88E3061/88E3081

Hex and Octal
Fast Ethernet Transceivers

Marvell Strengthens Fast Ethernet Infrastructures

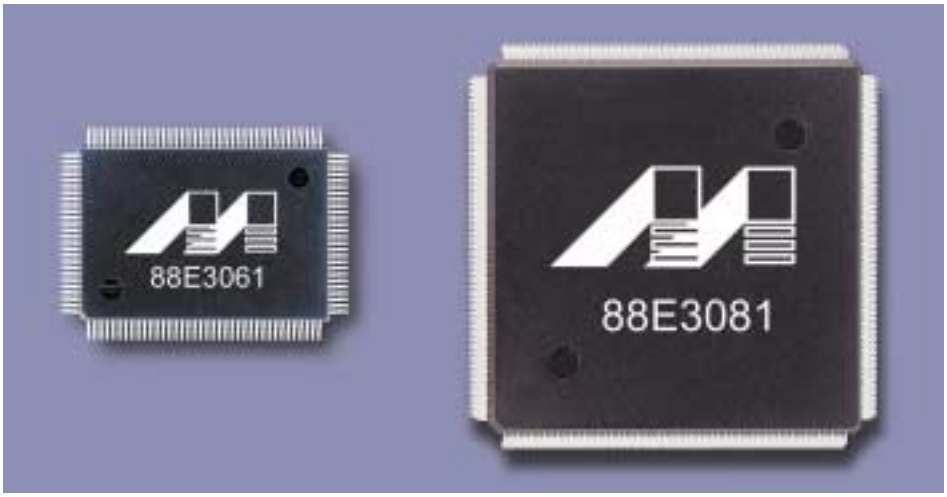
Integrated Performance

Marvell continues to strengthen 100BASE-TX/FX and 10BASE-T Ethernet infrastructures by offering highly integrated six- and eight-port Fast Ethernet transceivers to the LAN market. The 88E3061 Hex and 88E3081 Octal transceivers contain all of the active circuitry to convert data streams to and from six or eight MACs and IEEE 802.3 100BASE-TX and 10BASE-T twisted pair cables in full or half duplex mode.

The 88E3061 and 88E3081 chips are Marvell's second-generation Fast Ethernet physical layer devices. They follow Marvell's field-proven and tested first-generation devices, whose introduction last year marked a significant milestone in the networking industry, breaking new ground in low power dissipation, higher Signal-to-Noise ratios and superior distance coverage/connection reliability.

Marvell's advanced 0.22 micron DSP-based Hex and Octal PHY transceivers offer significant advantages to the customer, including Automatic-MDI/MDIX crossover, Jumbo frame support, and the support for the Source Synchronous SMII interface (88E3081 only). The SMII interface reduces cost and simplifies the system design by reducing the I/O pin count between the PHY and the MAC/Switch. The Source Synchronous version of the SMII specification also extends the distance between the PHY and the Switch/MAC chip on the PC board design, enabling an even more robust, higher density design.

The new Hex and Octal Fast Ethernet transceivers also offer end-users



reduced networking installation costs with Automatic-MDI/MDIX crossover for 100BASE-TX and 10BASE-T ports. The 88E3061 and 88E3081 support auto-media dependent interface crossover (Auto-MDI/MDIX feature) for both speeds, enabling the transceivers to automatically detect and correct a crossed cable. This allows end-users to use crossover or straight-through cables interchangeably and eliminates incorrect connections due to cable mismatch.

With some networking applications, the transceiver is required to handle data packets larger than 1522 bytes (maximum allowable for Ethernet). The 88E3061 and 88E3081 PHY transceivers are designed to handle packets up to 10 Kbytes, supporting applications that demand a larger packet size. This allows the devices to be used over a wider array of networking applications including Internet Protocol (IP).

The Hex and Octal Fast Ethernet transceivers leverage technology developed through four generations of PRML read channels designed for the data storage market. The 88E3061/88E3081 is the ideal solution for network systems where outstanding performance, integration and low power dissipation are vital.

The Marvell Advantage

As with all Marvell products, the 88E3061 and 88E3081 come with a complete set of hardware and software tools to assist network hardware engineers with product evaluation. Marvell's worldwide field applications engineers collaborate closely with network equipment vendors to develop and deliver new competitive products to market on time.

Marvell utilized recognized world-leading semiconductor foundry and packaging services to reliably deliver high volume and low-cost solutions.

MARVELL™

MOVING FORWARD FASTER™

88E3061/88E3081

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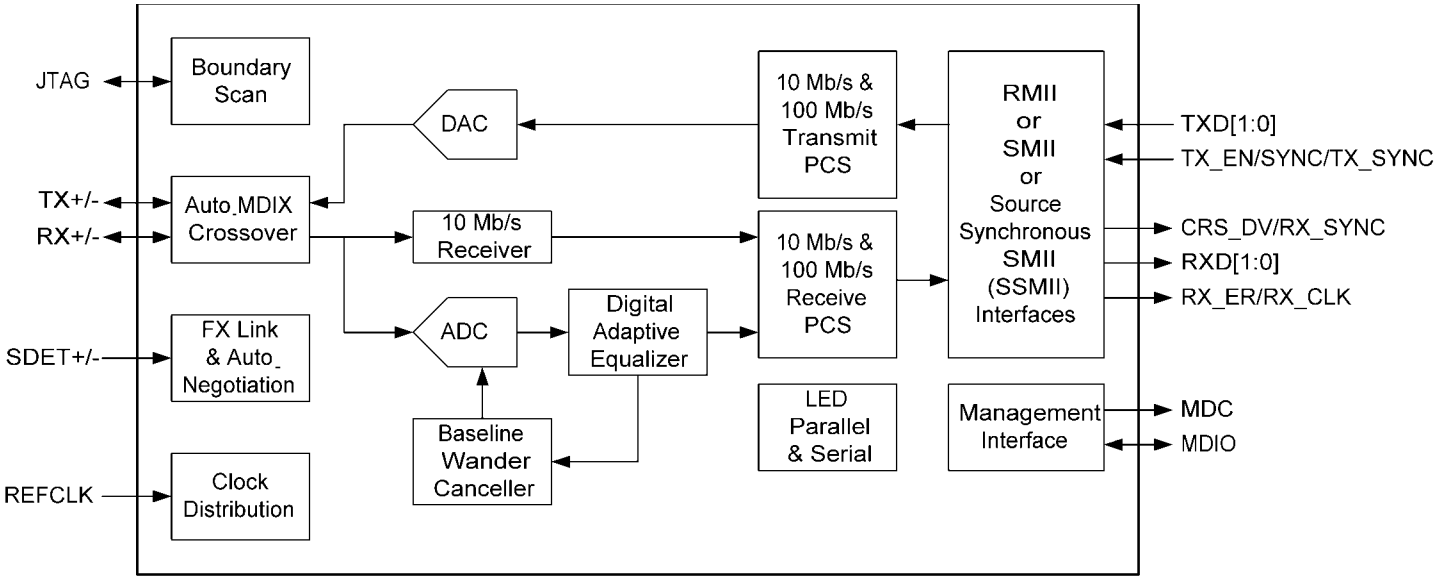
Fast Ethernet Transceivers



Features:

- Eight independent IEEE 802.3 compliant 100BASE-TX and 10BASE-T ports or 100BASE-FX ports
- Reduced MII (RMII) or Serial MII (SMII) with Source Synchronous option for reduced pin count (SMII interface supported on 88E3081 only)
- Auto-MDI/MDIX crossover for 100BASE-TX and 10BASE-T ports
- Jumbo frame support to 10Kbytes with up to +/- 150 ppm clock jitter
- IEEE 802.3u Auto-Negotiation support for automatic speed and duplex selection
- Far End Fault Indication (FEFI) support when Auto-Negotiation is disabled
- Baseline wander correction
- 100BASE-TX performance over 150 meters
- Flexible Serial and parallel LED support
- IEEE 1149.1 Standard Test Access Port and Boundary Scan Compatible
- Low power dissipation
- Standard 208-pin PQFP (88E3081)
- Standard 128-pin PQFP (88E3061)

Benefits:

- Enable higher port density Switch system design
- User configurable digital interfaces
- Source Synchronous SMII option extends the distance between PHY and SW/MAC chip on PCB design
- Auto-MDI/MDIX simplifies and reduces the cost of networking installation
- Supports applications that demand larger packet sizes
- “Plug and play” network system
- Advanced DSP design tolerates more cable mismatch and extends the receiving distance over 150 meters on standard CAT5 cable
- Comprehensive LED support eliminates cost of external LED latches and drivers
- Implement JTAG function to make board level debugging easier
- Single 3.3V supply system
- Flexible package options

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