Spica 400G/800G PAM4 DSP for Optical Module Applications

Part No.
Spica

Product Type
100G PAM DSP

Market Segments
Inside Data Centers

Applications
• Single-Mode Fibre Transceivers
• Multi-Mode Fibre Transceivers
• Active Optical Cables

Description
The Marvell Spica PAM4 DSP is a next generation solution for cloud data center, high-performance computing, and AI optical transceivers. Spica supports multiple industry standard protocols up to 100Gbs for both single mode and multi-mode applications. Spica is equipped with an industry leading PAM4 digital core for optimal performance across a range of applications. Spica includes several performance monitoring features including SNR, histogram, FFE-tap view for both line and host side interfaces. Additionally, both host and side interface support shallow loopback and PRBS generator/checker for diagnostic operations.

Features
• 4x100Gbs PAM4 Retimer
• All lanes independent to support breakout applications
• Full data & clock cross-bars on Egress and Ingress for ease of system layout
• Lanes can be configured in 4x100, 2x200 or 1x400 bundles
• Host interfaces with full 4-tap Tx FIR with eye1/2 control
• Line interfaces support 4-tap/7-tap Tx FIR with eye1/2 control
• Line Tx variants
  • 1Vp-p differential output
  • 1.6Vp-p single-ended, single bias-T EML drive
  • 2.6Vp-p differential output for SiPho applications
• 8x100Gbs PAM4 Retimer variant supported by dual-die package