

Leap® On-Board Transceiver

300Gbps High-Speed 12-TRX Optical Module

Amphenol AOP 300Gbps Leap® High-Speed 12-TRX Optical Module is faster, smaller, more cost and power efficient than most conventional datacenter interconnects. Aggregates 300 Gbps over 12 channels, is the best choice for AI and super computing applications where space and speed matters.

Key Features

Removable fiber optical cable connection to set your mind free to design the way you want. Replace the cable only, keep the transceiver.

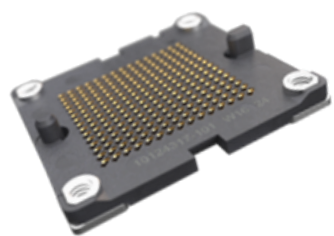
5.4 W of power consumption to enable the whole power of the Leap® OBT at 300Gbps, including CDR, transceiver optimization and monitoring connection discovery, channel diagnostics, and signal status monitoring.

High speed for high distances reaching 300Gbps up to 70m, over its 12 channels (25 Gbps/channel). Mates with Amphenol optical cable 10141993-XXX.

Keep your system cool with many options of heat sink that dissipates the hot air upwards, or plenty choices of cold plates to transfer the unwanted heat, also water cooled compatible versions available.

Smallest footprint board area usage in the market. Only takes up 1 sq inch of board space, 2.5x less compared to QSFP28 (12-channels).

Mounts easily on a LGA/BGA socket interposer Amphenol 10140369-101LF.



Applications

Network Systems
AI & Supercomputing

Radar
Telescopes

Industrial Control
Ground Communication

Contact Us

Features

- 12-channel: 25Gbps/channel NRZ
- Multimode - wavelength: 850nm
- 1" x 1" layout grid
- Ethernet 40GBASE-SR4 compliance
- Compatible with MT optical cables
- Compatible with Amphenol socket
- Two-wire control and diagnostic interface
- Data rate transparent from 1.25Gbps to 16Gbps
- Heat sink design options
- Laser Class 1M version available
- BER < 10⁻¹² w/o FEC
- Programmable input equalization
- Programmable output amplitude and emphasis.

Supported Standards

- 100GBASE-SR4 per 802.3(per channel)
- FDA: 0312716
- TUV: 21246478
- UL: E251142-191
- Proprietary 25Gb/s links
- PCIe Gen 4
- SAS 4.0
- 100GBase-SR4
- EDR Infiniband

Electrical Performance

- Power Supply Voltage: 3.3V
- Bit Error Rate @ 25.78125 Gb/s, PRBS31 (CDR ON): < 10⁻¹²
- Lanes per device: 12 Transmit & 12 Receive
- Power Consumption: 5.4W (typ.)
- Transmitter Type: 850nm VCSEL Laser
- Receiver Type: PIN Photodiode

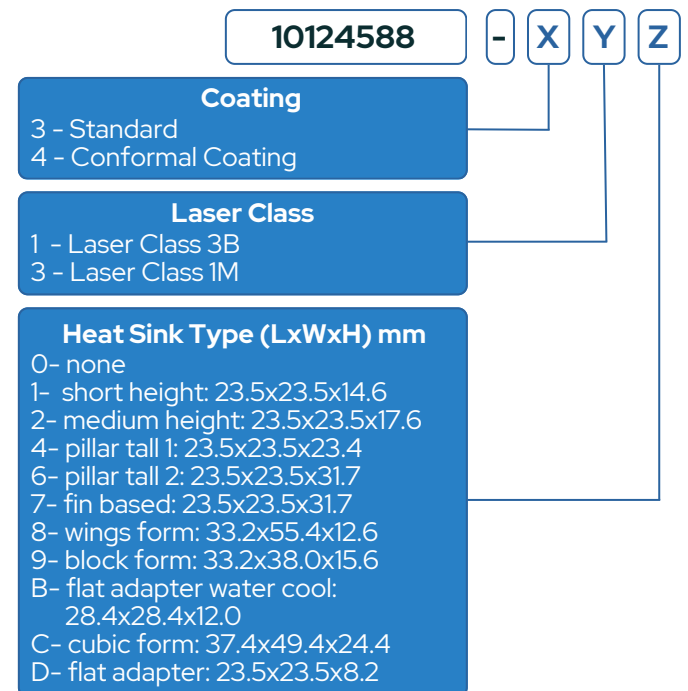
Environmental

- RoHS 6/6compliant
- Laser Class 1M or 3B versions available
- Case Operating Temperature: 0° to +70°C
- Conformal coating option

Benefits

- Ethernet transmission distance up to 100m (multi mode fiber)
- Uses off-the-shelf MT optical interface
- No through holes to connect transceiver – one side of board only
- Easy to install
- Supports non-standard protocols in this range of datarates. Note CDR operational bit rate of 25-25.8Gb/s
- Meet all safety requirements
- Lower system latency and better system performance
- 11dB of signal peaking at 12GHz to compensate for suboptimal signal condition
- Compensate for PCB traces loss for proper signal conditioning.

Part Number Selector



Evaluation Kit

Try out the power of the Leap® OBT through our evaluation kits. Ships together with Application Notes and a Graphical User Interface (GUI) to simulate various scenarios in a very simply and effective way.



Get in touch for more.

