

100G Optical DSP



Seagull 111

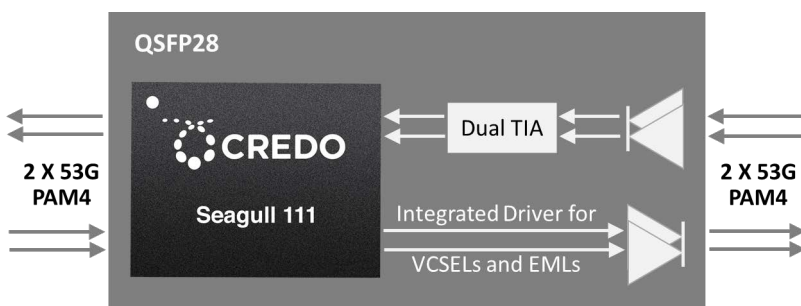
2 x 53G PAM4 \rightleftharpoons 2 x 53G PAM4

Seagull 111 (**CFD33201**) is used in the next generation low-power, high performance QSFP56 optical modules that support 100GbE SR2, DR2, FR2 applications. It accepts two lanes of 53.125Gbps (26.5625Gbaud) PAM4 on the client (host) interface and sends the traffic to two lanes of 53.125Gbps PAM4 signal on the optical (line) interface.

Seagull 111 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 100GbE market adoption.

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

Seagull 111 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.



Applications

- Hyperscale data centers
- Cloud networks
- 100GbE optical transceivers
- 2x50G breakout systems
- Applications using VCSELs or EMLs

Key Parameters

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

Key Features

- Integrated 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
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Supported Standards and Interfaces

- IEEE 802.3 1100GBASE-SR2, 100GbE DR2/FR2
- IEEE 802.3 100GAUI-2

For more information please visit www.credosemi.com/optical-dsp/seagull-111 or email sales@credosemi.com.