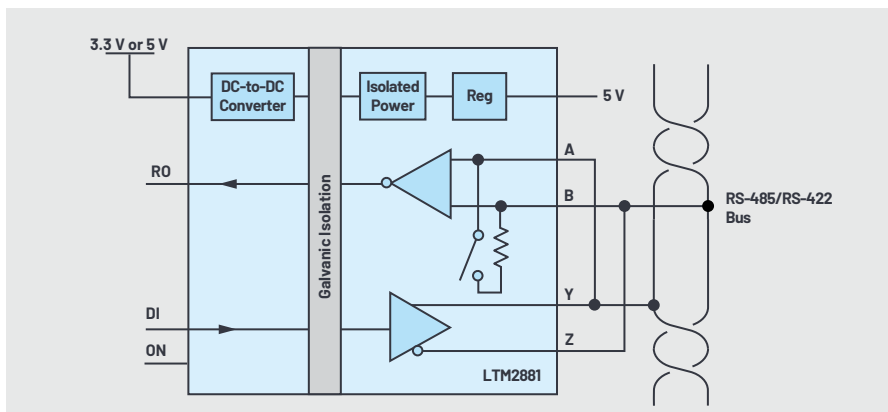
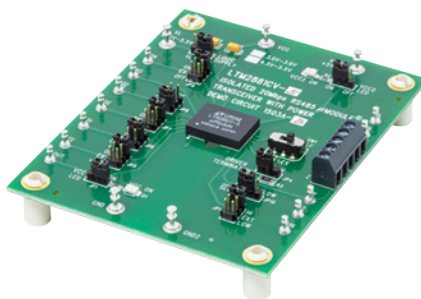




Isolated RS-485 Transceiver with 1 W Power

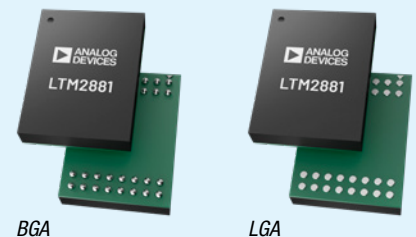
Complete 20 Mbps μ Module Transceiver Includes 2500 V rms Isolated Power—No External Components Required

The **LTM2881** is an isolated RS-485 transceiver that guards against large ground-to-ground differentials. The LTM2881's internal inductive isolation barrier breaks ground loops by isolating the logic level interface and line transceiver. An onboard dc-to-dc converter provides power to the transceiver with an isolated 5 V supply output for powering additional system circuitry. With 2500 V rms galvanic isolation, onboard secondary power, and a fully compliant RS-485 transmitter and receiver, the LTM2881 requires no external components and provides a small, complete μ Module[®] solution for isolated serial data communications.



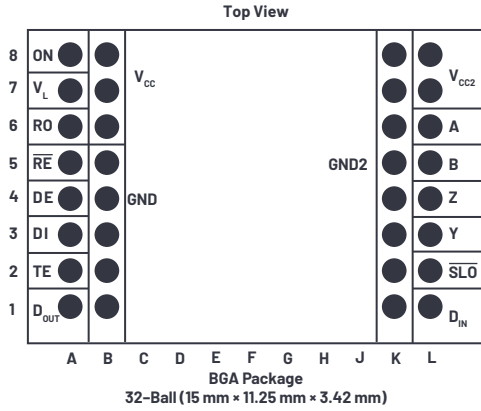
Features

- ▶ Isolator μ Module technology
- ▶ Isolated RS-485/RS-422 transceiver: 2500 V rms
- ▶ UL recognized file #E151738
- ▶ Integrated isolated, 1 W dc-to-dc converter
 - Good efficiency (up to 62%)
 - Low EMI
- ▶ 3.3 V or 5 V input supply voltage ([LTM2881-3/LTM2881-5](#))
- ▶ 20 Mbps or low EMI 250 kbps data rate
- ▶ High ESD: ± 15 kV HBM
- ▶ Common-mode transient immunity: >30 kV/ μ s
- ▶ Integrated selectable 120 Ω termination
- ▶ Small footprint, low profile (11.25 mm \times 15 mm \times 2.8 mm) in surface-mount BGA and LGA packages



Isolated μ Module Technology

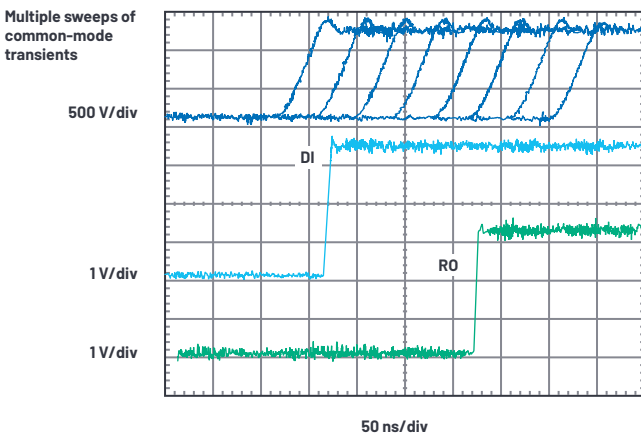
To achieve greater than 2500 V rms isolation, the LTM2881 utilizes isolator μ Module technology, which uses coupled signal inductors embedded in the μ Module substrate. This technique ensures consistent ruggedness and reliability, and is certified by UL to guarantee the isolation barrier's effectiveness. For the downloadable safety certification, visit analog.com/iCouplerSafety. The μ Module package integrates several technologies to deliver a cost-effective, advanced solution that minimizes board space and improves electrical and thermal performance.



Common-Mode Transient Immunity

The galvanic isolation of the LTM2881 is rugged, reliable, and allows for continuous communication through common-mode transient events that are greater than 30 kV/ μ s.

LTM2881 Operating Through 35 kV/ μ s CM Transients



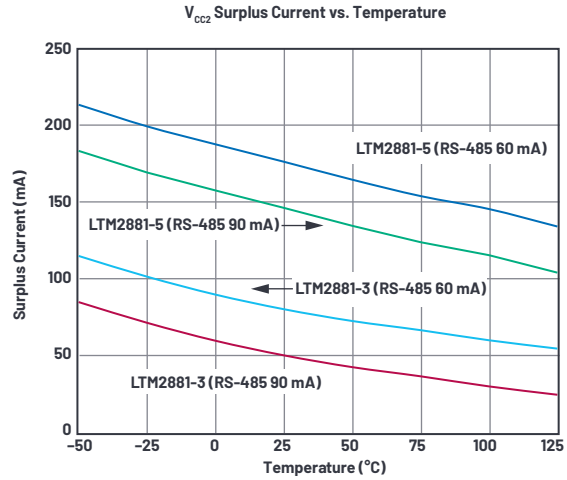
Engage with the ADI technology experts in our online support community. Ask your tough design questions, browse FAQs, or join a conversation.

ADI EngineerZone™
SUPPORT COMMUNITY

Visit ez.analog.com

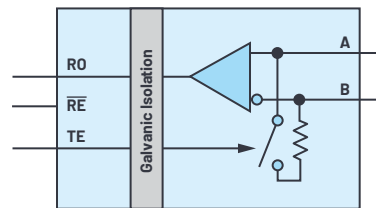
Isolated Supply Voltage Output

The LTM2881 is not only self-powered, but also provides a well regulated 5 V, up to 1 W, isolated supply for powering any supporting components on the isolated bus side. This regulated power is continuously available over the operating temperature range, even while driving full RS-485 compliant signal levels.



Integrated Selectable 120 Ω Termination

A pin-selectable 120 Ω termination is available for minimizing reflections that may be present on an unterminated transmission line. RS-485 networks require 120 Ω termination resistors to be installed by the end-user based on the physical layout of the twisted-pair wires and the placement of the nodes. The LTM2881's pin-selectable termination allows the proper nodes to be terminated by switching the integrated termination on or off, under software control, without the need for physical intervention by the user.



Circuits from the Lab® reference designs are built and tested by ADI engineers with comprehensive documentation and factory-tested evaluation hardware.

Circuits from the Lab®
Reference Designs

Visit analog.com/cftl

ANALOG DEVICES
AHEAD OF WHAT'S POSSIBLE™

For regional headquarters, sales, and distributors or to contact customer service and technical support, visit analog.com/contact.

Ask our ADI technology experts tough questions, browse FAQs, or join a conversation at the EngineerZone Online Support Community. Visit ez.analog.com.

©2020 Analog Devices, Inc. All rights reserved. Trademarks and registered trademarks are the property of their respective owners.

VISIT ANALOG.COM/ICOUPLER

PH21681-2/20