PRODUCT BRIEF > OPTICAL

Optical DSP
Lark 800

800Gbps DSP (8:8)

The Lark 800 optical DSP is used in the next-generation, low-power, high-performance 2x (4x106G to 4x106G), or 8x106G to 8x106G PAM-4 OSFP, or QSFP-DD800 optical transceivers for high-density data centers. Dedicated PLLs are included for each transmit and receive data lane enabling seamless operation in breakout applications.

The Lark 800 integrates high-performance DSP technology and equalization techniques to compensate for optical and electrical impairments while achieving good BER performance and maintaining low power dissipation. This unique architecture is optimized for die size and mainstream silicon process technology, enabling low cost of ownership, and accelerating market adoption.

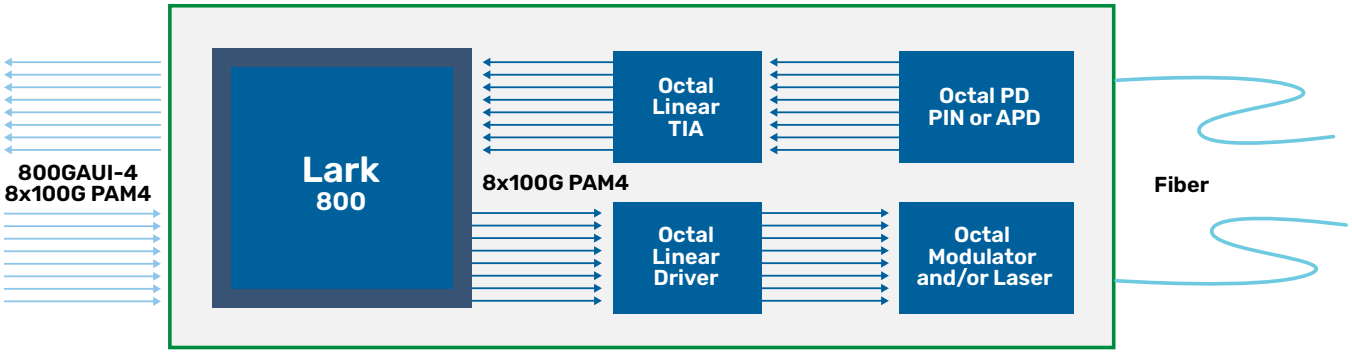
On-chip crossbar, loopbacks and test features simplify module design, bring-up, and production testing.

Applications

- Hyperscale data centers
- Cloud networks
- Campus applications
- 800GbE optical transceivers
- 2x400GbE optical transceivers
- Breakout applications

Key Parameters

Host Side	8x106G PAM4
Line Side	8x106G PAM4
Operating Temp	0° to 85°C



Key Features

- Powerful DSPs on optical line side and electrical host side deliver industry leading sensitivity and BER performance, allowing margin for optical alignment and crosstalk.
- Line side receivers include non-linear cancellation and reflection cancellation, which improves yields and reduces module cost.
- High-performance transmitters come with multi-tap FIR filters and non-linear cancellation, allowing precision optimization at both the module electrical connector and the optical interface
- Host side interface supports up to 30dB insertion loss channel, connecting seamlessly with different length switch interfaces without need for customized per-channel settings.
- Independent phase locked loops per channel support flexible breakout configurations including 2x400GbE, 4x200GbE and 8x100GbE.
- Full suite of test features and loopbacks simplifies lab bring-up, production testing and reduces time-to-market.
- On-chip crossbar simplifies module layout design.
- Low power dissipation enables higher rack utilization and lower thermal cooling requirements.

Supported Standards and Interfaces

- 800G-SR8/DR8/FR8/LR8
- 2x400G-SR4/DR4/FR4/LR4
- 4x200G-SR2/DR2/FR2/LR2
- 8x100G-SR/DR/FR/LR
- 100GAUI-1, 400GAUI-4, 800GAUI-8
- OSFP and QSFP-DD800
- CMIS 4.x and 5.x

About Credo

Credo's mission is to advance high-speed connectivity solutions that deliver optimized performance, reliability, energy efficiency, and security for the next generation of AI driven applications, cloud computing, and hyperscale networks.

Optimized for both optical and electrical applications, our solutions support port speeds up to 1.6Tb. At the core of our technology is our proprietary Serializer/Deserializer (SerDes) IP. Our diverse solutions portfolio includes system-level products such as Active Electrical Cables (AECs), a range of Integrated Circuits, including Retimers, Optical DSPs, SerDes chipsets, and SerDes IP Licensing.

For more information please visit **www.credosemi.com**
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