

LXT304A

Low-Power T1/E1 Short-Haul Transceiver with Receive JA

General Description

The LXT304A is a fully integrated low-power transceiver for both North American 1.544 Mbps (T1), and International 2.048 Mbps (E1) applications. It features a constant low output impedance transmitter allowing for high transmitter return loss in T1/E1 applications. Transmit pulse shapes (DSX-1 or E1) are selectable for various line lengths and cable types.

The LXT304A provides receive jitter attenuation starting at 3 Hz, and is microprocessor controllable through a serial interface.

It offers a variety of diagnostic features including transmit and receive monitoring. The device incorporates an on-chip crystal oscillator, and also accepts digital clock inputs. It uses an advanced double-poly, double-metal CMOS process and requires only a single 5-volt power supply.

Applications

- PCM/Voice Channel Banks
- Data Channel Bank/Concentrator
- T1/E1 multiplexer
- Digital Access and Cross-connect Systems (DACs)
- Computer to PBX interface (CPI & DMI)
- High-speed data transmission lines
- Interfacing Customer Premises Equipment to a CSU
- Digital Loop Carrier (DLC) terminals

Features

- Low power consumption (400 mW maximum) 40% less than the LXT300
- Constant low output impedance transmitter regardless of data pattern (3 Ω typical)
- High transmit and receive return loss exceeds ETSI ETS 300166 and G.703 recommendations
- Meets or exceeds all industry specifications including ITU G.703, ANSI T1.403 and AT&T Pub 62411
- Compatible with most popular PCM framers
- Line driver, data recovery and clock recovery functions
- Minimum receive signal of 500 mV
- Selectable slicer levels (E1/DSX-1) improve SNR
- Programmable transmit equalizer shapes pulses to meet DSX-1 pulse template from 0 to 655 ft
- Local and remote loopback functions
- Transmit/Receive performance monitors with DPM and LOS outputs
- Receiver jitter tolerance 0.4 UI from 40 kHz to 100 kHz
- Receive jitter attenuation starting at 3 Hz meets TBR12/13 specification
- Serial control interface
- Analog/digital LOS monitor per G.775
- Available in 28-pin DIP or PLCC

LXT304A Block Diagram

