



LTM2881 - Complete Isolated RS485-RS422 μ Module Transceiver + Power

General Description:

The LTM2881 is a complete galvanically isolated full duplex RS485/RS422 μ Module[®] transceiver. No external components are required. A single supply powers both sides of the interface through an integrated, isolated, low noise, efficient 5V output DC/DC converter.

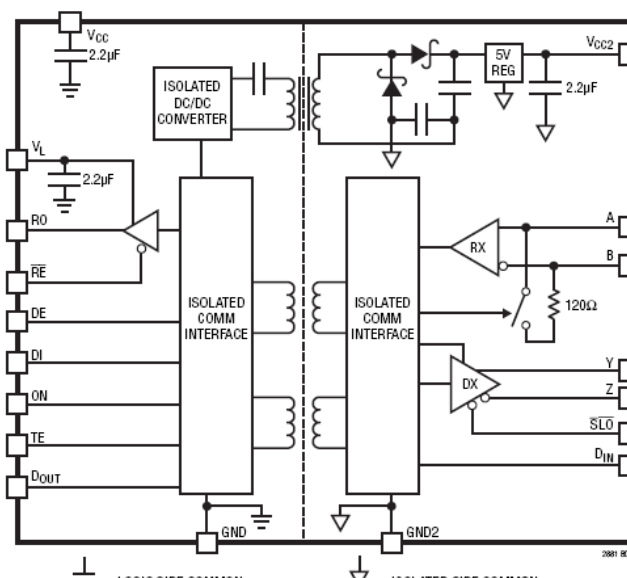
Coupled inductors and an isolation power transformer provide 2500V_{RMS} of isolation between the line transceiver and the logic interface. This device is ideal for systems where the ground loop is broken allowing for large common mode voltage variation. Uninterrupted communication is guaranteed for common mode transients greater than 30kV/ μ s.

Maximum data rates are 20Mbps or 250kbps in slew limited mode. Transmit data, DI and receive data, RO, are implemented with event driven low jitter processing. The receiver has a one-eighth unit load supporting up to 256 nodes per bus. A logic supply pin allows easy interfacing with different logic levels from 1.62V to 5.5V, independent of the main supply.

Enhanced ESD protection allows this part to withstand up to ± 15 kV (human body model) on the transceiver interface pins to isolated supplies and ± 10 kV through the isolation barrier to logic supplies without latch-up or damage.

Key Features:

- Isolated RS485/RS422 Transceiver: 2500V_{RMS}
- Isolated DC Power: 5V at Up to 200mA
- No External Components Required
- 20Mbps or Low EMI 250kbps Data Rate
- High ESD: ± 15 kV HBM on Transceiver Interface
- High Common Mode Transient Immunity: 30kV/ μ s
- Integrated Selectable 120 Ω Termination



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- 3.3V (LTM2881-3) or 5.0V (LTM2881-5) Operation
- 1.62V to 5.5V Logic Supply Pin for Flexible Digital Interface
- Common Mode Working Voltage: 560V_{PEAK}
- High Input Impedance Failsafe RS485 Receiver
- Current Limited Drivers and Thermal Shutdown
- Compatible with TIA/EIA-485-A Specification
- High Impedance Output During Internal Fault Condition
- Low Current Shutdown Mode (< 10μA)
- General Purpose CMOS Isolated Channel
- Small, Low Profile (15mm × 11.25mm × 2.8mm) Surface Mount BGA and LGA Packages

Applications:

- Isolated RS485/RS422 Interface
- Industrial Networks
- Breaking RS485 Ground Loops

Related Products Information:

Mfr Part #	Farnell #	Newark #	Description
LTM2881CV-3#PBF	1799803	51R1522	RS485/RS422 μModule Transceiver, BGA
LTM2881CV-5#PBF	1799804	51R1523	RS485/RS422 μModule Transceiver, BGA
LTM2881IV-3#PBF	1799805	51R1524	RS485/RS422 μModule Transceiver, BGA
LTM2881IV-5#PBF	1799807	51R1525	RS485/RS422 μModule Transceiver, BGA
LTM2881CY-3#PBF	1795585	67R4261	RS485/RS422 μModule Transceiver, LGA
LTM2881CY-5#PBF	1795586	67R4262	RS485/RS422 μModule Transceiver, LGA
LTM2881IY-3#PBF	1795587	67R4263	RS485/RS422 μModule Transceiver, LGA
LTM2881IY-5#PBF	1795588	67R4264	RS485/RS422 μModule Transceiver, LGA