

DESCRIPTION

The 78Q2123, *MicroPHY™*, is the smallest 10BASE-T/100BASE-TX Fast Ethernet transceiver in the market. It includes integrated MII, ENDECs, scrambler/descrambler, dual-speed clock recovery, and full-featured auto-negotiation functions. The transmitter includes an on-chip pulse-shaper and a low-power line driver. The receiver has an adaptive equalizer and a baseline restoration circuit for accurate clock and data recovery. The transceiver interfaces to Category-5 unshielded twisted pair (Cat-5 UTP) cabling for 100BASE-TX applications, and Category-3 unshielded twisted pair (Cat-3 UTP) for 10BASE-T applications. The MDI is connected to the line media via dual 1:1 isolation transformers. Interface to the MAC is accomplished through an IEEE-802.3 compliant Media Independent Interface (MII). The 78Q2123 is intended to serve the embedded Ethernet market, tailored specifically to the needs of game consoles, broadband modems, printers, set top boxes and audio/visual equipment. It is designed for low-power consumption and operates from a single 3.3V supply. It is rated for industrial temperature range.

FEATURES

- **Smallest 10/100 PHY available**
- **10BASE-T/100BASE-TX IEEE-802.3 compliant TX and RX functions requiring a dual 1:1 isolation transformer interface to the line**
- **Integrated MII, 10BASE-T/100BASE-TX ENDEC, 100BASE-TX scrambler/descrambler, and full-featured auto-negotiation function**
- **Full duplex operation capable**
- **Automatic MDI/MDI-X cross over correction**
- **Register-programmable transmit amplitude**
- **Automatic polarity correction during auto-negotiation and 10BASE-T signal reception**
- **Power-saving and power-down modes including transmitter disable**
- **2 Programmable LED indicators (link and activity by default)**
- **User programmable Interrupt pin**
- **Package: 32-QFN (5x5 mm)**
- **Low Power (~290mW)**
- **Single 3.3 V ± 0.3V Supply**
- **-40°C to 85°C operation**

