



USB μ Module Isolator with Power Protects Hubs & Peripheral Ports

MILPITAS, CA – May 21, 2014 – Linear Technology Corporation introduces the [LTM2884](#), a USB μ Module[®] (micromodule) Isolator that combines USB data communications and USB power, and guards against ground-to-ground differentials and large common mode transients. The rugged interface and isolation makes the LTM2884 ideal for systems implementing USB in harsh industrial or medical environments where protection from ground differences is required. The LTM2884 separates grounds by isolating a pair of USB signal transceivers using internal inductive signal isolation, providing 2500V_{RMS} isolation plus superior common mode transient rejection of >30kV/ μ s.

The LTM2884 features an integrated, low EMI, external or bus powered, DC/DC converter that powers the isolated transceiver and provides up to 2.5W of isolated power for USB peripherals or hub/host controllers. The unique automatic bus speed detection feature allows the LTM2884 to be used in hub/host/bus isolation applications. Integrated downstream facing pull-down resistors and upstream facing pull-up resistors are automatically configured to match the speed of the downstream device, enabling the LTM2884 to monitor and report bus speeds to the host. With 2500V_{RMS} of galvanic isolation, integrated power and USB 2.0 compatible transceivers, the LTM2884 requires no external components and is a complete μ Module solution for isolated USB communications.

The LTM2884 is suitable for a wide range of applications, including host, hub and peripheral device isolation, as well as USB inline bus isolation. The \pm 15kV ESD-protected

transceivers operate at USB 2.0 full speed (12Mbps) and low speed (1.5Mbps). A suspend mode monitors for inactivity and reduces V_{BUS} current to less than 2.0mA. The integrated DC/DC converter is capable of supplying 2.5W when connected to an external high voltage supply or 1W when connected to the USB V_{BUS} supply.

The LTM2884 is available in a compact 15mm x 15mm x 5mm surface mount BGA package; all integrated circuits and passive components are housed in this RoHS-compliant μ Module package. The LTM2884 is available in commercial, industrial and automotive versions, supporting operating temperature ranges from 0°C to 70°C, -40°C to 85°C and -40°C to 105°C respectively. Pricing starts at \$17.35 each in 1,000 piece quantities. The LTM2884 joins a family of μ Module Isolators that include isolated RS485, RS232, SPI, I²C, and GPIO. Please visit www.linear.com/isolator for more product selection and information.


Photo Caption: μ Module[®] Isolator Combines USB Transceivers & 2.5W Isolated Power

Summary of Features: LTM2884

- UL (Approval Pending) Isolated USB Transceiver: 2500V_{RMS}
- USB 2.0 Full Speed & Low Speed Compatible
- Integrated Isolated DC/DC Converter, External or Bus-Powered
- Auto-Configuration of USB Bus Speed
- 2.5W (500mA at 5V) Output Power from External Input Supply ($V_{CC} = 8.6V$ to 16.5V)
- 1W (200mA at 5V) Output Power from USB Bus Supply (V_{BUS})
- 3.3V LDO Output Supply Transceiver References V_{LO} , V_{LO2}
- High Common-Mode Transient Immunity: 30kV/ μ s
- ESD: $\pm 15kV$ HBM on USB Interface Pins
- 15mm x 15mm x 5mm Surface Mount BGA Package

About Linear Technology

Linear Technology Corporation, a member of the S&P 500, has been designing, manufacturing and marketing a broad line of high performance analog integrated circuits for major companies worldwide for over three decades. The Company's products provide an essential bridge between our analog world and the digital electronics in communications, networking, industrial, automotive, computer, medical, instrumentation, consumer, and military and aerospace systems. Linear Technology produces power management, data conversion, signal conditioning, RF and interface ICs, μ Module[®] subsystems, and wireless sensor network products. For more information, visit www.linear.com

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