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Robust Dual RS232/RS485 Multiprotocol Transceiver Provides Integrated Switchable Termination

MILPITAS, CA – April 2, 2012 – Linear Technology Corporation introduces the [LTC2872](#) multiprotocol transceiver with switchable integrated termination for 3.3V and 5V systems. RS485 systems require a termination resistor on the ends of the communication bus to minimize signal reflections. The LTC2872 integrates pin-controlled termination resistors for easy interface reconfiguration, eliminating external resistors and control relays. The termination resistors, when enabled, are automatically switched in or out to match the transceiver's protocol selection of RS232 or RS485. The device also features high ESD protection: $\pm 16\text{kV}$ HBM on the transceiver bus pins, when powered off or operating. The LTC2872 can be configured as four RS232 single-ended transceivers or two RS485 differential transceivers, or combinations of both, on shared I/O lines, reducing component count for multiprotocol networks, offering on-the-fly configurability.

The LTC2872 is suitable for a wide range of applications, including software-selectable multiprotocol interface ports, point-of-sale terminals, security cameras, cable repeaters and protocol translators. An optional 1.7V to 5.5V logic supply enables convenient digital interfacing, and an integrated DC/DC boost converter eliminates the need for multiple supplies to drive RS232 levels. Drivers and receivers are independently disabled, leaving them in a high impedance state, consuming only $9\mu\text{A}$ in a low power shutdown mode. Aside from automatic termination selection, the LTC2872 provide half- and full-duplex RS485 switching and a logic loopback mode that steers the driver inputs to the receiver outputs for diagnostic self-test and debug. Other protective measures include high ESD of $\pm 4\text{kV}$ or better on all pins, thermal shutdown protection and a full failsafe RS485 receiver for floating, shorted or terminated inputs that eliminates the need for external network biasing resistors and UART lockup.

The LTC2872 is available in 38-pin 5mm x 7mm QFN package and is available today in production quantities. Pricing starts at \$6.45 each in 1,000 piece quantities. Please visit www.linear.com/product/LTC2872 for more product selection and information.


Photo Caption: Simultaneous Protocols & RS485 Termination Switching

Summary of Features: LTC2872

- Four RS232 & Two RS485 Transceivers
- 3V to 5.5V Supply Voltage Range
- 20Mbps RS485 & 500kbps RS232
- Automatic Selection of Integrated RS485 (120Ohm) & RS232 (5kOhm) Termination Resistors
- Half-/Full-Duplex RS485 Switching
- Logic Loopback Mode
- High ESD: $\pm 16\text{kV}$ on Line I/O
- 1.7V to 5.5V Logic Interface
- Supports up to 256 RS485 Nodes
- RS485 Receiver Full Failsafe Eliminates UART Lockup
- Available in 38-Pin 5mm x 7mm QFN Package

About Linear Technology

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs, μ Module[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

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