

Porrima 100G/400G PAM4 for Optical Module Applications

Part No.

Porrima

Product Type

100G/400G PAM DSP

Market Segments

Inside Data Centers

Applications

- · Single-Mode Fibre Transceivers
- · Multi-Mode Fibre Transceivers
- Active Optical Cables

Features

- 100G Variant: 4x25G NRZ PCS to 1x100G KP-FEC encoded PAM4
- 400G Variant: 8x50G PAM4 to 4x100G PAM4
- All lanes independent to support breakout applications
- Full data & clock cross-bars on Egress and Ingress for ease of system layout
- Host interfaces with full 4-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
 - 1.6Vp-p single-ended, single or dual bias-T EML drive
- Full DSP Line Receiver for maximum performance over complex optical links
- Hardware supported KP FEC statistics monitor that can be used on Egress or Ingress

Description

The Marvell Porrima PAM4 DSP is a next generation solution for cloud data center, high-performance computing, and AI optical transceivers. Porrima supports multiple industry standard protocols up to 100Gbs 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. Porrima 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. Additionally, Porrima has a hardware assisted KP FEC statistics monitor that can report counts for correctable code-words uncorrectable code-words and the full FEC 'histogram' for errors from 1/code-word, up to 15/code-word.



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.