BPD3056-4
56 Gbaud, 112-Gb/s Quad InGaAs PIN Photodiode with 250-μm Pitch

Overview

The Broadcom® BPD3056-4 is a mesa-structured, 1×4 array, InGaAs-based PIN photodiode array 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 4×100-Gb/s applications in combination with Broadcom high-performance 4×100-Gb/s quad-channel transimpedance amplifiers (TIAs).

The three-pad GSG design provides the user flexibility in wirebonding to TIAs and can help reduce crosstalk to adjacent channels. The high 3-dB bandwidth enables the BPD3056-4 to handle multilevel PAM4 signals with a fidelity high enough for the Broadcom 50-Gbaud linear transimpedance amplifiers. The BPD3056-4 is designed with extra bandwidth when compared with typical photodiodes used in 50-Gb/s NRZ signaling. This extra bandwidth enables the BPD3056-4 to provide superior performance with 50-Gbaud PAM4-type signals; the extra bandwidth also helps to ensure that the linear fidelity of the PAM4 signaling is better preserved and cleanly launched into a linear TIA channel.

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

Ordering Information

| InGaAs PIN Photodiode: Blue tape, 6” hoop frames, max. 1600 die/frame | BPD3056-4 |
| InGaAs PIN Photodiode: 2” Gel-Pak, vacuum release, max. 100 die/pack | BPD3056-4-GP |