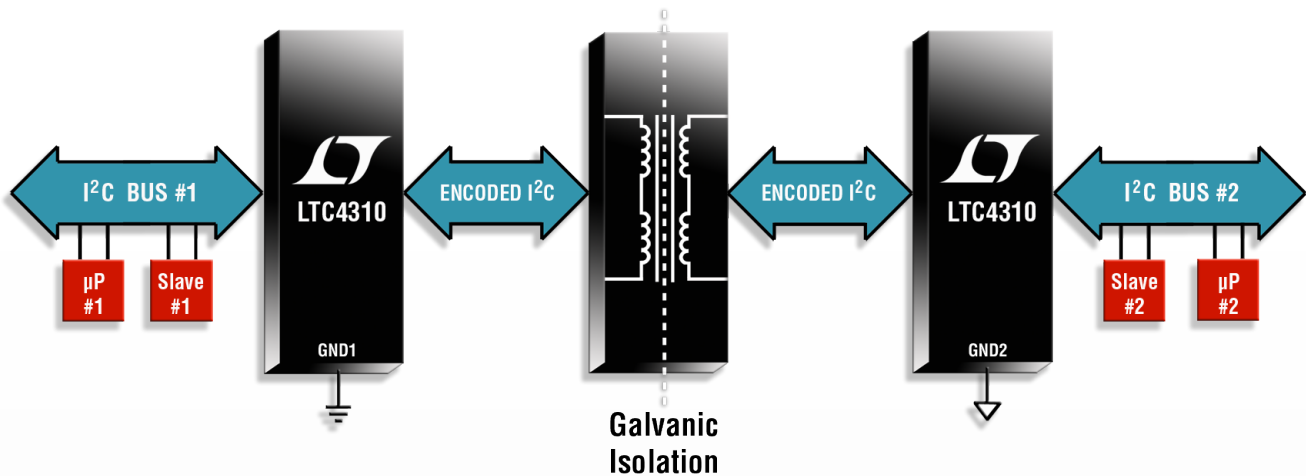


Hot-Swappable I²C Isolator



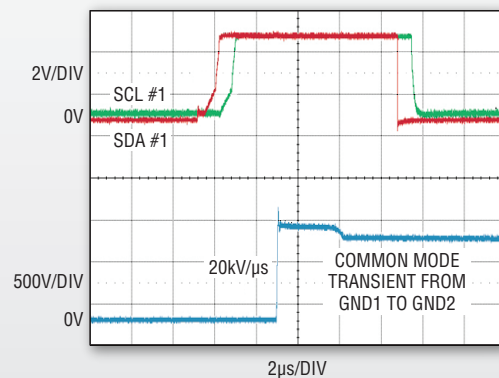
Reliable I²C Performance Courtesy of Fully Bidirectional Isolation, Rise Time Acceleration and Stuck Bus Disconnect and Recovery

The LTC[®]4310 is a hot-swappable I²C isolator that provides fully bidirectional SCL and SDA communication between two I²C busses whose grounds are isolated from one another. The LTC4310 simplifies I²C isolation by encoding and transmitting I²C bus signals over an isolation barrier. The signals are decoded and recombined on the other side of the barrier using a second LTC4310, while maintaining I²C signal integrity. The LTC4310 allows the signals to be bridged by an Ethernet transformer to achieve communications across voltage differences of more than 1500V_{RMS} or capacitors for lower voltage differentials. Each I²C bus can be pulled up to a supply voltage ranging from 3V to 5.5V with respect to its local ground, independent of each other.

Features

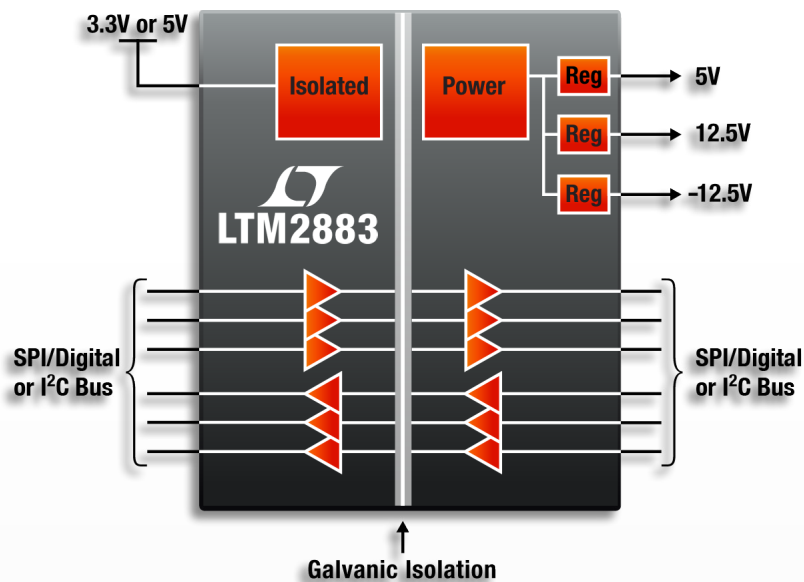
- Fully Bidirectional SCL and SDA Communication Between Two Isolated Busses
- Full Isolation with Inexpensive Ethernet Transformers or Capacitors
- Low Voltage Level Shifting
- High Logic Low Noise Margin
- I²C Maximum Operating Frequency:
 - 100kHz for LTC4310-1
 - 400kHz for LTC4310-2
- I²C Specification Compliant V_{OL}, V_{IL}
- ±5kV Human Body Model ESD Protection
- Rise Time Accelerators
- SDA, SCL Hot-Swapping
- Very Low Shutdown Current
- Stuck Bus Disconnect and Recovery
- Thermal Shutdown
- 10-Lead MSOP and 3mm × 3mm DFN Packages

LTC4310 Operating Through 20kV/μs Transient*



*"Roundtrip" Configuration
(SCL #2 Connected to SDA #2)


SPI/Digital or I²C μModule Isolators + Power



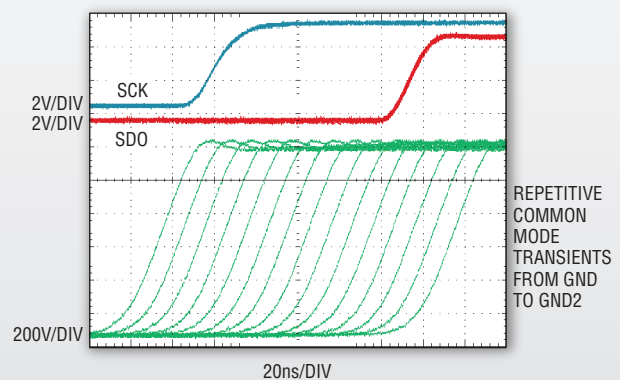
Complete Isolated Digital Interface with Three Isolated Power Rails— No External Components Required

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 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  File #E151738
- Isolated Adjustable DC Power:
 - 3V to 5V at Up to 30mA
 - ±12.5V at Up to 20mA
- 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 HBM ESD Across the Isolation Barrier
- Common Mode Working Voltage: 560V_{PEAK}
- Low Current Shutdown Mode (<10μA)
- 15mm × 11.25mm BGA Package

LTM2883 Operating Through 35kV/μs Common Mode Transients*



*LTM2883-S "Roundtrip" Configuration
SCK2 Output Connected to SDO2 Input