

Polaris 200G/400G PAM4/NRZ Retimer and Gearbox

Part No.

Polaris

Product Type

Multiple variants to speeds up to 50Gbs PAM

Market Segments

Inside Data Centers

Applications

- Low power PAM-4 retimer with form factor suitable for QSFP56 200G modules
- Implements PAM-4 Electrical outputs, and includes an integrated EML driver
- Supports both 56.25Gb/s datastreams with PAM-4 modulation or 28.125Gb/s streams with NRZ modulation.
- Lane-based diagnostic Link Monitor to analyze receive error statistics and estimate BER

Features

- 200G Variant: 4x25GBaud PAM4 Retimer
- 400G Variant: 8x25GBaud PAM4 Retimer
- Additional variants for 2-lane retimers and 50Gbs PAM4 gearbox
- Host interfaces with full 3-tap Tx FIR with eye1/2 control
- Line interfaces support 3-tap Tx FIR with eye1/2 control
- Line Tx variants
 - 1Vp-p differential output
 - 1.9Vp-p single-ended, single or dual bias-T EML drive
- Full DSP Line Receiver for maximum performance over complex optical links

Description

The Marvell Polaris PAM4 DSP is a next generation solution for cloud data center, high-performance computing, and AI optical transceivers. Polaris supports multiple industry standard protocols up to 50Gbs for both single mode and multi-mode applications. It is equipped with an industry leading PAM4 digital core for optimal performance across a range of applications. Polaris includes several performance monitoring features including SNR, histogram, FFE-tap view for line side interface. Both host and side interface support shallow loopback and PRBS generation/checking for diagnostic operations.