

200G Optical DSP



Seagull 201

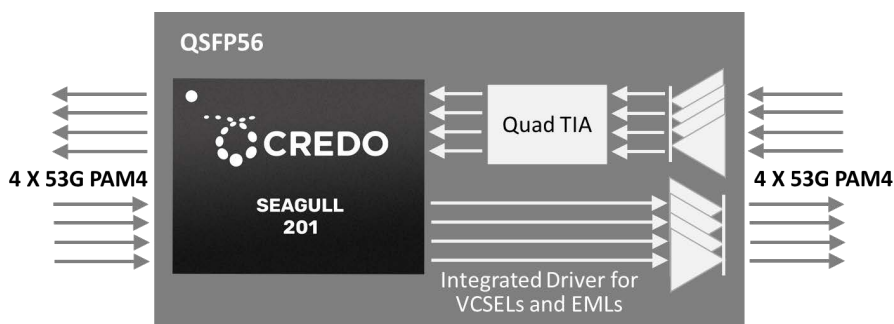
4 x 53G PAM4 \rightleftharpoons 4 x 53G PAM4

Seagull 201 (**CFD53401**) is used in the next generation low-power, high-performance QSFP56 optical modules that support 200GbE SR4, DR4, FR4, LR4, and 400GbE SR8 applications. It accepts four lanes of 53.125Gbps (26.5625Gbaud) PAM4 on the client (host) interface and sends the traffic to four lanes of 53.125Gbps PAM4 signal on the optical (line) interface.

Seagull 201 integrates high-performance equalization techniques to compensate for optical impairments while achieving good BER performance and maintaining low power dissipation. The unique architecture is optimized for die size and mainstream silicon process technology, enabling low cost-of-ownership and accelerating 200GbE market adoption.

Integrated drivers enable direct connection to VCSELs and EMLs, eliminating the need for external drivers and simplifying the optics interface.

Seagull 201 has industry leading performance and low power dissipation. It is optimized for optimal component placement and use of standard assembly techniques for high-yield, reliable PCB designs. The device footprint is also compatible with Credo's Dove 200 Optical DSP, enabling the option to design a common PCB for both components, then choosing the DSP that best meets the application need.



Applications

- Hyperscale data centers
- Cloud networks
- 200GbE optical transceivers
- 4 x 50GbE breakout systems
- Applications using VCSELs or EMLs

Key Parameters

Host Side	4 x 53G PAM4
Line Side	4 x 53G PAM4
Package Size	8mm x 10mm
Operating Temp	0° to 85°C
Communication Interface	MDIO / I ² C
Process	CMOS

Key Features

- DSP with industry-leading performance
 - Adaptive CTLE and multi-tap DFE and FFE on line and host side receivers
 - Multi-tap FIR filter on line and host side transmitters
 - Integrated drivers for VCSELs and EMLs on the line side
 - Independent PLLs per lane, enabling breakout configuration
 - LOS and LOL detection
 - Diagnostic features including pattern generators and checkers, eye monitor and loopbacks
 - Optimized, compact firmware
 - Low power dissipation enables 3.5W QSFP56 optical transceivers
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Supported Standards and Interfaces

- IEEE 802.3 200GBASE-SR4/DR4/FR4 and LR4
- IEEE 802.3 400GBASE-SR8
- IEEE 802.3 200GAUI-4
- CEI-56G-VSR-PAM4

For more information please visit www.credosemi.com/optical-dsp/seagull-201 or email sales@credosemi.com.