The LTM®2883 is a complete digital µModule® galvanic isolator. The LTM2883's internal inductive isolation barrier breaks ground loops by isolating the logic level interface for SPI, I²C or general purpose I/O. An onboard DC/DC converter provides power to the internal communications interface and to three adjustable isolated power supply outputs, nominally 5V, 12.5V and –12.5V. Each supply can be adjusted from its nominal value using a single external resistor. The LTM2883's 2500V_{RMS} isolation, onboard secondary power, digital communications interface and guaranteed uninterrupted communication through common mode transients greater than 30kV/µs, provides a simple, highly integrated µModule solution for isolated serial data communications.

Features
- 6-Channel Logic Isolator: 2500V_{RMS}
- UL Recognized
- Isolated Adjustable DC Power:
  - 3V to 5V at Up to 30mA
  - ±12.5V at Up to 25mA
- No External Components Required
- High Speed Logic Isolation:
  - 10MHz Digital (LTM2883-S)
  - 4MHz Full Duplex SPI (LTM2883-S)
  - 400kHz I²C (LTM2883-I)
- High Common Mode Transient Immunity: 30kV/µs
- 3.3V (LTM2883-3) or 5V (LTM2883-5) Operation
- 1.62V to 5.5V Logic Supply
- ±10kV ESD HBM Across the Isolation Barrier
- Common Mode Working Voltage: 560V_{PEAK}
- Low Current Shutdown Mode (<10µA)
- 15mm × 11.25mm BGA Package

Complete Isolated Digital Interface with Three Isolated Power Rails—No External Components Required

Isolated Supplies vs Equal Load Current
Isolated µModule Technology
To achieve greater than 2500V_{\text{RMS}} isolation, the LTM2883 utilizes Isolator µModule technology, which uses coupled signal inductors embedded in the µModule substrate. This technique ensures consistent ruggedness and reliability, and will be certified by UL, CSA and IEC. The µModule 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
Unlike other isolated solutions, the LTM2883 allows communication through common mode transient events greater than 30kV/µs, unaffected by the transient and avoiding any priority data jitter or data corruption. The system also includes data refresh, error checking and safe shutdown for truly robust digital communications.

EMI Performance: LTM2883 vs Competitor A

Devices measured on LTM2883 Demo Circuit 1748A

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