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## **Dual Supply Hot Swap Controller Optimized for AdvancedTCA Mezzanine Cards**

MILPITAS, CA – August 29, 2007 – Linear Technology introduces the LTC4223, a 12V and 3.3V dual supply Hot Swap<sup>™</sup> controller that enables live insertion and removal of mezzanine cards used on AdvancedTCA carrier blades, MicroTCA systems, or proprietary network platforms. The PCI Industrial Computer Manufacturers Group (PICMG) has developed the Advanced Mezzanine Card (AMC) standard that defines the requirements for add-on modules to expand the functionality of an AdvancedTCA carrier board, an open-industry standard intended to address the rapidly changing needs of communications network infrastructure. These modules are also suitable for MicroTCA applications, an emerging standard that provides a scaled version of ATCA for more compact and price-sensitive applications. The LTC4223 is the first Hot Swap controller targeted specifically for AMC/MicroTCA applications that meets the full requirements outlined in the PICMG AMC standard.

The LTC4223 provides independently controlled turn-on and shutdown of the 12V main and 3.3V auxiliary supply rails used on the mezzanine card. The main 12V rail is controlled via an external N-channel MOSFET, while the 3.3V rail uses an integrated 0.3 Ohm switch for auxiliary or management power up to 165mA. For the 12V rail, key features include a fast acting current limit in the event of short circuit faults, with guaranteed 5% accuracy. An external current sense resistor adjusts the current trip threshold. The LTC4223 also provides a 12V current sense monitoring output that can be connected to a low cost ADC like the LTC2450. Separate Power Good outputs are available with 3% accurate thresholds set 10% and 15% below the 12V and 3.3V rails, respectively. A fault output alerts the host processor if an overcurrent fault has occurred on either supply, while a separate V<sub>CC</sub> pin decouples the IC supply from faults on the 3.3V rail. The LTC4223 includes a gate-source clamp to protect the external MOSFET from hard shorts on the output. Absolute maximum ratings of 20V and 10V for the respective supplies ensure ruggedness when confronted with short overvoltage spikes and ringing present in harsh Hot Swap environments.

The LTC4223 is offered in two versions: the LTC4223-1 latches off after a fault, the LTC4223-2 provides automatic retry after a fault. Specified over the commercial and industrial temperature ranges, the LTC4223 is offered in 16-lead SSOP and 5mm x 4mm DFN packages. Available today, pricing begins at \$2.10 each in 1,000 piece quantities. Linear Technology offers a wide portfolio of products that support AdvancedTCA platforms. Visit the ATCA solutions page at [www.linear.com](http://www.linear.com).

**Photo Caption:** Dual Supply Hot Swap™ Controller for Advanced Mezzanine Card

### Summary of Features: LTC4223

- Allows Safe Insertion into Live AMC or MicroTCA Backplane
- Controls 12V Main and 3.3V Auxiliary supplies
- Limits Peak Fault Current in  $\leq 1\mu\text{s}$
- Adjustable Current Limit with Circuit Breaker
- Integrated 0.3 Ohm AUX Switch
- High Side Current Sense
- LTC4223-1: Latch Off After Fault
- LTC4223-2: Automatic Retry After Fault
- 16-Lead SSOP & 5mm x 4mm DFN Packages

### About Linear Technology

Linear Technology Corporation, a manufacturer of high performance linear integrated circuits, was founded in 1981, became a public company in 1986 and joined the S&P 500 index of major public companies in 2000. Linear Technology products include high performance amplifiers, comparators, voltage references, monolithic filters, linear regulators, DC-DC converters, battery chargers, data converters, communications interface circuits, RF signal conditioning circuits, and many other analog functions. Applications for Linear Technology's high performance circuits include telecommunications, cellular telephones, networking products such as optical switches, notebook and desktop computers, computer peripherals, video/multimedia, industrial instrumentation, security monitoring devices, high-end consumer products such as digital cameras and MP3 players, complex medical devices, automotive electronics, factory automation, process control, and military and space systems. For more information, visit [www.linear.com](http://www.linear.com)

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**Press Contacts:**

John Hamburger, Director Marketing Communications

[jhamburger@linear.com](mailto:jhamburger@linear.com)

Tel: 408-432-1900 ext 2419

Doug Dickinson, Media Relations Manager

[ddickinson@linear.com](mailto:ddickinson@linear.com)

Tel: 408-432-1900 ext 2233