

LXT360/361 Integrated T1/E1 LH/SH Transceivers

for DS1/DSX-1/CSU or NTU/ISDN PRI Applications

General Description

The LXT360 and LXT361 are the first full-featured, fully integrated, combination transceivers for E1 ISDN Primary Rate Interface and T1 long and short haul applications. They operate over 0.63 mm (22 AWG) twisted-pair cables for 0 to 2 km (6 kft) and offer Line Build Outs and pulse equalization settings for all T1 and E1 Line Interface Unit (LIU) applications.

The LXT360 and LXT361 are identical except for their control options. The LXT361 offers an Intel or Motorola compatible parallel port for microprocessor control. The LXT360 provides both a serial port for microprocessor control and a hardware control mode for stand alone operation. Both incorporate advanced crystal-less digital jitter attenuation in either the transmit or receive data path starting at 3 Hz. B8ZS/HDB3 encoding/decoding and unipolar or bipolar data I/O are available. Both LIUs provide loss of signal monitoring and a variety of diagnostic loopback modes.

The LXT360/361 uses an advanced double-poly, double-metal fabrication process and requires only a single 5-volt power supply.

Applications

- ISDN Primary Rate Interface (ISDN PRI)
- CSU/NTU interface to T1/E1 Service
- Wireless Base Station interface
- T1/E1 LAN/WAN bridge/routers
- T1/E1 Mux; Channel Banks
- Digital Loop Carrier - Subscriber Carrier Systems

Features

- Fully integrated transceivers for Long or Short-Haul T1 or E1 interfaces
- Crystal-less digital jitter attenuation
- Select either transmit or receive path
- No crystal or high speed external clock required
- Meet or exceed specifications in ANSI T1.403 and T1.408; ITU I.431, G.703, G.736, G.775 and G.823; ETSI 300-166 and 300-233; and AT&T Pub 62411
- Support 75 Ω (E1 coax), 100 Ω (T1 twisted-pair) and 120 Ω (E1 twisted-pair) applications
- Selectable receiver sensitivity - Fully restores the received signal after transmission through a cable with attenuation of either 0 to 26 dB, or 0 to 36 dB @ 772 kHz and 0 to 43 dB @ 1024 kHz
- Five Pulse Equalization Settings for T1 short-haul applications
- Four Line Build-Outs for T1 long-haul applications from 0 dB to -22.5 dB
- Transmit/receive performance monitors with Driver Fail Monitor Open and Loss of Signal outputs
- Selectable unipolar or bipolar data I/O and B8ZS/HDB3 encoding/decoding
- Line attenuation indication output in 2.9 dB steps
- QRSS generator/detector for testing or monitoring
- Output short circuit current limit protection
- Local, remote, analog and inband network loopback generation and detection
- Multiple register, serial or parallel interface for microprocessor control
- Available in 28-pin DIP, 28-pin PLCC, 44-pin PQFP and LQFP packages

LXT360/361 Block Diagram

