100G Optical DSP

CREDO
DOVE 100
Optical DSP

Dove 100
4 x 25G NRZ ⇌ 1 x 106G PAM4

Dove 100 (**CFD30101**) is used in the next generation low power, high performance QSFP28 optical modules that support 100GbE DR, FR and LR applications. It accepts four lanes of 25.78125Gbps NRZ on the client (host) interface and sends the traffic to one lane of 106.25Gbps (53.125Gbaud) PAM4 signal on the optical (line) interface.

Dove 100 integrates high-performance DSP technology and equalization techniques to compensate for optical 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 100GbE market adoption for PAM4 based applications.
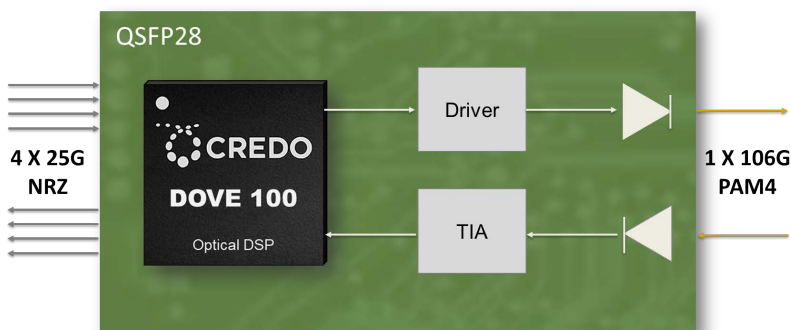
Dove 100 includes a full suite of integrated test and diagnostic features to simplify lab and manufacturing testing.

Applications

- Hyperscale data centers
- Cloud networks
- 100GbE optical transceivers

Key Parameters

Host Side	4 x 25G NRZ
Line Side	1 x 106G PAM4
Package Size	7mm x 7mm
Operating Temp	0° to 85^OC
Communication Interface	MDIO / I^2C
Process	CMOS

QSFP28

4 X 25G NRZ

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Driver

TIA

1 X 106G PAM4

Key Features

- 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

- LOS and LOL detection

- Diagnostic features including pattern generators and checkers, eye monitor and loopbacks

- Optimized, compact firmware

- Low power dissipation enables 3.5W QSFP28 optical transceivers

Supported Standards and Interfaces

- IEEE 802.3 100GBASE-DR/FR

- IEEE 802.3 100GAUI-4

- 100G Lambda MSA 100G-FR and 100G-LR

- CEI-56G-VSR-NRZ

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

REV 082720

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