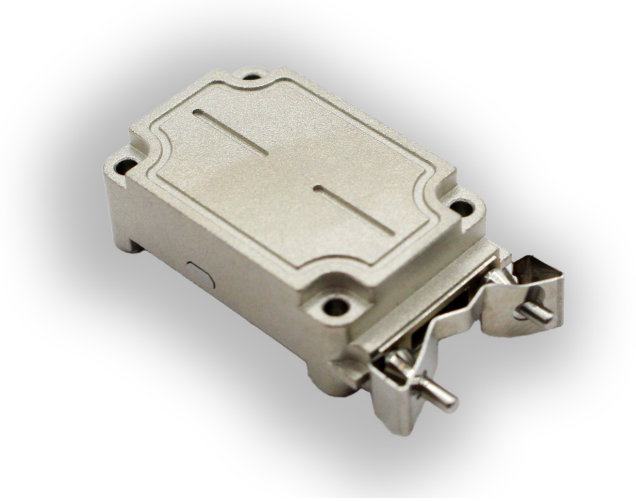
QEPT® ON-BOARD TRANSCEIVER

100Gbps High-Speed 4-TRX Optical Module

PDS - 531



Amphenol Military High Speed's 100Gbps QEPT® High -Speed 4-TRX Optical Module - Quad Embedded Pluggable Transceiver is designed for extended temperatures, rugged applications, and highly challenging implementations where both reliability and performance are critical. Aggregates 100Gbps over its 4 channels (25Gbps/channel), hot-pluggable and quick to install, a versatile product with an easy path to 200Gbps PAM4.

KEY FEATURES:

- **Removable optical fiber 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 180 mm^2 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
- Ground Communication
- Industrial Control
- Geostationary Orbit Vehicles
- Commercial Cabin Systems
- In Flight Entertainment
- Cockpit Management
- Electronic Warfare
- AI Supercomputers
- Datacom/Telecom Networking
- Industrial Instrumentation and Control
- Ground Stations
- Radar
- Satellites
- Space Launch Vehicles
- Ground Vehicle
- Maritime
- Avionics
- Missiles

MIL-AERO
GRADE
MIL-STD-883 SHOCK & VIBE

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BUILD A PART NUMBER:

QEPT On-Board Transceiver

Part Number	Description
CF-170021-113	**QEPT-25G NRZ - 4TRX, -40°C to +85°C Mil/Aero Temperature**

FEATURES:

- 4-channel: 25Gbps/channel
- 29x18mm^2 - effective PCB 180 mm^2
- Mil-Aero 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
- All chipsets qualifed to NASA/SpaceX requirements
- Total Ionizing Dose = 100krad (unbiased)
- Memory structure organized by SCFF-8636

SUPPORT STANDARDS:

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

ELECTRICAL PERFORMANCE:

- Power supply voltages: 3.3V and 1.8V
- Bit Error Rate: Below 10^{-12} @ 25GbE
- Lanes per device: 4 Transmit / 4 Receive
- Power Consumption: 2.0W (typ.)
- Transmitter Type: 850nm VCSEL
- Receiver Type: PIN Diode

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 to simulate various scenarios in a very simply and effective way.

BENEFITS:

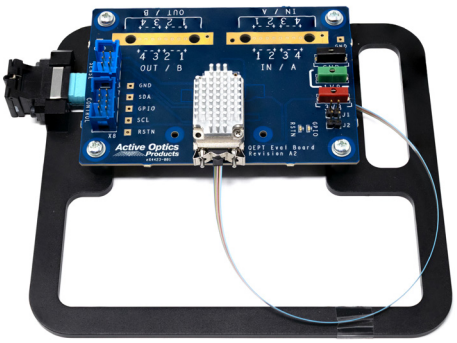
- Half the size of a QSFP28 transceiver
- Enables easy and efficient PCB routing
- Facilitates temperature-challenging system designs
- Replaceable patch cord
- Cost-effective solution
- Easy-to-install
- Interchangeable solution
- Mechanical shock and vibration resistant per MIL-STD-883
- Allows for transceiver optimization and monitoring
- Supports standard and non-standard protocols
- Enables use of heat-sink for enhanced thermal performance
- Water-cooled compatible heatsink option
- Jitter mitigation
- Low power consumption
- Capable of compensating for more than 14dB trace loss at14GHz

INTERFACE:

- 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



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