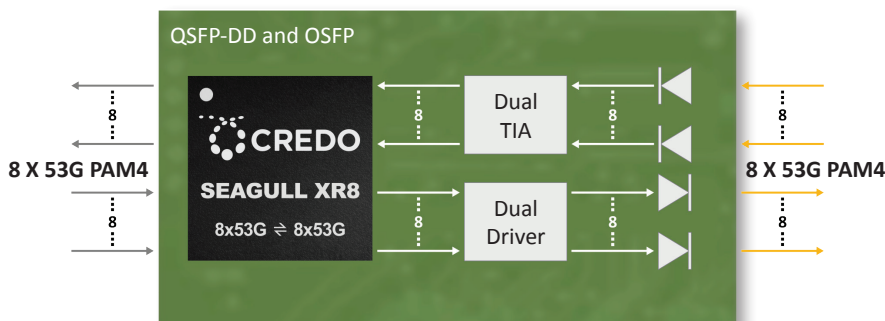# 400G Optical DSP

SEAGULL XR8
8x53G ⇌ 8x53G

Seagull XR8
8 x 53G PAM4 ⇌ 8 x 53G PAM4

Seagull XR8 **(CFD60801)** is used in the next generation low-power, high performance QSFP-DD and OSFP optical modules that support 400GbE SR8, DR8, FR8, and LR8 applications. It accepts eight lanes of 53.125Gbps (26.5625Gbaud) PAM4 on the client (host) interface and sends the traffic to eight lanes of 53.125Gbps PAM4 signal on the optical (line) interface.

Seagull XR8 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 400GbE market adoption.

Seagull XR8 has industry leading performance and low power dissipation.

Applications

- Hyperscale data centers
- Cloud networks
- 400GbE optical transceivers
- 2x200G, 4x100G or 8x50G breakout systems

Key Parameters

Host Side	8 x 53G PAM4
Line Side	8 x 53G PAM4
Package Size	11mm x 12mm
Operating Temp	0° to 85°C
Communication Interface	MDIO / I^{2}C
Process	CMOS

QSFP-DD and OSFP

8 X 53G PAM4

SEAGULL XR8
8x53G ⇌ 8x53G

Dual TIA

Dual Driver

8 X 53G PAM4

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

- 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

Supported Standards and Interfaces

- IEEE 802.3 400GbE DR8 and FR8

- IEEE 802.3 400GAUI-8

For more information please visit **www.credosemi.com** or email **sales@credosemi.com**.

REV 073021

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