![CREDO we connect.]
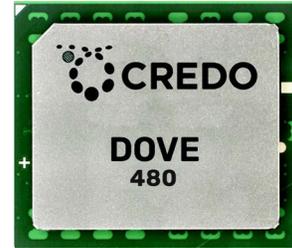
Optical DSP
Dove 480

400Gbps PAM-4 DSP

Dove 480 (CFD60802) is used in the next-generation, low power, high-performance QSFP-DD and QSFP112 optical transceivers for high-density data centers. Dedicated PLLs are included for each transmit and receive data lane enabling seamless operation in breakolut applications.

Dove 480 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.

Dove 480 can be used in forward mode (8:4 configuration) or reverse mode (4:8 configuration), to service existing data centre and AI deployments, and facilitate seamless transition to newer network architectrures.
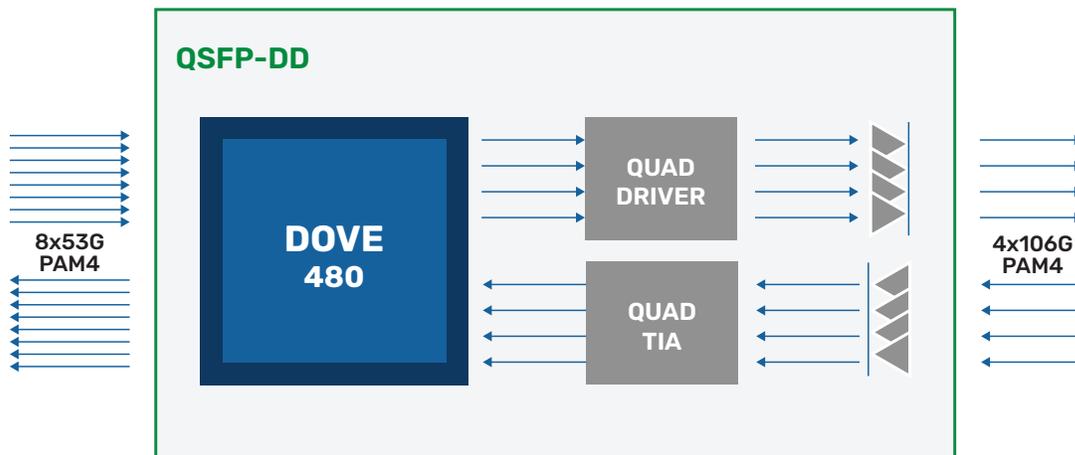
Applications

- AI
- Hyperscale data centers
- Cloud networks
- 400GbE or 2x200GbE optical transceivers and AOCs
- Breakout applications

Key Parameters

Host Side 8x53G / 4x106G PAM4
Line Side 4x106G / 8x53G PAM4
Operating Temp 0° to 85°C

Key Features

- Powerful fourth generation DSPs on optical side and electrical side deliver industry leading sensitivity and BER performance, providing margin for component variation and high-volume manufacturing

- Forward (8:4) and reverse (4:8) mode

- Line side Rx performance-enhancing features tailored to address optical impairments in stressful environments

- High-performance transmitters come with multi-tap FIR filters, allowing precision optimization at both the module electrical connector and optical interface

- Host side interface supports extended PCB reach without the need for customized per-channel settings

- Independent phase locked loops per channel support flexible breakout configurations including 1x400G, 2x200G and 4x100G

- On-chip crossbar simplifies module layout design

- Full suite of test features and loopbacks simplifies lab bring up and production testing to reduce time-to-market

- Low-power dissipation enables higher rack utilization and lower thermal cooling requirements

Supported Standards and Interfaces

- 400G-SR4/DR4/FR4/LR4

- 2x200G-SR2/DR4/FR4/LR2

- 4x100G-SR/DR/FR/LR

- 400GAUI-4, 100GAUI-1 C2M

- CEI-112G-VSR-PAM4

- CEI-112G-MR-PAM4

- OSFP-DD and QSFP112

- 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** or email **sales@credosemi.com**

CREDO