

Rugged SCFF optical transceiver (1TRx)

T-range: -40°C to +85°C operational

Data-rate: 1.25Gbps to 28.05Gbps

Embedded solderable optical transceiver compatible with duplex LC or ARINC801 connectors. Its 12pin electrical interface complies with specifications SFF-8431 for high speed interfaces.

- Capable of speeds from 1.25Gbps up to 28.05Gbps and distances up to 150m (OM3 at 8Gbps)
- Conformal coating option



**non-binding picture*

FEATURES

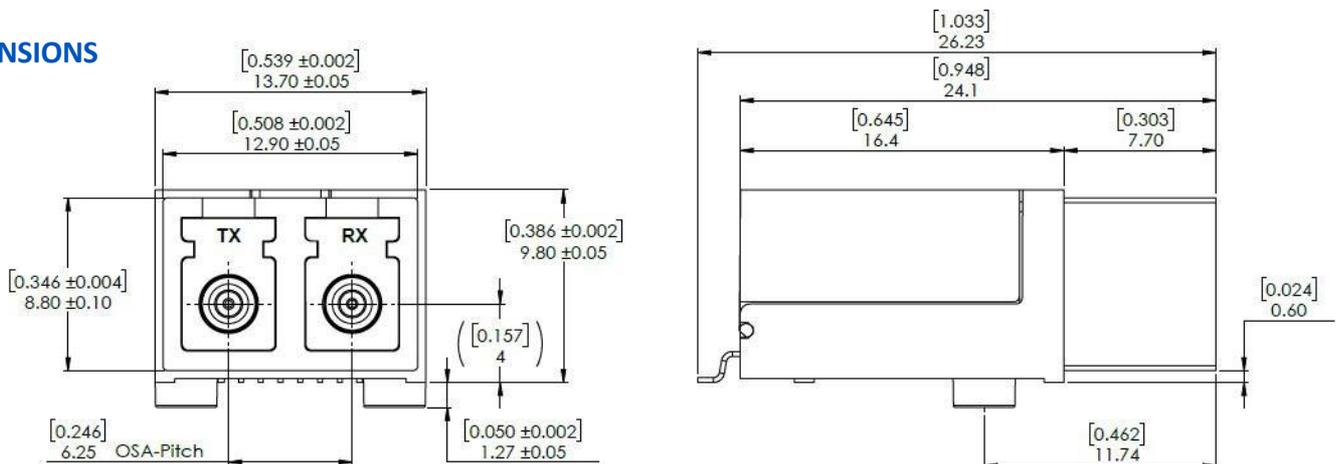
- Small Cubic Form Factor (SCFF)
- Data rate transparent from 1.25Gbps to 28.05Gbps*
- Duplex LC and ARINC801 versions
- SFF-8472 compliant two-wire control and diagnostic interface (i²c)
- Enhanced Bit Error Rate (1e-12) requires no or limited FEC
- Programmable input equalization
- Programmable output amplitude and de-emphasis
- Clock and Data Recovery*

BENEFITS

- Uses 2x less board space than SFP+ form factor
- 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
- Allows for transceiver optimization and monitoring connection discovery, channel diagnostics, and signal status monitoring
- Lower system latency and better system performance
- 16dB of signal peaking at 14GHz to compensate for suboptimal signal condition*
- Compensate for PCB traces loss for proper signal conditioning
- Guaranteed performance over full data rate range

**for 25Gbps version only*

DIMENSIONS



TECHNICAL INFORMATION

MATERIAL

- Optical interface mates with ARINC801 terminated Amphenol optical cables.

ELECTRICAL PERFORMANCE

- Power Supply Voltage: 3.3V only
- Bit Error Rate
 - BER < 10⁻¹² at 25.78125Gbps, PRBS31 (CDR ON)
 - BER < 10⁻¹² at 10.3125Gbps, PRBS31
- Lanes per device: 1 Transmit and 1 Receive
- Low Power Consumption (<1W @25G)
- Transmitter Type: 850nm VCSEL Laser
- Receiver Type: PIN Photodiode

ENVIRONMENTAL

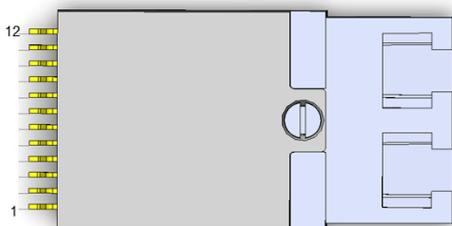
- RoHS compliant
- Case Operating Temperature up to [-40°C to +85°C]
- Conformal coating option
- Shock MIL-STD 883: Method 2002.4 (500g; 1ms)
- Vibe MIL-STD 883: Method 2007.3 (20g)

PACKAGING

- Individual Blister Package

ELECTRICAL PAD LAYOUT

PIN	Symbol	I/O	Description
1	GND	Power	Common Ground
2-3	TX-, TX+	Input	Differential Transmitter Data Input, AC coupled
4	TX_VCC	Power	Power Supply Transmit Side
5	TX_DIS	Input	Transmitter Disable
6	SCL	Input	I2C, Serial Clock
7	SDA	Input/Output	I2C, Serial Data
8	SD	Output	Receiver Signal Detect
9	RX_VCC	Input	Power Supply Receive Side
10-11	RX+, RX-	Output	Differential Receiver Data Output, AC coupled
12	GND	Power	Common Ground



SUPPORTED STANDARDS

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

*for 25Gbps version only

PRODUCT REFERENCE CODES

	TRX-	xx-	S000-	xx-	S1-	x-	x-	0
Data-rate	10- 10 Gbps							
	25- 25 Gbps							
Optical port	LC- LC							
	AR- ARINC801							
Case	C- [0°C, +70°C] commercial temp.							
Operating Temperature	E- [-5°C, +85°C] extended temp.							
	A- [-40°C, +85°C] mil. aero							
Coating	0- no coating							
	1- conformal coating							

TARGET MARKETS/APPLICATIONS



Commercial aerospace



Military aerospace



Military vehicles



Industrials

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