



Robust $\pm 60\text{V}$ RS485 Transceivers Fortify PROFIBUS-DP Networks

MILPITAS, CA – April 11, 2016 – Linear Technology Corporation introduces the [LTC2876](#) and [LTC2877](#), exceptionally rugged, high voltage tolerant RS485 transceivers targeted for PROFIBUS-DP (decentralized periphery) master and slave devices. As with any fieldbus, PROFIBUS-DP systems are prone to installation cross-wiring faults, ground voltage faults, or surge, which can cause catastrophic overvoltage conditions that exceed the absolute maximum ratings of typical transceivers. Whether transmitting, receiving, in standby or powered off, the LTC2876 and LTC2877 tolerate $\pm 60\text{V}$ on their bus pins, eliminating common damage due to transmission line faults.

The LTC2876 and LTC2877 provide multiple levels of protection that make them suitable for a variety of PROFIBUS-DP applications, including discrete manufacturing and process automation. An extended $\pm 25\text{V}$ input common-mode range and full failsafe operation improve data communications reliability in electrically noisy environments and in the presence of ground loop voltages, which would otherwise cause data errors and possible device damage. Their incredibly high ESD protection guarantees the LTC2876 and LTC2877 can withstand $\pm 52\text{kV}$ HBM on the transceiver pins without latchup or damage; all other pins are protected to $\pm 15\text{kV}$ HBM. Fully symmetric receiver thresholds ensure the devices maintain good duty cycle symmetry at low signal levels and boost receiver noise immunity, while supporting full failsafe operation. Both devices are tested with PROFIBUS IEC 61158-2 and TIA/EIA-485-A (RS485) loads to ensure compatibility with both standards.

The LTC2876 and LTC2877 are offered in commercial, industrial and automotive versions, supporting operating temperature ranges of 0°C to 70°C , -40°C to 85°C , and -40°C to 125°C , respectively. The LTC2876 is available in an RoHS compliant 8-pin 3mm x 3mm DFN or MSOP package, while the LTC2877 includes a logic supply and is available in an RoHS compliant 10-pin 3mm x 3mm DFN or MSOP package. Pricing starts at \$2.48 each in

1,000 piece quantities. Please visit www.linear.com/product/LTC2876 for more product selection and information.

Photo Caption: $\pm 60V$ PROFIBUS-DP Transceiver with High ESD & Common Mode Range


Summary of Features: LTC2876 & LTC2877

- Protected from Overvoltage Line Faults to $\pm 60V$
- $\pm 52kV$ ESD Interface Pins, $\pm 15kV$ on All Other Pins
- Extended Common Mode Range: $\pm 25V$
- 1.65V to 5.5V Logic Supply Pin for Flexible Digital Interfacing (LTC2877)
- 5V Supply Can Operate Down to 3V for Low Power, Low Swing Applications
- Wide Operating Temperature Range: $-40^{\circ}C$ to $125^{\circ}C$
- Available in Small DFN & MSOP Packages

Pricing shown is for budgetary use only and may differ due to local duties, taxes, fees and exchange rates.

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 over 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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