Marvell® Alaska® X 88X2340P

## Quad 10G Ethernet Transceiver with MACsec and IEEE 1588v2 PTP support

Overview

The Marvell® Alaska® X88X2340P is a fully integrated, quad-port 10G, transceiver that performs all physical layer functions required to drive 10G Ethernet over a variety of media including SR/LR optics and passive Direct Attach Cables.

The 88X2340P supports encryption applications through Marvell's LinkCrypt feature that is based on the IEEE 802.1AE MACsec protocol. The supported features include the ability to select and filter traffic, packet redirection, and latency minimization for flow control packets.

The 88X2340P also supports IEEE 1588 v2 1–step and 2-step time-stamping functionality for precision timing applications. The device contains a PTP block, designed for parsing and modification of PTP frames as they pass through the device to support 1-step time stamping. The integrated PTP and MACsec functionality allows for parsing of MACsec encrypted PTP packets to support encrypted PTP timing propagation.

Manufactured in 28 nanometer (nm) lithography, in a 23mmx23mm package footprint, the Marvell 88X2340P enables low-power dissipation, high-density 10G Ethernet designs that support features such as encryption and precision timing.

Block Diagram
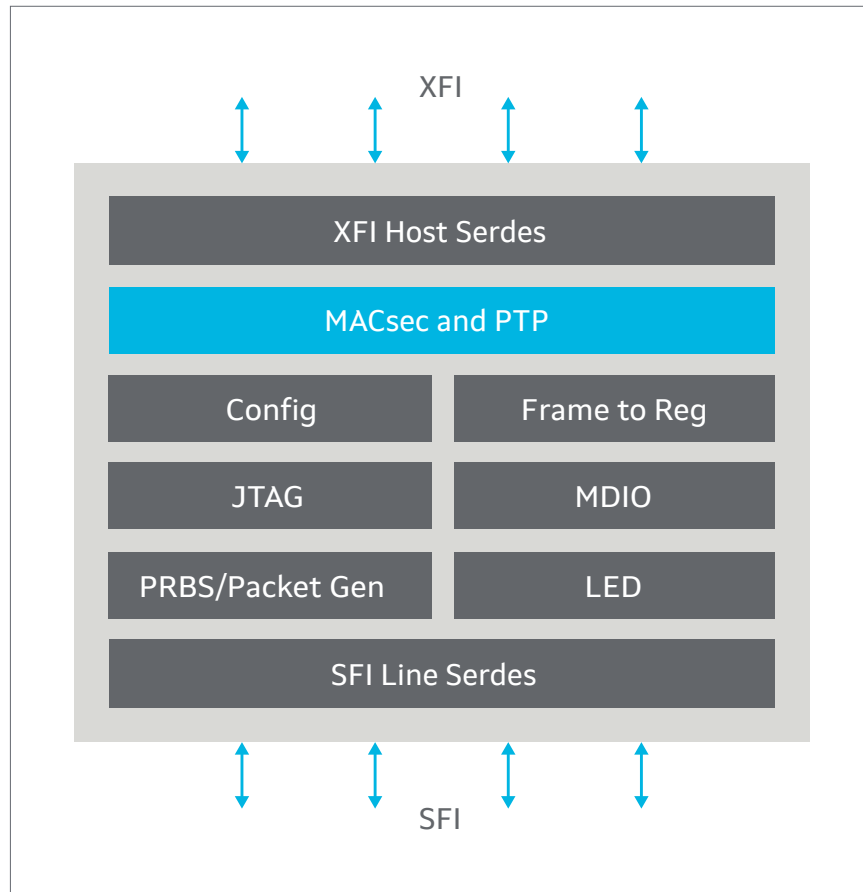
Key Features and Benefits

Features	Benefits
· SFF-8431 compliant	· Supports SFP+ Optics and Passive Direct Attach Cables
· Super XFI Host I/F	· Host Interface exceeds XFI requirements to support higher Insertion Losses
· 10G-KR Auto-negotiation and training on host interface	· Can interface with Switch/MAC ASIC with KR I/Os
· IEEE 802.1AE MACsec	· Supports 128 bit encryption for secure applications
· IEEE 1588 v2 time stamping	· Hardware time stamping to enable 1-step transparent clock applications
· Package	· 23mmx23mm BGA with 1mm ball pitch

Target Applications

- 10G Ethernet Line Cards
- IEEE 1588 PTP applications
- 10G/1G MACsec
- 10G-KR to SFI

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