

**Amphenol** | **Active Optics Products**

# QEPT® On-Board Transceiver

## 100Gbps High-Speed 4-TRX Optical Module

Amphenol AOP 100Gbps QEPT® High-Speed 4-TRX Optical Module - Quad Embedded Pluggable Transceiver - rugged, it is designed for extended temperatures and highly challenging applications where both reliability and performance are critical. Aggregates 100 Gbps over its 4 channels (25Gbps/channel), hot-pluggable and quick to install, a versatile product with an easy path to PAM4 .

## 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.

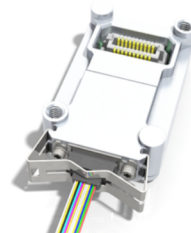
**Less than 2 W of power consumption** to enable the whole power of the QEPT® at 100Gbps, including CDR, transceiver optimization and monitoring connection discovery, channel diagnostics, and signal status monitoring.

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

**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 0.29 sq inch of board space, enabling board routing and component placement underneath.

**Hot Pluggable - install cable and transceiver in less than 1 minute** - reaches 100Gbps up to 70m, over its 4 channels.



## Applications

- Network Systems      Radar
- Ground Communication      Industrial Control

**MIL-AERO  
GRADE**

STD-883 SHOCK & VIBE

## Contact Us



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www.amphenol-aop.com

## Features

- 4-channel: 25Gbps/channel
- 29x18mm - effective PCB 180 sq mm
- Operating temperature: -40°C to 85°C
- Optically pluggable via standard MT-ferrule
- Mezzanine-type connection
- Screw-locking feature for board mounting
- Two-wire control and diagnostic interface
- Data rate transparent from 1.25 to 28 Gbps
- Flat-top design
- Integrated Clock & Data recovery with bypass mode
- Programmable equalization
- Programmable output amplitude and emphasis

## Supported Standards

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

## Electrical Performance

- Power supply voltages: 3.3V and 1.8V
- Bit Error Rate: Below 10<sup>-12</sup> @ 25.78125Gbps
- Lanes per device: 4 Transmit / 4 Receive
- Power Consumption: 1.6W (typ.)
- Transmitter Type: 850nm VCSEL
- Receiver Type: PIN Diode

## Material

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

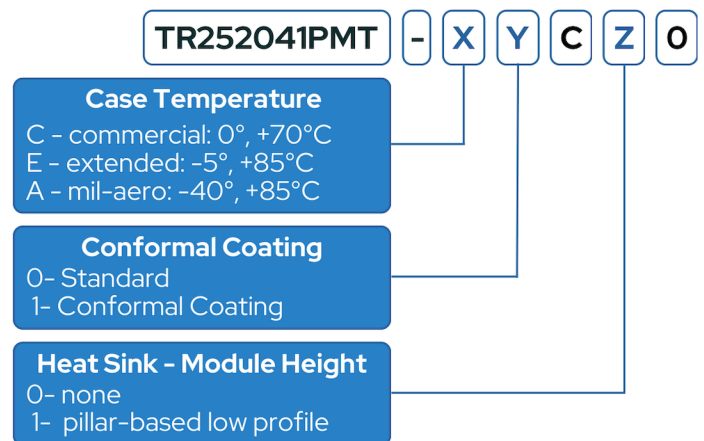
## Environmental

- RoHS 6/6 compliance
- Operating case temperature: -40° to 85°C
- Conformal coating option

## Benefits

- Half the size of a QSFP28 transceiver
- Enables easy and efficient PCB routing
- Facilitates temperature-challenging system designs
- Replaceable patch cord
- Cost-effective solution
- Easy-to-install
- Interchangeable solution
- Mechanical shock and vibration resistant
- Allows for transceiver optimization and monitoring
- Supports standard and non-standard protocols in this range
- Enables use of heat-sink for better thermal performance
- Water-cooled compatible
- Jitter mitigation (high data rates)
- Low power consumption (low data rates)
- Capable of compensation more than 14dB insertion loss at 14GHz
- Compensates for PCB traces loss for proper signal conditioning

## Part Number Selector



## Evaluation Kit

Try out the power of the QEPT® 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.

**P/N: 10175094-02Y**  
Get in touch for more.

