR4
- Multimode datacom
- Active optical cables
- Fiber-optic transceivers, receivers, and transponders

DLH TECHNOLOGY™

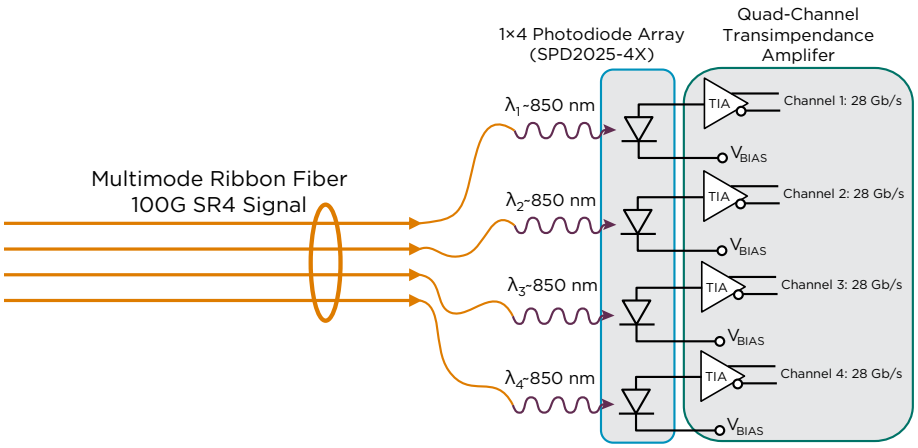
Description

The Broadcom SPD2025-4X is a mesa-structured, 1×4 array, GaAs-based PIN photodiode offering high responsivity, low dark current, and low capacitance for high-bandwidth, high-performance optical receiver designs. The photodiodes' low parasitics make them ideal for high-speed, multimode 4×28-Gb/s applications in combination with today's high performance 4×28-Gb/s quad-channel transimpedance amplifiers (TIA). The SPD2025 is also available in singlets and 1×12 array sizes (SPD2025-12X).

The SPD2025-4X is designed with extra bandwidth when compared with typical photodiodes used in 28-Gb/s NRZ signaling. This extra bandwidth enables the SPD2025-4X to work with 25-Gbaud PAM-4-type signals. The extra bandwidth also helps to ensure the linear fidelity of the PAM-4 signaling is preserved and cleanly launched into a linear TIA channel.

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 1×4 Array: Blue tape, 6" hoop frames, max. 1600 die/frame	SPD2025-4X
GaAs PIN Photodiode 1×4 Array: 2" Gel-Pak, vacuum release, max. 100 die/pack	SPD2025-4X-GP

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