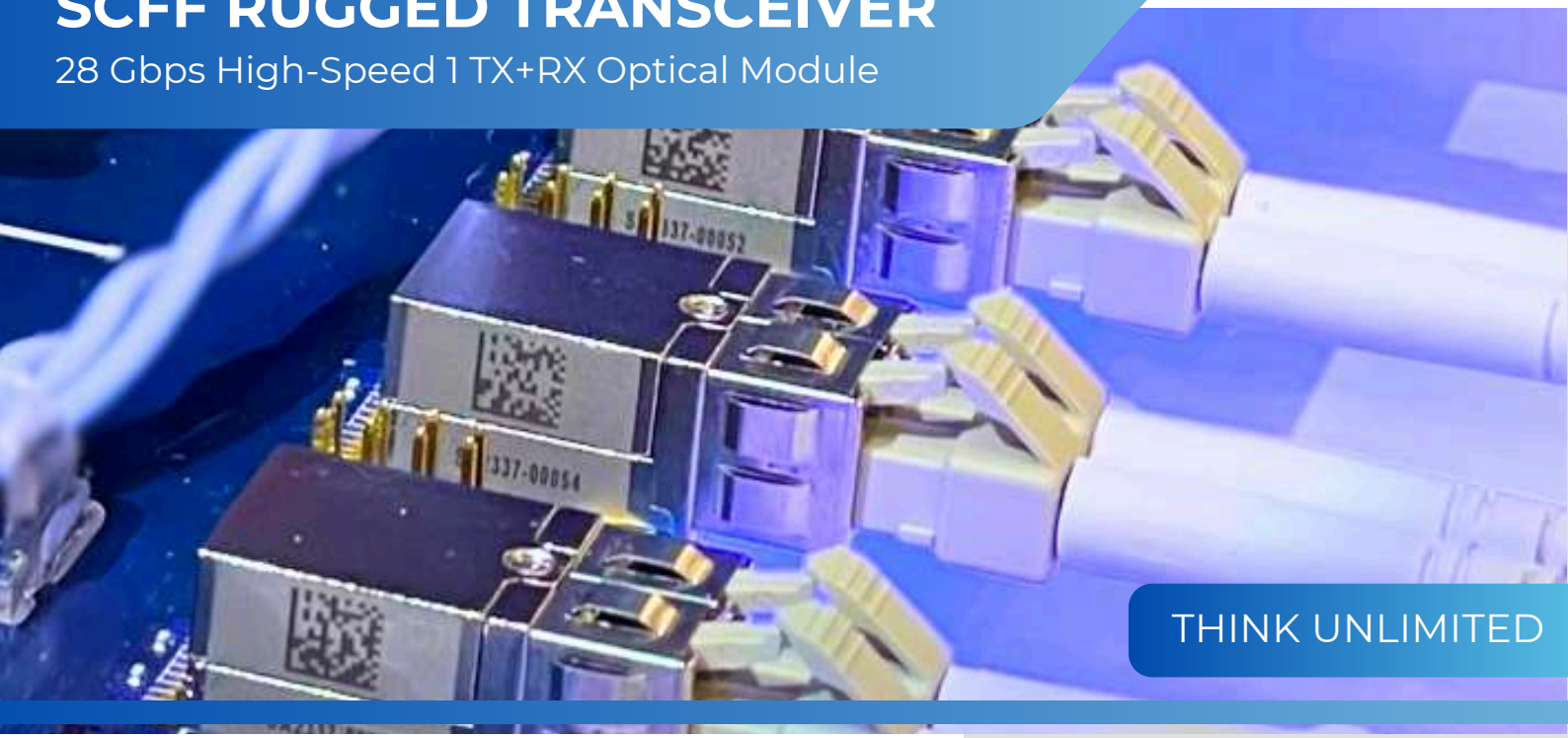
Amphenol Active Optics Products

SCFF RUGGED TRANSCEIVER

28 Gbps High-Speed 1 TX+RX Optical Module



The Amphenol AOP **SCFF - Small Cubic Form Factor** is a single channel optical transceiver designed for harsh environments that require extended temperature ranges. Designed to meet rigorous reliability standards, it offers exceptional performance through its 12-pin - SFF-8431 compatible electrical interface - and a duplex LC port, ensuring it meets your design specifications.
Thanks to its compact form factor you can integrate the SCFF nearly anywhere in your system

KEY FEATURES

Single channel module capable of data rates from 1.25 Gbps up to 28.05 Gbps, a drop replacement for the 10 Gbps version.

With options of **operating case temperature from -40 °C to +85 °C,** ruggedised and conformal coating housing.

Small form factor, half of the size of a SFP+ module, **only needs up to 0.8 W of power,** with CDR enabled.

Duplex LC optical cavitites that optimizes rack space, enabling distances up to 80 m (OM3 @ 25Gbps) or up to 300 m (OM3 @ 10Gbps).

APPLICATIONS

- Industrial Control
- Commercial Aerospace
- Military Vehicles
- Military Aerospace
- Radar & Surveillance
- Ground Communication

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

CONTACT US

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	FEATURES	BENEFITS
1	Small Form Factor	Uses 2x less board space compared to SFP+ form factor
2	Data rate transparent from 1.25 Gbps to 28.05 Gbps*	Supports standard & non-standard protocols (10GbE, 25GbE, 8G/16G/32G Fiber Channel)
3	LC Duplex Port	Ideal for applications requiring safe optical connection
4	SFF-8472 compliant two-wire control and diagnostic interface (I²C)	Supports transceiver status monitoring and diagnostics (temperature and optical power)
5	Programmable TX input equalization	To compensate PCB losses, up to 12dB gain are programmables to optimize input signal condition.
6	Programmable RX output amplitude & de-emphasis	Wide output amplitude & de-emphasis range are programmable to optimize the output signal condition.
7	Programmable RX & TX CDR* (output amplitude, de-emphasis and CDR*)	Guaranteed performance over full data rate range

*for 28.05 Gbps version only

SUPPORTED STANDARDS

- 25 Gbps Ethernet*
- 1.25 Gbps to 28.05Gbps* proprietary links
- 10 GbE
- EDR Infiniband*
- 8G/16G/32G Fiber Channel*
- CPRI*

ELECTRICAL PERFORMANCE

- Power Supply Voltage: 3.3 V only
- BER < 10^{-12} at -11,8dBm, PRBS31, 25,78 Gbps (CDR ON)
- BER < 10^{-12} at -15,1dBm, PRBS31, 10,31 Gbps
- Lanes per device: 1 Transmit and 1 Receive
- Low Power Consumption: < 1.0W at -40°C, 25Gbps
- Transmitter Type: 850 nm VCSEL Laser
- Receiver Type: PIN Photodiode

ENVIRONMENTAL

- RoHS compliant
- Conformal coating option
- 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)

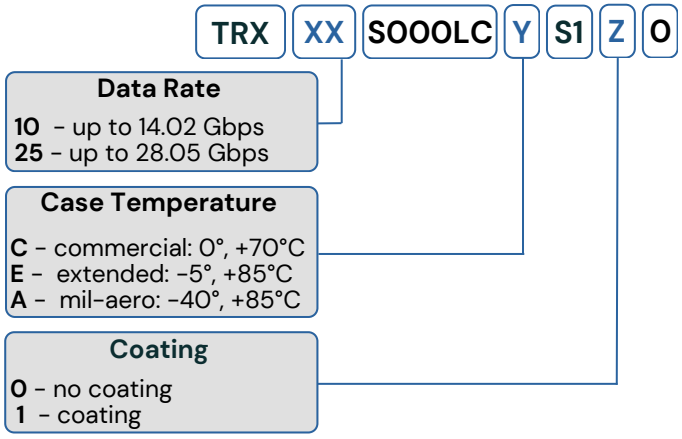
PACKAGING

- Multipart Blister Package

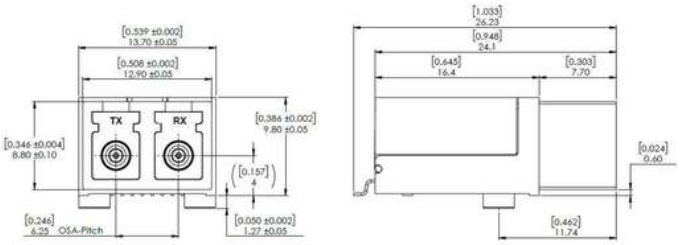
EVALUATION KIT

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: 10171850-XYZ.**

PART NUMBER SELECTOR



DIMENSIONS



SCFF ELECTRICAL PIN-OUT

PIN	Symbol	I/O	Description
1	GND	GND	Power Supply, Ground
2	TX-	Input	Differential Transmitter Data Input, internal AC coupled
3	TX+	Input	Differential Transmitter Data Input, internal AC coupled
4	VDD	VDD	Power Supply, +3,3V
5	TX_DIS	Input	Transmitter Disable (Internal 10kW pull-up resistor is included in the transceiver)
6	SCL	Input	I2C, Serial Clock
7	SDA	I/O	I2C, Serial Data
8	RX-SD	Output	Receiver Signal Detect (pull-up resistor needs to be added on host board)
9	VDD	VDD	Power Supply +3,3V
10	RX+	Output	Differential Receiver Data Output, internal AC coupled
11	RX-	Output	Differential Receiver Data Output, internal AC coupled
12	GND	GND	Power Supply, Ground
Housing Posts	Housing GND		Housing-GND is electrically isolated from Ground

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