CY7B923, CY7B933:
HOTLink® Transmitter/Receiver

Features

- Fibre Channel-compliant
- IBM ESCON® - compliant
- DVB-ASI-compliant
- ATM-compliant
- 8-bit/10-bit-coded or 10-bit unencoded
- Standard HOTLink®: 16 to 400 Mbps for high-speed applications
- Transistor-transistor logic (TTL) synchronous I/O
- No external phase locked-loop (PPL) components
- Triple positive emitter coupled logic (PECL) 100 K serial outputs
- Dual PECL 100 K serial outputs
- Low-power: 350 mW (Tx), 650 mW (Rx)
- Compatible with fiber-optic modules, coaxial cable, and twisted pair media
- Built-in self test (BIST)
- Single +5-V supply
- 25-pin small outline integrated circuit (SOIC)/plastic leaded chip carrier (PLCC)
- Pb-free packages available
- 0.8-µ bipolar complementary metal oxide semiconductor (BiCMOS)

Product Feature Sheet

Device Overview

The CY7B923 HOTLink® transmitter and CY7B933 HOTLink® receiver are point-to-point communications building blocks that transfer data over high-speed serial links (fiber, coax, and twisted pair). Standard HOTLink® is also available for high-speed applications (160 to 400 Mbs).

Eight bits of user data or protocol information are loaded into the HOTLink® transmitter and are encoded. Serial data is shifted out of the three differential vv serial ports at the bit rate (which is ten times the byte rate).

The HOTLink® receiver accepts the serial bit stream at its differential line receiver inputs and using a completely integrated PPL clock synchronizer, recovers the timing information necessary for data reconstruction. The bit stream is deserialized, decoded, and checked for transmission errors. Recovered bytes are presented in parallel to the receiving host along with a byte-rate clock.

The 8-bit/10-bit encoder/decoder can be disabled in systems that already encode or scramble the transmitted data. I/O signals are available to create a seamless interface with both asynchronous FIFOs (that is, CY7C42X). A BIST pattern generator and checker allows testing of the transmitter, receiver, and the connecting link as a part of a system diagnostic check.

HOTLink® devices are ideal for a variety of applications where a parallel interface can be replaced with a high-speed point-to-point serial link. Applications include interconnecting workstations, servers, mass storage, and video transmission equipment.

CY7B923 Transmitter Block Diagram