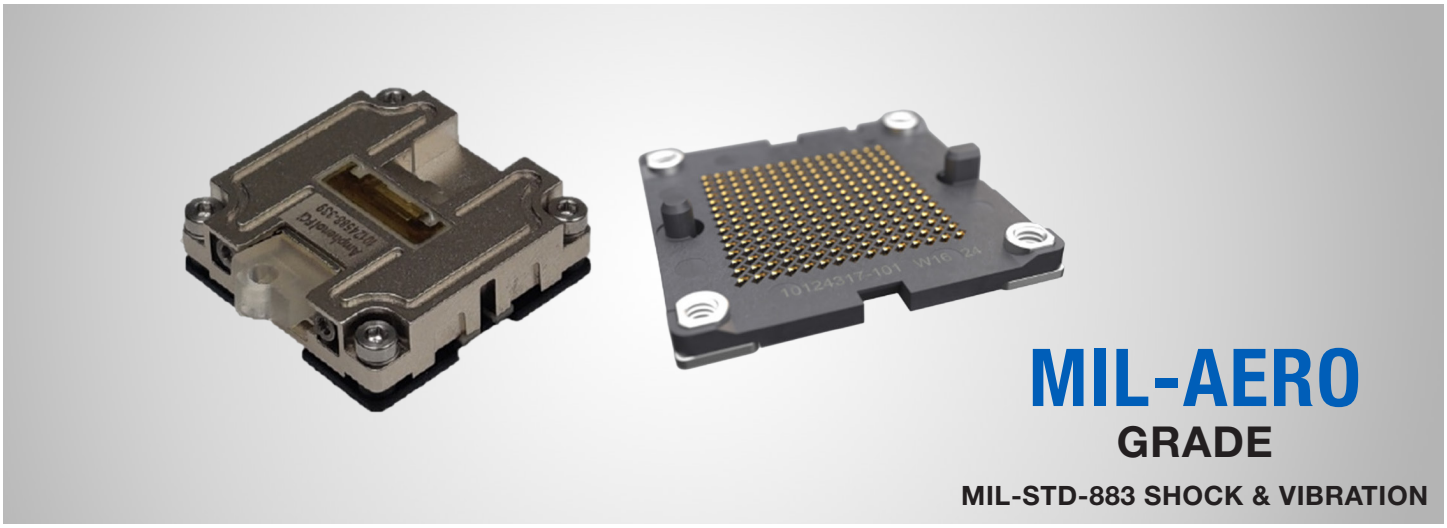
Amphenol
MILITARY HIGH SPEED

LEAP® ON-BOARD TRANSCEIVER

300GBPS RUGGED 12-TRX OPTICAL MODULE

PDS - 532



The Most Powerful and Effective On-Board Transceiver for Military and Aerospace Applications

Amphenol Military High Speed's 300Gbps LEAP® OBT High-Speed 12-TRX Optical Module is the fastest, smallest and most cost and power-effective option in the market. Aggregating 300Gbps over 12 channels, it is the best choice for Aerospace & Military applications where channel density is a requirement and harsh environment resistance matters.

FEATURES & BENEFITS:

- **Removable fiber optical cable connection** to set your mind free to design the way you want. Replace the cable only, keep the transceiver.
- **3.5 W of power consumption** to enable the whole power of the LEAP® OBT at 300Gbps, including optimization and monitoring connection discovery. 11dB of signal peaking at 12GHz compensating.
- **High speed for high temperatures reaching 300Gbps up to 80 m**, over its 12 channels (25Gbps/ channel) anywhere from **-40°C (-40°F) to 85°C (185°F).**
- **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, water cooled compatible available.
- **Smallest footprint board area usage** in the market. Only takes up 2.5 mm2 of board space, 2.5x less compared to QSFP28.
- **Individually controlled channels** for mixed data rates or future-proofing for higher speeds.
- **Mounts easily** on a LGA/BGA socket interposer Amphenol Military High Speed Part Number:
  CF-170021-029A - Pb free
  CF-170021-029B - SnPb

APPLICATIONS:

- Electronic Warfare
- AI Supercomputers
- Datacom/Telecom Networking
- Cockpit Management
- Commercial Cabin Systems
- Avionics
- Satellite
- Ground Communication
- Electronic Warfare
- Radar
- In Flight Entertainment
- Cockpit Management
- Industrial Instrumentation and Control
- Ground Vehicle
- Maritime
- Avionics
- Missiles
- Ground Stations

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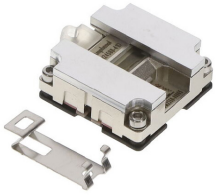
BUILD A PART NUMBER

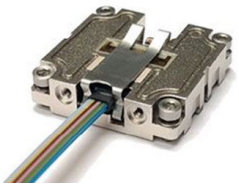
LEAP® ON-BOARD TRANSCEIVER - 300GBPS

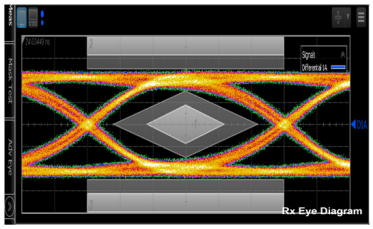
Part Number	Description
CF-170021-029	LEAP 25G, Flat Heatsink, Laser Class 3B
CF-170021-029C	LEAP 25G, Flat Heatsink, Laser Class 1M
CF-170021-029J	LEAP 25G, Flat Heatsink, Laser Class 3B, -40°C to 85°C Optimized

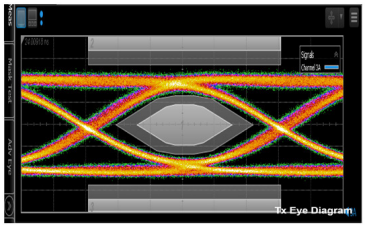
FEATURES:

- 12-channel: 25Gbps/channel NRZ
- Multimode - wavelength: 850 nm
- 2.5 mm2 [1 in2] 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 25Gbps
- Heat sink design options
- Laser Class 1M version available
- BER< 10-12 without FEC
- Programmable input equalization
- Programmable output amplitude & emphasis









SUPPORT STANDARDS:

- 100GBASE-SR4
- 40GBASE-SR4
- QDR / FDR InfiniBand
- PCIe Gen.4
- SAS 4.0
- Proprietary 10Gbps links

ELECTRICAL PERFORMANCE:

- Power Supply Voltage: 3.3V
- Bit Error Rate @ 25Gbps < 10-12
- Lanes per device: 12 Transmit & 12 Receive
- Power Consumption: 3.5W
- Transmitter Type: 850nm VCSEL Laser
- Receiver Type: PIN Photodiode

ENVIRONMENTAL:

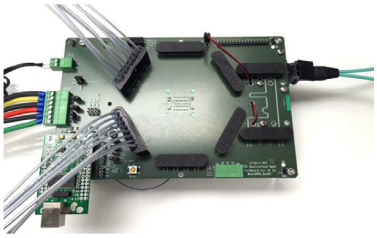
- RoHS 6/6 compliant
- Laser Class 1M or 3B versions available
- Case Operating Temperature: -40°C to +85°C
- Shock MIL-STD 883: Method 2002.4 (500g, 1ms)
- Vibe MIL-STD 883: Method 2007.3 (20g)

BENEFITS:

- Ethernet transmission up to 80m on OM3 fiber
- Uses off-the-shelf MT Ferrule optical interface
- No through holes to connect transceiver - screw down from top
- Plug and play capability - easy to install
- Supports non-standard protocols below 25Gbps
- Meets all eye safety requirements
- Lower system latency and better system performance
- Fail-safe operation that meets all safety requirements
- Compensate for PCB traces loss for proper signal conditioning

ENVIRONMENTAL:

Try out the power of the Leap® OBT 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.



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