

# 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.



To deliver the data infrastructure technology that connects the world, we're building solutions on the most powerful foundation: our partnerships with our customers. Trusted by the world's leading technology companies for 25 years, we move, store, process and secure the world's data with semiconductor solutions designed for our customers' current needs and future ambitions. Through a process of deep collaboration and transparency, we're ultimately changing the way tomorrow's enterprise, cloud, automotive, and carrier architectures transform—for the better.