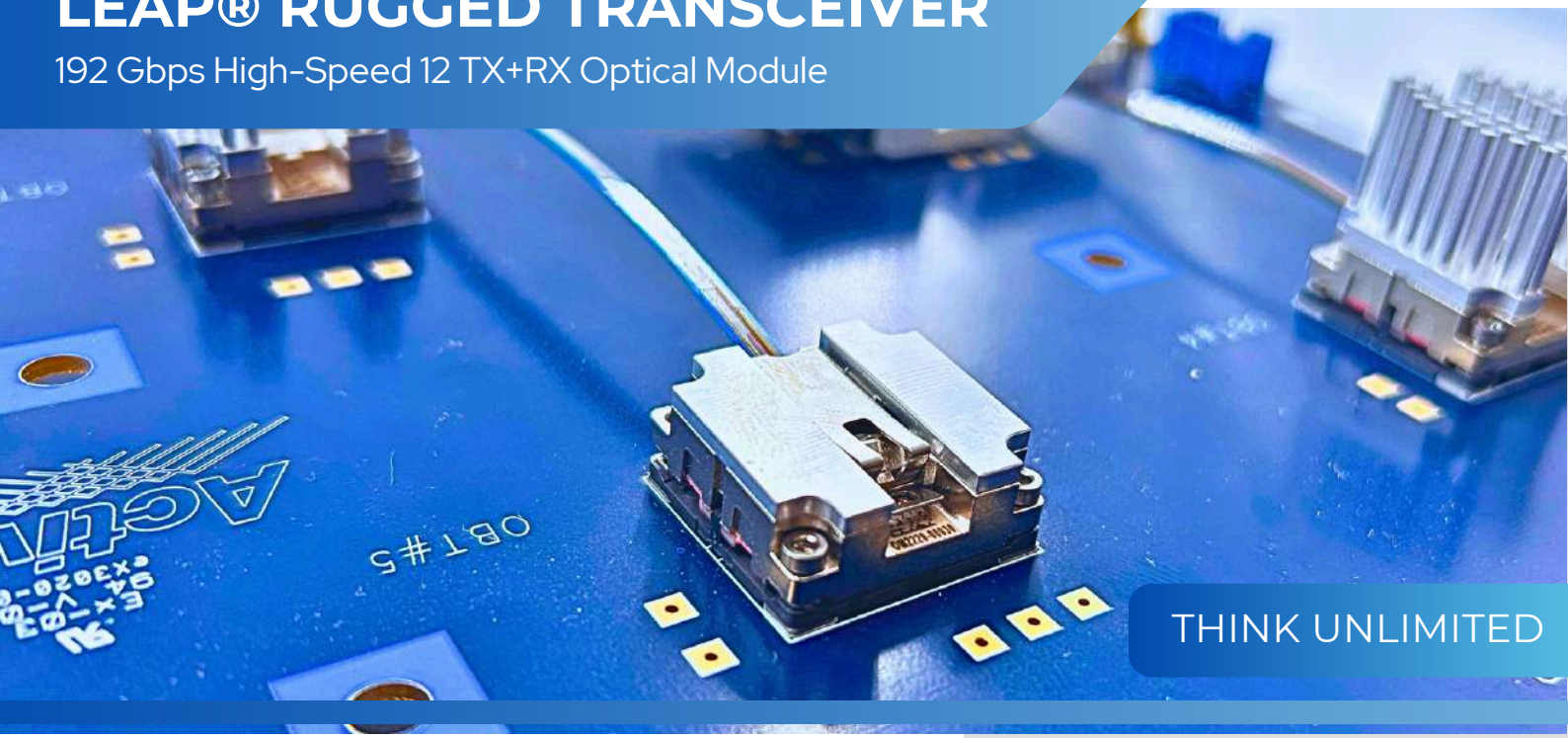
LEAP® RUGGED TRANSCEIVER

192 Gbps High-Speed 12 TX+RX Optical Module



The Amphenol AOP 192 Gbps **Leap® RUGGED OBT** is the **fastest, smallest, and most cost- and power-efficient ruggedized optical module** available on the market. Offering **192 Gbps over 12 channels**, with extended temperature support **(-40°C to +85°C)**, it is the ideal solution for Aerospace and Military applications where reliability in harsh environments is critical **(STD-833 Shock & Vibe)**. High dense and RFI/EMI resistance, the RUGGED OBT delivers exceptional performance, elevating your system's design to the next level.

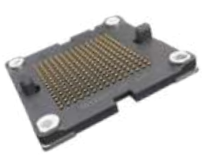
KEY FEATURES

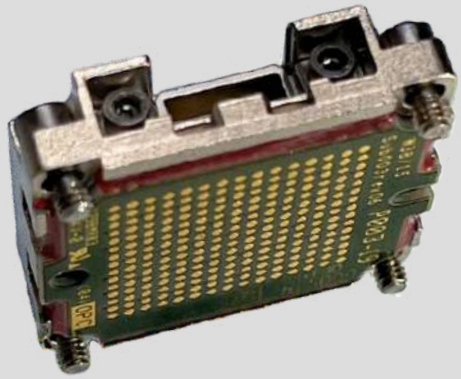
12-channel module capable of data rates from 1.25 Gbps up to 16 Gbps at any range from -40 °C to +85 °C.

192 Gbps total throughput requiring **only 1 sqin (25 x 25 mm) of board space** and **3.58 W of power.** Plug&Play transceiver (incl. power conversion).

Heat dissipation towards the top through many options of heat sinks or cold plates - water cool compatible.

Optical cable can be routed above and around other components for a versatile and flexible the design. Mounts easily on an Amphenol LGA/BGA socket interposer.





APPLICATIONS

- Network Systems
- Ground Communication
- Radar & Surveillance
- Avionics & Cockpit Mgmt
- Electronic Warfare
- Mega Switches

MIL-AERO
GRADE
-40°C TO +85°C
STD-883 SHOCK & VIBE

CONTACT US

marketing@amphenol-aop.com
www.amphenol-aop.com

LEAP® RUGGED TRANSCEIVER

192 Gbps High-Speed 12 TX+RX Optical Module

Amphenol Active Optics Products

	FEATURES	BENEFITS
1	1" x 1" layout grid	Optical module can be placed in 2-dimensional layout grid with 1" pitch between adjacent modules. Uses 2.5x less board space than QSFP28
2	Ethernet 100GBASE-SR4 compliance (per quad) Compatible with standard MT optical cables	Ethernet transmission distance up to 100 (MM fiber) Uses off-the-shelf MT optical interface
3	Compatible with Amphenol socket	Easy to install: a highly space-efficient solution for electrically connecting 225 contacts
4	Two-wire control and diagnostic interface (I²C)	Allows for transceiver optimization and monitoring connection discovery, channel diagnostics, and signal status monitoring
5	Data rate transparent from 1.25 Gbps to 16 Gbps	Supports non-standard protocols in this range of datarates.
6	Integrated heat sink design	Select from a number of pre-fabricated or customized designs to meet your system needs. Water cooled compatible version available
7	Class 1M laser laser version available	Fail safe operation that meets all safety requirements
8	Programmable input equalization	Compensates up to 11 dB insertion loss at 12GHz
9	Programmable output amplitude and de-emphasis	Compensates for PCB traces loss for proper signal conditioning
10	Enhanced Bit Error Rate 10^{-12} requires no FEC	Lower system latency and better system performance

SUPPORTED STANDARDS

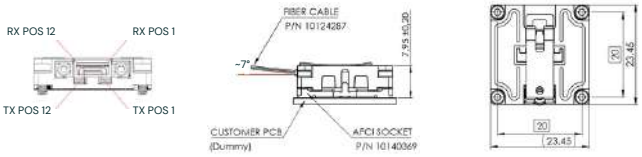
- 40GBASE-SR4
- Proprietary 16Gb/s links
- PCIe Gen 4
- SAS 4.0
- QDR / FDR Infiniband

ENVIRONMENTAL

- RoHS 6/6 compliant
- Case operating temperature: -40 °C to +85 °C
- Shock MIL-STD 883: Method 2002.4 (500 g; 1 ms)
- Vibe MIL-STD 883: Method 2007.3 (20 g)
- Laser Class 1M & 3B version available
- FDA: 0312716 | TUV: 21246478 | UL: E251142-191
- Conformal coating options

DIMENSIONS

- 23,5 x 23,5 x 8,0 mm (without heat sink)



EVALUATION KIT

Test various scenarios in a very simply and effective way, increasing the time to market. Evaluation board comes together with a transceiver, application notes & Graphical User Interface (GUI). **P/N: 10132378-XYZ.**

ELECTRICAL PERFORMANCE

- Power Supply Voltage: 3.3 V only
- BER < 10^{-12} at 10 Gbps, PRBS31
- Lanes per device: 12 Transmit and 12 Receive
- Power Consumption: 3.5 W (typ.)
- Transmitter Type: 850 nm VCSEL Laser
- Receiver Type: PIN Photodiode

PACKAGING

- Individual & Multipart Blister Package

PART NUMBER SELECTOR

10124588 - A Y Z

Laser Class
1 - Laser Class 3B
3 - Laser Class 1M

Heat Sink Type (LxWxH) mm
0 - none
1 - short height: 23.5x23.5x14.6
2 - medium height: 23.5x23.5x17.6
4 - pillar tall 1: 23.5x23.5x23.4
6 - pillar tall 2: 23.5x23.5x31.7
7 - fin based: 23.5x23.5x31.7
8 - wings form: 33.2x55.4x12.6
9 - block form: 33.2x38.0x15.6
B - flat adapter water cool: 28.4x28.4x12.0
C - cubic form: 37.4x49.4x24.4
D - flat adapter: 23.5x23.5x8.2

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CONTACT US
marketing@amphenol-aop.com
www.amphenol-aop.com