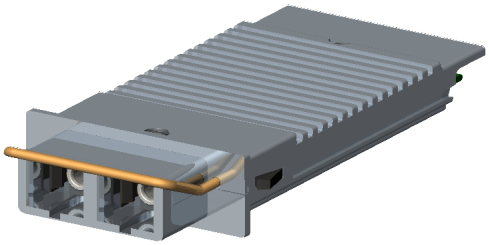
Accelar™

10 Gigabit Shortwave XAUI Pluggable Transceiver

PL-XAC-00-S45



The 10G serial transceiver is the first small, hot-pluggable shortwave solution to implement the 10G Attachment Unit Interface (XAUI) technology, and is another in Picolight's *Accelar* family of products for LAN and SAN very-short-reach interconnect applications. The XAUI electrical interface employs only four differential data channels for communications within the module, and satisfies electrical and optical requirements defined by P802.3ae IEEE 10 Gigabit Ethernet. The transceiver's mechanical footprint complies with the XPak multisource agreement (MSA) for 10G serial transmission. With the combination of XAUI transceiver ICs and 10 Gigabit optics, this module provides a compact, pluggable, low power solution that simplifies manufacturers' systems, allowing current router, switch, or network interface card upgrades to 10 Gigabit Ethernet without a mechanical overhaul.

Key benefits

- High port densities
- Multivendor availability
- Suitable for network interface cards
- Compliant with industry-wide electrical and optical specifications
- Hot-pluggable

Applications

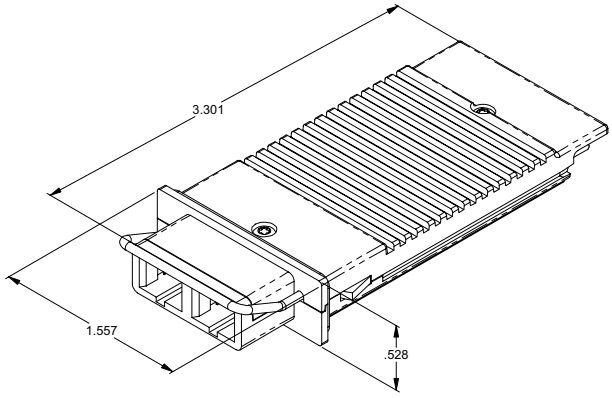
- 10 Gigabit Ethernet (LAN PHY) 10GBASE-SR
- 10 Gigabit Fibre Channel (10GFC)
- Cross-connect switches
- Central office routers & access switches
- Mass storage systems interconnect
- Computer cluster cross-connect
- Custom high-speed data pipes

Highlights

- ***Propels deployment of 10G links*** *by delivering cost-effective optics to the network bottlenecks*
- ***New levels of input/output density*** *using belly-to-belly mounting configuration*
- ***Increased system uptime*** *because modules are hot-pluggable*
- ***Flexible designs for backplanes and extended line cards*** *using XAUI interface for up to 20 inch PC board traces*
- ***System monitoring and component mapping*** *via MDC/MDIO management interface*
- ***Design based on high volume optoelectronics packaging***

PL-XAC-00-S45 features

- The PL-XAC-00-S45 utilizes Picolight, high reliability, high speed, 850 nm, oxide VCSELs & PIN photodiodes
- Supports proposed XPak MSA requirements (GBIC-sized MSA)
- Full-duplex operation at 10.3125 Gbit/s and 10.5188 Gbit/s
- XENPAK compliant pinout and connector
- XGXS functionality for decoding/coding 4 8B/10B XAUI channels into one 10 Gigabit Ethernet optical channel
- Independent differential XAUI electrical inputs and outputs operating at 3.125 Gbit/s or 3.1875 Gbit/s per channel
- Duplex SC optical receptacle
- Hot pluggable, Z-plane orientation, cage supplied, for PCI-compatible top-side only PCB mount
- Low power consumption (<4W)
- 0^{o}C To 50^{o}C ambient operating range (at 200 lfpm airflow)
- Bit error rate < $1x10^{-12}$
- 300m minimum range over enhanced bandwidth 2000 MHz-km, 50/125 μm multi-mode fiber
- 86m minimum range over 500 MHz-km bandwidth 50/125 μm multi-mode
- Clock generator and clock & data recovery functions
- CDRH and IEC 60825-1 Class 1 laser eye safe
- FCC Class B compliant
- ESD Class 2 per Mil-STD 883 method 3015
- UL-94 V-O certified
- Internal ac coupling on both transmit and receive data signals



The eye-safe, cost-effective PL-XAC-00-S45 transponder complies with the draft IEEE P802.3ae 10 Gigabit Ethernet serial short wavelength specification known as 10GBASE-SR. The module's compact size, belly-to-belly capability, and hot pluggability provide new levels of flexibility and density for system implementations.

Ordering information

Part Number:	Description:	Contact Information:
PL-XAC-00-S45	10 Gigabit Shortwave XAUI Pluggable Transceiver	Picolight Incorporated 4665 Nautilus Court South Boulder, CO 80301 Tel: 303.530.3189 E-mail: sales@picolight.com Web site: www.picolight.com

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