smiths interconnect

*Light*CONEX 10G 12TRX

Optical plug-in module connectors for VPX systems

VPX optical interconnect designed to meet the defense industry requirements

Qualification

MIL-STD-883

- Vibration tests, Method 2007.3
- Mechanical shock tests, Method 2002.5
- Thermal shock tests, Method 1011.9
- Thermal cycling tests, Method 1010.8

JEDEC-STD-22

- Damp heat - Method A101

MIL-STD-810

- Cold storage tests, Method 502.5

Key features

- Industrial temperature: −40 °C to 85 °C
- Sensitivity down to −9 dBm
- Up to 10.3125 Gbps per channel
- LGA interposer mount
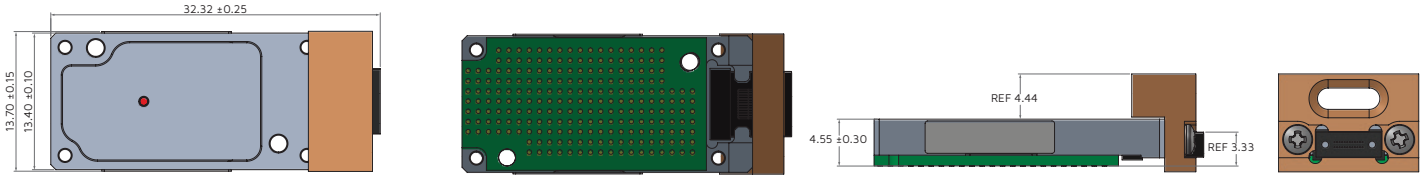- Link distance up to 100 m (OM3 fiber)
- I2C communication interface

Application

The *Light*CONEX 10G 12TRX optical module is designed for blind-mate VITA 66.5 and SOSA backplane applications including:
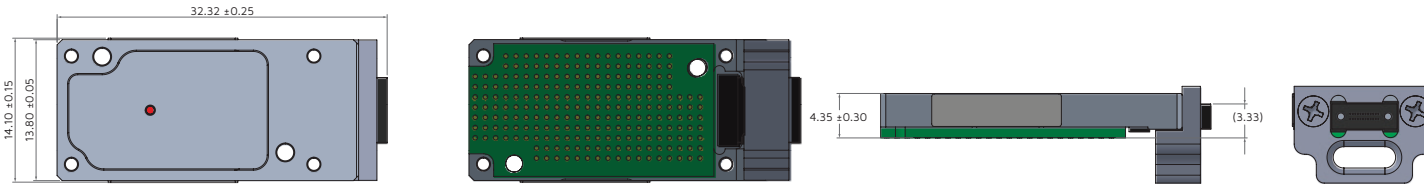
- Embedded VPX computing systems
- Phased array radar
- CCD/CMOS imaging sensor
- Data intensive applications

Product Summary

The *Light*CONEX 10G 12TRX optical module is a twelve-lane, full –duplex, optical transceiver in a small, ruggedized package.

The *Light*CONEX 10G 12TRX is available with a VITA 66.5-compliant Style A, Style C, or Style D connector that mates with a respective style VITA backplane connector.

The electrical interfaces support per lane data rates of up to 10.3125 Gbps (a total bandwidth of over 120-Gbps full-duplex).

The module integrates an industry-standard 2×12 MT optical interface compatible with 24-lane parallel optical fiber ribbon cables. The module uses an LGA-type electrical interface connector with 223 pins to attach to a host board. Style D offers additional backplane bandwidth port density by including passive feedthrough optical connectors for mid-board *Light*ABLE™ transceivers.

The module contains a preprogrammed microcontroller for configuration – only power and high-speed signaling is required.

An I2C serial interface is provided to interrogate the module.

Mechanical layout

Style A

Style C

Style D
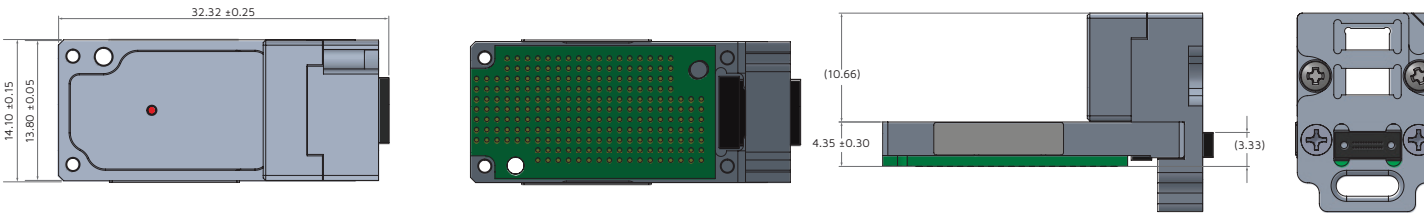
Part Numbering and Ordering Information

Part number	Description
Transceiver	
LCX12A418532101	*Light*CONEX 10G 12TRX Style A
LCX12C418532101	*Light*CONEX 10G 12TRX Style C
LCX12D418532101	*Light*CONEX 10G 12TRX Style D
Accessories	
415-00011	Interposer kit for Style A, includes: 1× 700-00020 interposer + 4× $\frac{5}{16}$ in. screws
415-00019	Interposer kit for Styles C and D, includes: 1× 700-00019 interposer + 3 sets of 4× screws ($\frac{1}{8}$ in., $\frac{5}{16}$ in., and $\frac{7}{32}$ in.)
700-00020	3.03 mm, 223 positions LGA interposer for Style A (no screws)
700-00019	1.2 mm, 223 positions LGA interposer for Styles C and D (no screws)
399-00033	MT dust cap for Style A and C (included with the *Light*CONEX).
399-00037	MT dust cap for Style D (included with the *Light*CONEX)
Optical cables	
500-00256	1×12 plug-in 15 cm MT-to-MT optical cable
500-00262	2×12 plug-in 15 cm MT-to-MT optical cable

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