

OPTICAL DSP

Seagull 52

50Gbps PAM-4 DSP with Integrated DML Driver

Seagull 52 (CFD15201) is a versatile full-duplex device with industry-leading power dissipation that can be used in next-generation QSFP28, DSFP, and SFP56 pluggable optical transceivers. It supports 50Gbps DR/FR/LR applications based on PAM-4 modulation. Seagull 52 operates over the full industrial temperature range of -40°C to +85°C module case and is ideal for use in data centers, campuses and 5G wireless/eCPRI front-, mid- and backhaul applications.

As a dual-mode DSP, the Seagull 52 can be used as a gearbox or retimer. Integrated driver enables direct connection to DML laser, eliminating the need for external driver and simplifying the optics interface.

Seagull 52 employs proprietary DSP technology and equalization techniques, especially critical in 5G wireless applications where cost-effective solutions are required, leading to wider use of DML lasers and uncooled optics. The DSP is a high performance, robust solution that helps to compensate for the impairments and nonlinearities resulting from optics, wider temperature range and fiber. It allows optimal component placement and use of standard assembly techniques for high-yield, reliable PCB designs.

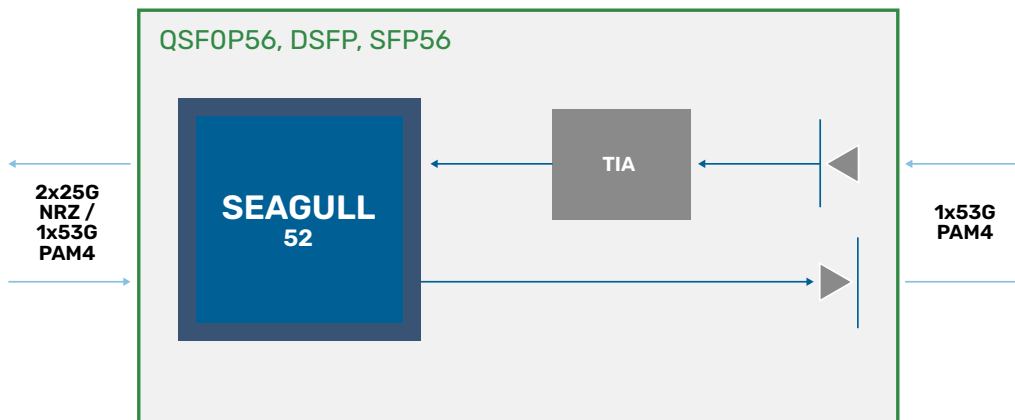


Applications

- 5G wireless front haul
- 5G wireless mid haul and back haul
- Data centers
- Campus applications
- 50GbE optical transceivers

Key Parameters

Host Side	2x25G NRZ 1x53G PAM-4
Line Side	1x53G PAM-4
Operating Temp	-40° to 85°C



Key Features

- DSP with industry-leading performance
- Adaptive CTLE and multi-tap DFE and FFE
- High performance transmitters with multi-tap FIR filters and non-linear cancellation
- Integrated DML driver
- Flexible configuration in gearbox or mux mode
- Low latency variation
- LOS and LOL detection
- Diagnostic features including pattern generators and checkers, eye monitor and loopbacks
- Optimized, compact firmware
- Low power dissipation
- Industrial temperature support -40° to 85°C

Supported Standards and Interfaces

- 50G-DR/FR/LR
- 50GAUI-1, 50GAUI-2
- eCPRI
- CEI-56G-VSR-NRZ and CEI-56G-VSR-PAM4
- QSFP28, DSFP, and SFP56
- CMIS 4.0 and 5.0

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