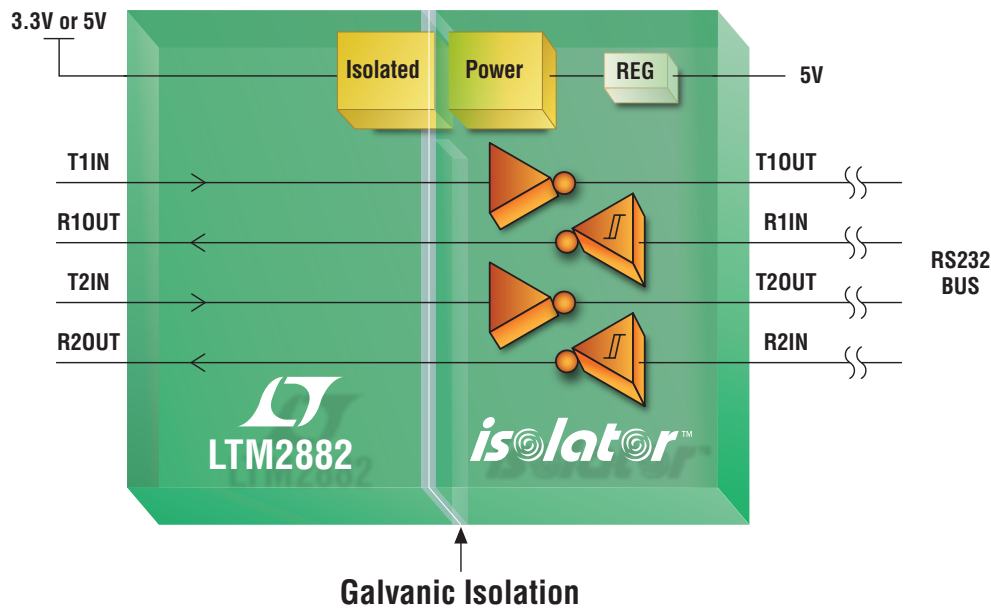


Isolated RS232 + 1W Power



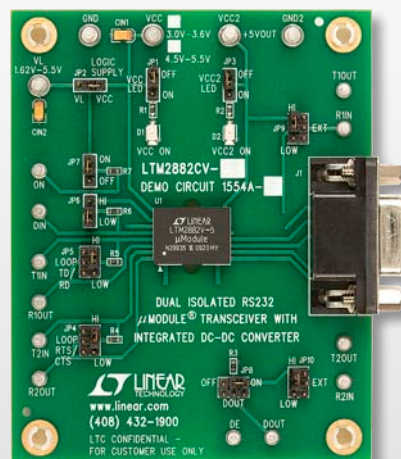
Complete 1Mbps μ Module[®] Transceiver Includes 2500V_{RMS} Isolated Power—No External Components Required

The LTM[®]2882 is an isolated RS232 transceiver that guards against large ground-to-ground differentials. The LTM2882's internal inductive isolation barrier breaks ground loops by isolating the logic level interface and line transceiver. An onboard DC/DC converter provides power to the transceiver, with an isolated 5V supply output for powering additional system circuitry. With 2500V_{RMS} galvanic isolation, onboard secondary power and two RS232 drivers and receivers, the LTM2882 requires no external components and provides a small, complete μ Module solution for isolated serial data communications.

Features

- Isolator μ Module Technology
- Isolated RS232 Transceiver: 2500V_{RMS}
- UL Recognized  File #E151738
- Integrated Isolated, 1W DC/DC Converter
 - Good Efficiency (Up to 65%)
 - Low EMI
- 1.62V to 5.5V Logic Supply
- High Speed Operation
 - 1Mbps for 250pF/3k Ω Load
 - 250kbps for 1nF/3k Ω Load
 - 100kbps for 2.5nF/3k Ω TIA/EIA-232-F Load
- 3.3V (LTM2882-3) or 5V (LTM2882-5) Operation
- No Damage or Latchup to ± 10 kV ESD HBM on Isolated RS232 Interface and Across Isolation Barrier
- High Common Mode Transient Immunity: >30kV/ μ s
- Low Profile Surface Mount (15mm \times 11.25mm \times 2.8mm) LGA and (15mm \times 11.25mm \times 3.7mm) BGA Packages

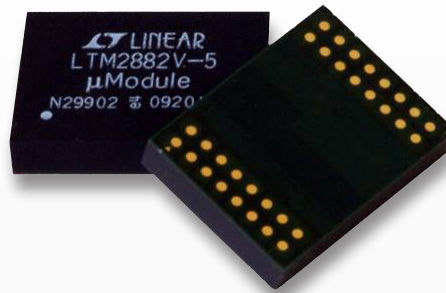
LTM2882 Demo Board



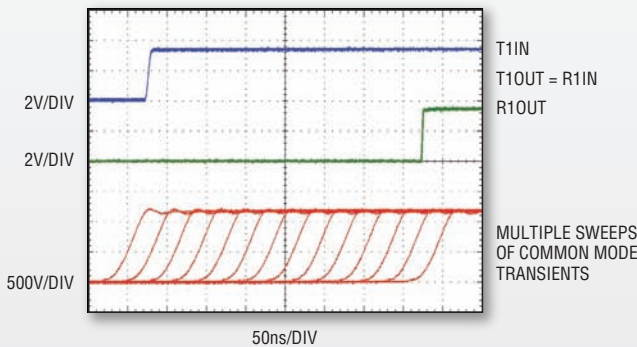
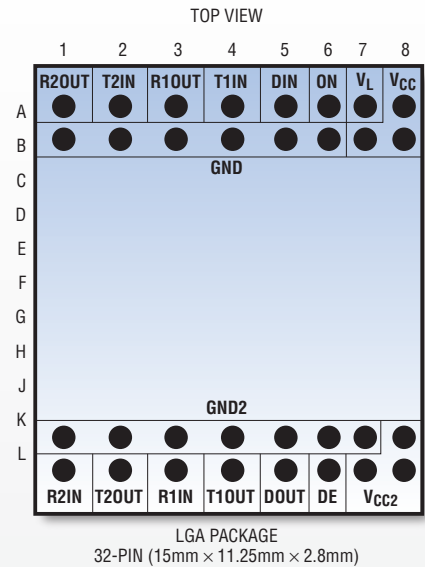
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Isolator μ Module Technology

To achieve greater than $2500V_{RMS}$ isolation, the LTM2882 utilizes Isolator μ Module Technology, which uses coupled signal inductors embedded in the μ Module substrate. This technique ensures consistent ruggedness and reliability, and will be certified by UL, CSA and IEC to guarantee the isolation barrier's effectiveness. The μ Module package integrates several technologies to deliver a cost-effective, advanced solution that minimizes board space and improves electrical and thermal performance.



isolator

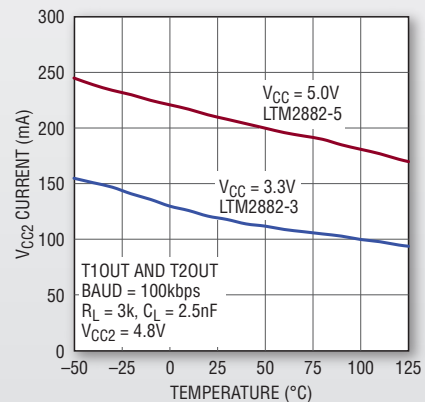


Common Mode Transient Immunity

Unlike other isolated solutions, the LTM2882 allows communication through common mode transient events greater than $30kV/\mu s$, unaffected by the transient and without introducing any priority data jitter or data corruption.

Isolated Supply Voltage Output

The LTM2882 is self-powered and provides a well regulated 5V, up to 1W, 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 RS232 compliant signal levels.



| TEST | FREQUENCY | FIELD STRENGTH |
|-------------------------|----------------|----------------|
| EN 61000-4-3 Annex D | 80MHz to 1GHz | 10V/m |
| | 1.4MHz to 2GHz | 3V/m |
| | 2MHz to 2.7GHz | 1V/m |
| EN 61000-4-8 Level 4 | 50Hz to 60Hz | 30A/m |
| EN 61000-4-8 Level 5 | 60Hz | 100A/m* |
| EN 61000-4-9 Level 5 | Pulse | 1000A/m |

*non-IEC method

RF & Magnetic Field Immunity

The LTM2882 passes independent RF and magnetic field immunity test requirements per European Standard EN55024, in accordance with the following test standards: EN 61000-4-3 for radiated, radio frequency, electromagnetic field immunity; EN 61000-4-8 for power frequency magnetic field immunity; EN 61000-4-9 for pulsed magnetic field immunity.