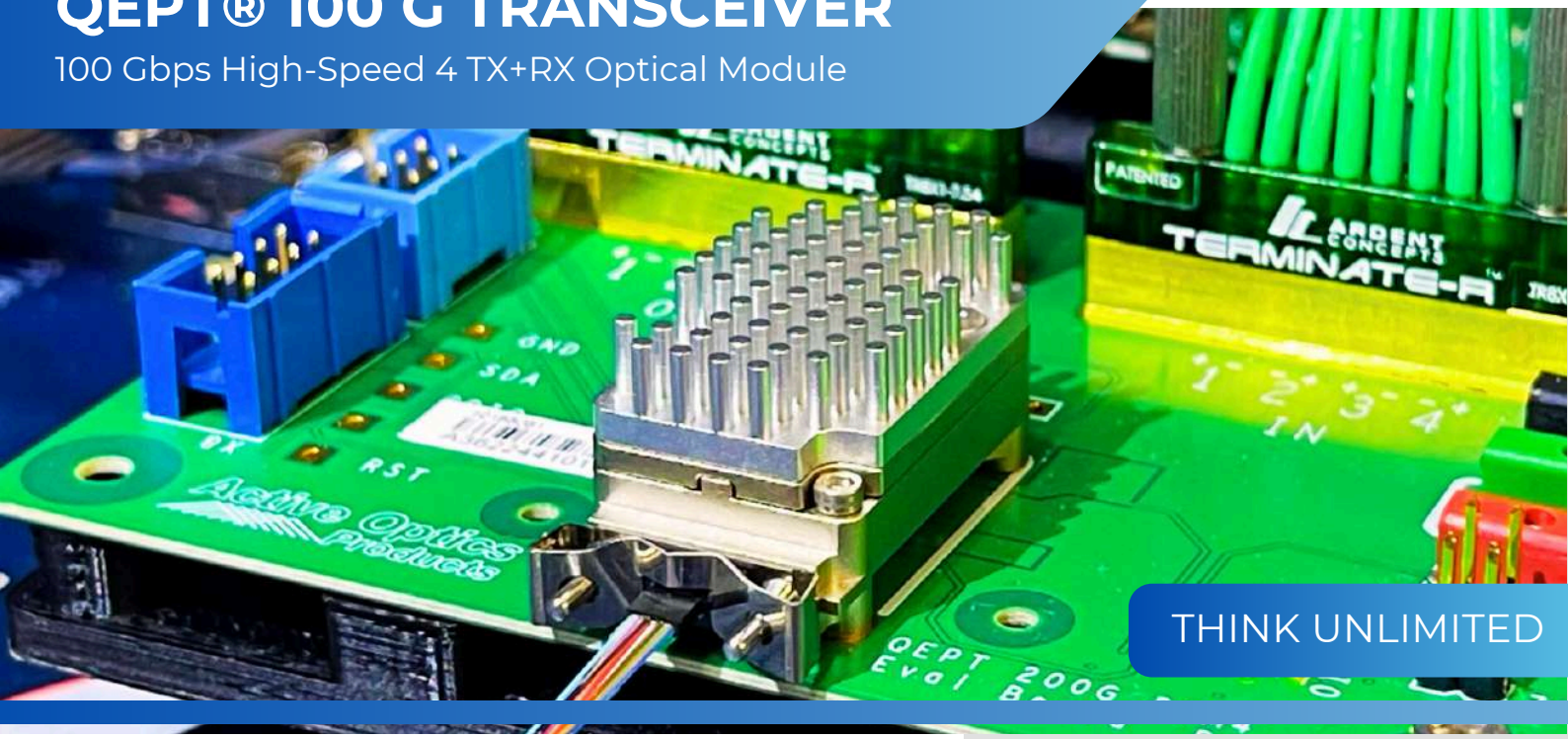
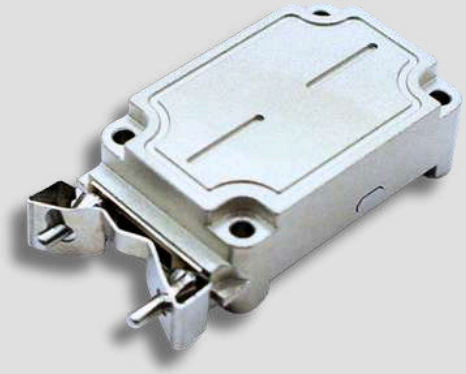
Amphenol Active Optics Products

QEPT® 100 G TRANSCEIVER

100 Gbps High-Speed 4 TX+RX Optical Module



Amphenol AOP **QEPT® 100Gbps NRZ 4 TX+RX** High-Speed Optical Module is a rugged Quad Embedded Pluggable Transceiver - **engineered for extended temperatures** and demanding environments where reliability and high performance are crucial. **It delivers 100 Gbps across 4 channels** (25Gbps/channel), it is hot-pluggable and quick to install, a versatile product with a seamless upgrade path to PAM4 56Gbps/channel. A specialized space, 8TX or 8RX version are also available.



KEY FEATURES

4-channel module capable of data rates from 1.25 Gbps up to 28.05 Gbps at any range from -40 °C to +85 °C.

100 Gbps aggregated requiring **only 0.8 sqin (29 x 18 mm) of board space and 1.6 W of power with CDR enabled.**

Removable fiber optical cable connection (standard MT), and hot pluggable - installation and maintenance made easy like never before.

Upgrade to 200 Gbps PAM4 without board design change by using the same footprint connector. A easy swap to the next generation.

APPLICATIONS

- Network Systems
- Industrial Control
- Ground Communication
- Radar & Surveillance
- Military Aerospace
- Military Vehicles
- Satellites

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

CONTACT US

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	FEATURES	BENEFITS
1	29x18mm - effective PCB 0.80 sq mm	Half the size of a QSFP28 transceiver Enables easy and efficient PCB routing
2	Operating temperature rage: -40°C to 85°C	Facilitates temperature-challenging system designs
3	Optically pluggable	Replaceable patchcord
4	Mezzanine-type connection	Easy to install and remove Interchangeable solution
5	Screw-locking feature for board mounting	Mechanical shock and vibration resistant
6	Two-wire control and diagnostic interface (I^2C)	Supports transceiver status monitoring and diagnostics (temperature and optical power)
7	Data rate transparent from 1.25 Gbps to 28.05 Gbps	Supports standard & non-standard protocols (10GbE, 25GbE, 8G/16G/32G Fiber Channel)
8	Flat-top design	Enables use of heat-sink for better thermal performance Water cooled compatible
9	Integrated CDR	Lower power consumption and latency CDR bypass to support lower/ non-standard data rates
11	Programmable input equalization	Compensate up to 11 dB insertion loss at 12GHz
12	Programmable output amplitude and de-emphasis	Compensate for PCB traces loss for proper signal conditioning

SUPPORTED STANDARDS

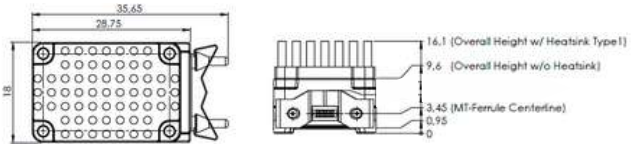
- 100GBASE-SR4
- EDR InfiniBand
- 8G/16G/32G FiberChannel
- 40GBASE-SR4
- SFF 8636 Management Interface

ENVIRONMENTAL

- RoHS 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)
- Conformal coating option

DIMENSIONS

- 28,8 x 18,0 x 9,6 mm (without heat sink)



EVALUATION KIT

Test various scenarios in a very simply and effective way, increasing the time to market. Comes together with Application Notes & Graphical User Interface (GUI). Get in touch for more on **P/N: 10175094-02Y**

ELECTRICAL PERFORMANCE

- Power Supply Voltage: 3.3 V and 1.8 V
- BER < 10^{-12} at 25.78125 Gbps, PRBS31
- Lanes per device: 4 Transmit and 4 Receive
- Power Consumption: 1.6 W (typ.) all features ON
- Transmitter Type: 850 nm VCSEL Laser
- Receiver Type: PIN Photodiode

MATERIAL

- Electrical mezzanine-type connector
- Optical interface mates with standard MT-ferrule

PACKAGING

- Individual Blister Package

PART NUMBER SELECTOR

TR252041PMT - X Y C Z 0

Case Temperature
C - commercial: 0°, +70°C
E - extended: -5°, +85°C
A - mil-aero: -40°, +85°C

Conformal Coating
0 - Standard
1 - Conformal Coating

Heat Sink - Module Height
0 - none
1 - pillar-based low profile

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