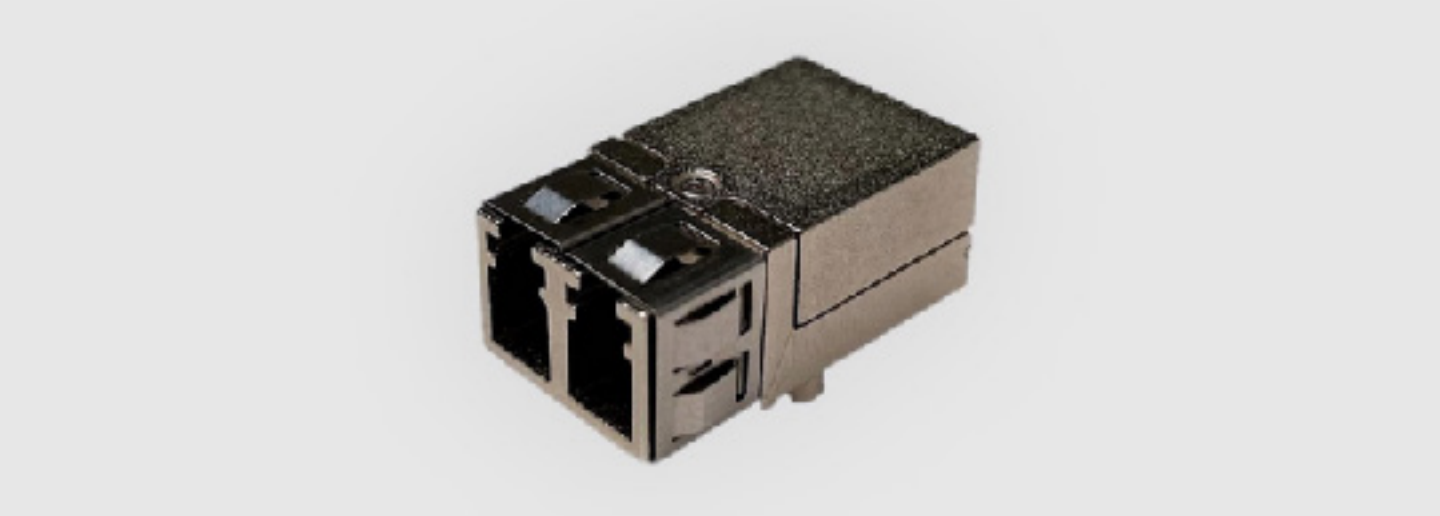
Amphenol
MILITARY HIGH SPEED

SCFF ON-BOARD TRANSCEIVER

28Gbps High-Speed 1-TRX Optical Module

PDS - 533



Amphenol Military High Speed 28Gbps SCFF High-Speed 1-TRX Optical Module - Small Cubic Form Factor, it is designed for extended temperatures and highly challenging, rugged applications where both reliability and performance are critical. A single channel device capable of data rates up to 28 Gbps, to support any high speed application.

KEY FEATURES:

- **Duplex LC optical cavitites** that optimizes rack space, reaching distance of 70m at 25Gbps (OM4 cable) and distances up to 300m at 10Gbps (OM3 cable).
- **Less than 1.1 W of power consumption** to power up the SCFF at 28Gbps, including CDR and FEC, transceiver optimization and monitoring connection discovery, channel diagnostics, and signal status monitoring.
- **Die casting housing that uses 2x less board space** than SFP+ form factor.
- **Embedded solderable** with a 12-pin electrical interface complying with SFF-8431 specs for high-speed interfaces, the SCFF is state of the art product.
- **Upgrade to 28Gbps without board design change** by using the same footprint pin layout. An easy swap to the next generation with a simple command.
- **Dual sourcing friendly,** the DUAL SCFF aggregates 56Gbps in one generic daugther card.

APPLICATIONS

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

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

Alex Koenig • Office: +1 (607) 563-5724 • Email: akoenig@amphenol-aao.com
amphenol-aerospace.com • amphenolmao.com

BUILD A PART NUMBER:

Amphenol
MILITARY HIGH SPEED

SCFF On-Board Transceiver

Part Number	Description
CF-170021-100	SCFF, 10G, -40°C to 85°C, Coated
CF-170021-103	SCFF, 25G, -40°C to 85°C, Uncoated
CF-170021-106	SCFF, 10G, -40°C to 85°C, Uncoated
CF-170021-110	SCFF, 25G, -40°C to 85°C, Coated

FEATURES:

- Size of 13.8 x 26.2 x 10.6 mm - including pins
- Data rate transparent from 1.25Gbps to 28.05Gbps
- Standard duplex LC optical interface
- SFF -8472 compliant two-wire control and diagnostic interface (I^2c)
- Enhanced Bit Error Rate (10^{-12}) requires no or limited FEC
- Programmable input equalization
- Programmable output amplitude and deemphasis
- Clock and Data Recovery

SUPPORT STANDARDS:

- 25Gbps Ethernet
- 1.25Gbps to 25Gbps proprietary links
- 10GbE
- EDR Infiniband
- 8G/16G/32G Fiber Channel
- CPRI

ELECTRICAL PERFORMANCE:

- Power Supply Voltage: 3.3V only
- Bit Error Rate
  - BER $<10^{-12}$ @ 25.78Gbps, PRBS31
  - BER $<10^{-12}$ @ 10.31Gbps, PRBS31
- Lanes per device: 1 Transmit and 1 Receive
- Low Power Consumption (1W @25G)
- Transmitter Type: 850nm VCSEL Laser
- Receiver Type: PIN Photodiode

ENVIRONMENTAL:

- RoHS compliant
- Case Operating Temperature: -40°C to 85°C
- Conformal coating option
- Shock MIL-STD 883: Method 2002.4 (500g; 1ms)
- Vibe MIL-STD 883: Method 2007.3 (20g)

BENEFITS:

- Supports standard and non-standard protocols in this range of data rates (10GbE, 25GbE, 8G/16G/32G Fiber Channel).
- Ideal for applications requiring safe optical connection
- Lower system latency and better system performance
- 16dB of signal peaking at 14GHz
- Compensate for PCB traces loss for proper signal conditioning
- Guaranteed performance over full data rate range

MATING CABLES:

- Amphenol Military High Speed produces custom optical cables also! Contact us for more info.

EVALUATION KIT:

Try out the power of the SCFF 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.

Alex Koenig • Office: +1 (607) 563-5724 • Email: akoenig@amphenol-aao.com
amphenol-aerospace.com • amphenolmao.com