

Accelar™

10 Gbps Shortwave Transceiver Module



PL-XCS-00-S45

The 10G module is the industry's first short wavelength XSBI transponder module, and represents a new class of modules optimized for very short reach (VSR) applications. It is another in PicoLight's family of Accelar products customized for high speed, short reach LAN, SAN and intra-POP applications. The 10G XSBI module features PicoLight's high reliability 850 nm oxide vertical-cavity surface-emitting laser (VCSEL) coupled to pigtailed optical connectors. The module supports 300-pin multisource agreement (MSA) physical requirements as well as all MSA management functions over both high-speed analog and digital I/Os. Operating at three rates, the 10G transponder complies with the SONET OC-192 VSR of the Optical Interconnect Forum (OIF), IEEE 10GBASE-SW WAN PHY, IEEE 10GBASE-SR LAN PHY; and the G.709 digital wrapper implementation.

Key benefits

- Multivendor socket compatibility
- High reliability
- In-house precision optical alignment
- Industry-standard physical and optical compliance
- Low power consumption
- Enhanced thermal solution
- Dense I/O implementation

Applications

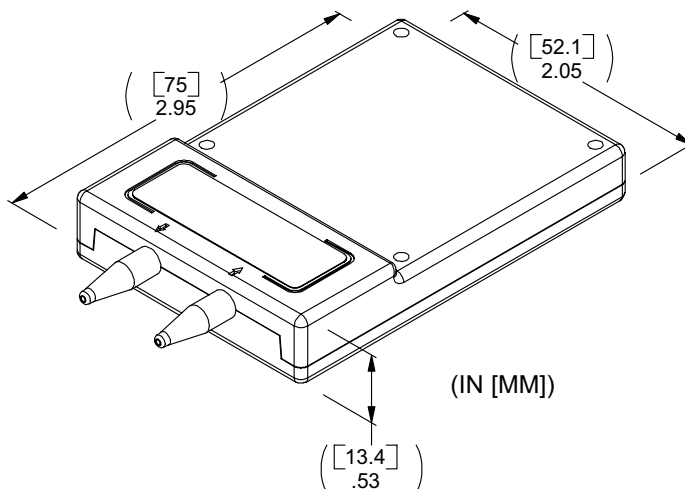
- 10 Gigabit Ethernet (WAN and LAN PHY) 10GBASE-SR/SW
- OIF VSR (very short reach) OC-192 shortwave implementation
- Digital wrapper OC-192 transmission
- Cross connect switches
- Router interconnect
- MAN aggregation links
- Short reach LAN/MAN interconnects
- Computer cluster cross-connect
- Custom high-speed data pipes

Highlights

- ◆ **Industry's first shortwave 300-pin transponder module**, propelling deployment of 10G links and delivering cost-efficient optics to the network bottlenecks
- ◆ **10G Ethernet LAN and WAN PHY compatible**, allowing for just-in-time port configuration, reducing manufacturing and inventory costs of blades
- ◆ **Allows denser I/O implementation and decreased overall port costs** due to smallest and lowest power consumption 300-pin form factor in the industry
- ◆ **Enables cost-effective expansion of the 10G Ethernet and OC192 network**, based on highly reliable PicoLight VCSELs and PIN diodes, using high volume packaging
- ◆ **Allows better control and monitoring of network and module status** by supporting all MSA management functions over both analog and digital I/Os

PL-XCS-00-S45 features

- Uses a Picolight high speed, 850 nm, oxide VCSEL and PIN diode
- Design features based on 300 pin 10G serial transponder MSA
- Low power consumption (< 5W)
- 0°C To 55°C ambient operating range
- 9.95 to 10.71 Gbit/s serial optical interface
- SC connector pigtailed optical fiber
- XSBI/SFI-4 compatible electrical interface, 16 channels operating at up to 669 MHz per channel
- Integrated 16:1 MUX/DEMUX functionality
- 16 bit parallel LVDS electrical I/O
- BGA socket 300 pin electrical connector
- Bit error rate < 1×10^{-12} (without FEC)
- 300 m minimum range over 2000 MHz-km, 50/125µm multimode fiber
- 86 m minimum range over 500 MHz-km bandwidth 50/125µm multimode fiber
- Transmit disable and signal detect functions
- I²C compatible management interface
- Analog monitors and alarms
- Data and clock recovery
- IEC 60825-1 Class 1 laser eye safe
- FCC Class B compliant
- ESD Class 2 per MIL-STD 883 Method 3015
- UL-94 V-0 certified



The eye-safe, cost effective PL-XCS-00-S45 transponder provides substantial advantages in economy and effectiveness for short-reach, high volume networking applications, which comprise the vast majority of ports. The 10G 850 nm multimode solution was featured in VSR standard definitions for 10 Gigabit Ethernet and OIF.

Ordering information Applications

Part Number:	Description:	Contact Information:
PL-XCS-00-S45-0B	Duplex SC connectorized 10 Gigabit transceiver module	Picolight Incorporated 4665 Nautilus Court South Boulder, CO 80301 Tel: 303.530.3189 E-mail: sales@picolight.com Web site: www.picolight.com