



88E3081 Integrated 8 Port 10/100 Fast Ethernet Transceiver

Preliminary Information

Overview

The 88E3081 is an eight port physical layer device for Ethernet 100BASE-TX, 100BASE-FX and 10BASE-T applications. It contains all the active circuitry to convert data streams to and from eight MACs and IEEE 802.3 100BASE-FX, 100BASE-TX, and 10BASE-T twisted pair cables in full or half duplex mode. It supports either the Reduced Media Independent Interface (RMII), or the Serial Media Independent Interface (SMII), or the Source Synchronous option of SMII (SSMII) to the MACs.

The 88E3081 includes a pseudo-ECL (PECL) interface that is available on a per port basis to support 100BASE-FX applications.

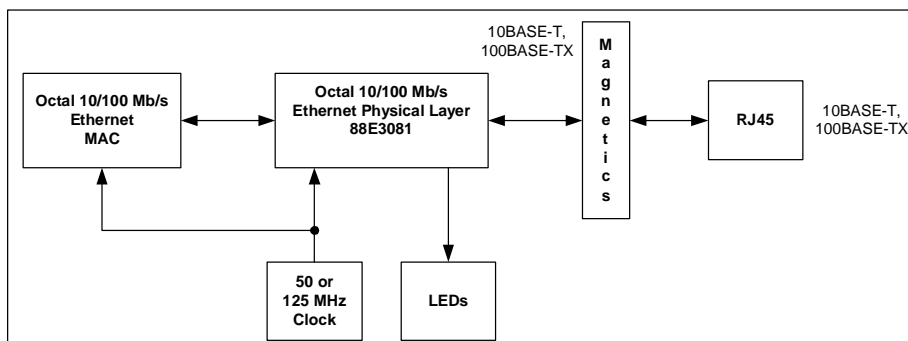
The 88E3081 uses advanced mixed-signal processing and power management techniques for low power dissipation and high port count integration. It is manufactured in an all CMOS process.

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 SMII option for reduced pin count
- Automatic MDI/MDIX crossover for 100BASE-TX and 10BASE-T ports
- Jumbo frame support to 10 Kbytes 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 disabled
- Baseline wander correction
- 100BASE-TX performance over 150 meters
- Flexible serial and parallel LED support
- Standard serial management interface for register access
- Programmable interrupt to minimize polling
- IEEE 1149.1 Standard Test Access Port and boundary scan compatible
- Low power dissipation $P_{AVE} = 300$ mW per port
- PECL interface supporting 100BASE-FX applications
- 208-pin PQFP

Applications

- Switches



88E3081 System Diagram