

LXT307

Low-Power E1 Integrated Short-Haul Transceiver

General Description

The LXT307 is a fully integrated low-power transceiver optimized for G.703 2.048 Mbps (E1) applications. It features a constant low output impedance transmitter allowing for high transmitter return loss. Transmit pulse amplitudes are selectable for various cable types. It is designed to exceed the latest international specifications, including G.775 and ETS 300 166.

The LXT307 is microprocessor controllable through a serial interface. It can also be controlled through individual pins in Hardware Mode.

The LXT307 offers a variety of diagnostic features, including transmit and receive monitoring. The device requires a single 2.048 MHz clock reference for the on chip high performance clock recovery system. It uses an advanced double-poly, double-metal CMOS process and requires only a single 5-volt power supply.

Applications

- PCM G.703 Interfaces
- E1 multiplexer
- Digital Access and Cross-connect Systems (DACs)
- G.703 Trunk line cards for Public Switching Systems and PABX
- High-speed data transmission lines

Features

- Low power dissipation 260 mW typical
- Constant low output impedance transmitter regardless of data pattern (3 Ω typical)
- Low speed reference clock to reduce PC board noise coupling
- Driver short circuit current limited to 50 mA per OFTEL/BABT recommendations
- 75/120 Ω Operation without component changes
- Transmit and receive return loss exceeds ETSI ETS 300 166 and G.703
- Meets or exceeds all ITU specifications including G.703, G.823 (03/93) and G.775
- Compatible with most popular PCM framers
- Line driver, data recovery and clock recovery functions
- Minimum receive signal of 500 mV
- Programmable transmit amplitude for 75 Ω and 120 Ω operation without component changes
- Local and remote loopback functions
- Transmit performance monitor with DPM detecting single line shorts for improved reliability
- Analog/digital LOS monitor per G.775
- Receiver jitter tolerance 0.4 UI from 40 kHz to 100 kHz
- Serial Control Interface
- Available in 28-pin DIP or PLCC

LXT307 Block Diagram

