

Artilux is a deep tech company that focuses on realizing high-speed optical communication devices. With its own developed IP and collaboration with TSMC, Artilux is able to provide stable and high quality solutions for its customers.

Artilux Connect Series provides solutions featuring high performance with competitive cost for various optical connectivity applications. Its product portfolios cover 10-100G datacenter/5G links and consumer usages.



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More Information

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10G EML Driver

- ATLX-2109A (5x5 QFN32 with CDR)
- ATLX-2109B (4x4 QFN32 with CDR)
- ATLX-2106A (5x5 QFN32 without CDR)
- ATLX-2106B (4x4 QFN32 without CDR)

Applications

- XFP & SFP+ 10GBase -ER/ZR Optical Trasnceivers
- XFP DWDM Optical Transceiver

ATLX-2109A/B Features

- CDR with reference-free operation and integrated EAM/EML laser driver
- Support 8Gbps to 11.3Gbps data-rate signal 2.5Gbps to 8Gbps with auto-bypass
- Dual 3.3V supplies (+5%/-5% for 3.3V only) 1.5V to be provided by fixed regulator output
- ATLX-2109 + TOSA Power: 954mW typical at 80mA bias and 1.8Vppse modulation
- Integrated limiting amplifier with sensitivity less than 8mV
- I²C digital interface for external micro-controller
- Detection of loss of Tx input data and CDR lock, optional squelch when no input data or CDR not locked
- Programmable input equalization and output pre-emphasis
- Case operation: -40 °C to +100 °C
- Pb-free / RoHS-compliant

10G DML Driver

- ATLX-1109A (5x5 QFN32 with CDR)
- ATLX-1106A (5x5 QFN32 without CDR)

Applications

- XFP & SFP+ 10GBase -LR Optical Trasnceivers
- XFP & SFP+ long-reach 8.5Gbps Fibre Channel Transceivers

ATLX-1109A Features

- CDR with reference-free operation
- Support 8Gbps to 11.3Gbps data-rate signal 2.5Gbps to 8Gbps with auto-bypass
- Dual 3.3V supplies (+5%/-5% for 3.3V only) 1.5V to be provided by fixed regulator output
- Power dissipation: 958mW typical 45/45mA bias/mod
- Integrated limiting amplifier with sensitivity less than 10mV
- I²C digital interface for external micro-controller
- Detection of loss of Tx input data and CDR lock, optional squelch when no input data or CDR not locked
- Programmable input equalization and output pre-emphasis
- Case operation: -40 °C to +100 °C
- Pb-free / RoHS-compliant

Optical Solutions Tx & Rx IC/PD
10G 25G 40G 100G HDMI 2.1

10G SR IC

ATLX-T1X10N & ATLX-R1X10N

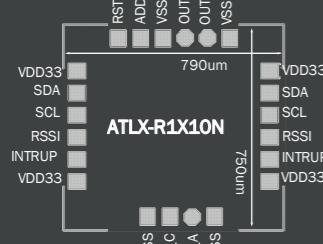
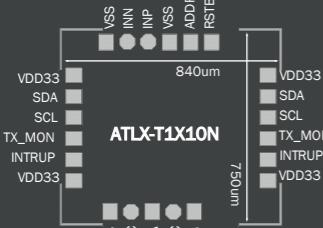
Applications

- 10GBASE-SR Transceiver
- Infiniband DDR and FDR
- Active Optical Cables
- 16G Fibre Channel

Features

- 1.0Gb/s to 14.5Gb/s rates supported
- Typical TX/RX consumption is 21mA/62mA with SINGLE 3.3V supply
- 20 μ App RX sensitivity for 10^{-12} BER at 10.3125 Gbps
- Programmable TX input EQ and output Ibias/Imod/Ipre-emp
- Detection of LOS and TX faults
- Symmetrical low speed pad layout

10G Tx/Rx



25G/100G SR IC

**ATLX-T1X25C & ATLX-R1X25C
ATLX-T4X25C & ATLX-R4X25C**

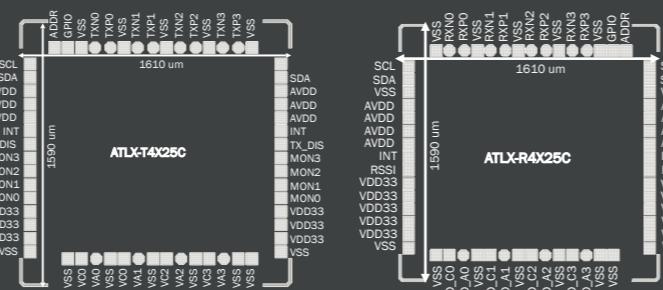
Applications

- 25G/100GBASE-SR Transceiver
- 100Gbps Ethernet EDR InfiniBand
- Active Optical Cables
- 32G Fibre Channel
- CPRI

Features

- 24.33Gbps to 28.05Gbps with reference-free CDR
- 2.5Gbps to 20Gbps with bypass mode
- Typical TX/RX consumption with CDR and emphasis is 230mW/197mW per channel
- Bypass mode TX/RX consumption is 140mW/135mW per channel
- -11dBm RX sensitivity for 10-12 BER at 25.78Gbps
- Programmable TX output Ibias/Imod
- Programmable TX/RX input EQ and output pre-emphasis
- Embedded detection of LOS, LOL, TX faults and diagnostic monitors.
- Symmetrical low speed pad layout (100G only)

100G Tx/Rx



HDMI 2.1 All-Optical IC

**ATLX-HT21 & ATLX-HR21
ATLX-HL21**

- Complete optical solution for HDMI 2.1
- Down compatible with HDMI 2.0 & 1.4
- Integrate DDC/CEC/HPD/PWR5V in optical fibers
- HDMI 2.1 eARC/ARC functions supported
- MCU free
- Suitable for both hybrid and all-optical

Features

- Complete optical solution for HDMI 2.1
- HDMI 2.1 all-optical with 300 meters tested
- Support 25MHz to 340MHz TMDS clock for HDMI 1.4/2.0
- DDC/CEC/HPD and HDCP 2.2 fully supported
- Integrated eARC/ARC functions (Automatically off for power saving)
- MCU free
- Approved by eye safety standard
- 3 fibers entailed for ATLX-HL21 (2 needed w/o eARC/ARC)
- Power consumption is within HDMI specification
- Sleep mode power consumption < 15mW
- High compatibility with high-speed TMDS counterparts (4 extra fibers required for TMDS)
- Operating die temperature range: -40 °C to +125 °C
- Pb-free / RoHS-compliant

10G/25G SR PD

**ATLX-P1X10S50 & ATLX-P4X10S50
ATLX-P1X25S50 & ATLX-P4X25S50**

Applications

- 10GBASE-SR4 Transceiver
- 25GBASE-SR4 Transceiver
- Infiniband DDR and FDR
- Active Optical Cables
- 16G Fibre Channel
- 32G Fibre Channel

Features

- 9.5GHz bandwidth for 10G
- 20.5GHz bandwidth for 25G
- G-S pad configuration
- Optical aperture: 50um
- High responsivity: 0.6A/W @ 850nm
- Suitable for non-hermetic packaging
- Available in 1x1 and 1x4 configurations
- Pitch size: 250um
- Operating ambient temperature range: -40 °C to +85 °C
- Pb-free / RoHS-compliant

