

# LXT300Z/LXT301Z

## Advanced T1/E1 Short-Haul Transceivers

### General Description

The LXT300Z and LXT301Z are fully integrated transceivers for both North American 1.544 Mbps (T1) and International 2.048 Mbps (E1) applications. They are pin and functionally compatible with standard LXT300/301 devices, with some circuit enhancements.

The LXT300Z provides receive jitter attenuation starting at 3 Hz, and is microprocessor controllable through a serial interface. The LXT301Z is pin compatible, but does not provide jitter attenuation or a serial interface. An advanced transmit driver architecture provides constant low output impedance for both marks and spaces, for improved Bit Error Rate performance over various cable network configurations. Both transceivers offer a variety of diagnostic features including transmit and receive monitoring. Clock inputs may be derived from an on-chip crystal oscillator or from digital inputs. They use an advanced double-poly, double-metal CMOS process and require 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

- Data recovery and clock recovery functions
- Receive jitter attenuation starting at 3 Hz exceeds AT&T Pub 62411, Pub 43801, Pub 43802, ITU G.703, and ITU G.823 (LXT300Z only)
- Line driver with constant low mark and space impedance (3  $\Omega$  typical)
- Minimum receive signal of 500 mV
- Adaptive and selectable (E1/DSX-1) slicer levels for improved SNR
- Programmable transmit equalizer shapes pulses to meet DSX-1 pulse template from 0 to 655 ft
- Local and remote loopback functions
- Digital Transmit Driver Monitor
- Digital Receive Monitor with Loss of Signal (LOS) output and first mark reset
- Receiver jitter tolerance 0.4 UI from 40 kHz to 100 kHz
- Microprocessor controllable (LXT300Z only)
- Compatible with most popular PCM framers
- Available in 28-pin DIP or PLCC

### LXT300Z Block Diagram

