

## IEEE meeting addresses Power Electronics



More than a hundred international participants of the IEEE meetings in May 2004 at German capital Berlin received an insight into the usage of power electronics in electric power systems. In particular having experienced 2003's large area grid outages in Europe and United States, the benefits of rapidly controllable high power converters as

well as the challenges related to their connection with the electric network have attracted increasing attention:

Siemens AG—Power Transmission and Distribution—High Voltage Division—presented state of the art and R&D activities regarding the use of power electronics in high voltage transmission systems, e. g. HVDC and FACTS. The challenge of high voltage high power switching is faced using actual dedicated thyristors as semiconductor valves, taking into consideration functionality like device light triggering or indispensable converter short circuit current limitation.

Alstom Power Conversion GmbH—General Drives—gave an insight into drive systems in the Megawatt range, comprising power electronics—e. g. a multi level medium voltage converter—and machines—e. g. a 5MW permanent magnet generator. The systems have been designed for applications as different as offshore wind parks, pump storage plants or railway traction.

Besides leading industry, Berlin University of Technology had invited to learn about main activities of Electrical Machines, Drives and Renewable Energies Group and Power Electronics Group within Department of Electrical Engineering and Computer Science, where machines or converters for renewable energy and medium voltage drive systems play an important role, proving the relevance of the subjects of current scientific research also for industrial development projects.

Prof. Dr.-Ing. W. Leonhard—TU Braunschweig—gave a thoughtful lecture about sustainable supply of electric energy. It is remarkable that this interdisciplinary event, linking power electronics and power engineering, has been jointly organised by IEEE Joint IAS/PELS/IES and PES German Chapters, represented by several German and international officials, in conjunction with VDE—a fruitful cooperation to be continued in future.

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## Texas Instruments and Ariston optimized washing machines

eupec displayed its advanced IGBT prodTI's TMS320C24x digital signal controllers leverage Field Orientated Control in three-phase asynchronous motor for low-cost, algorithm-based speed control.

Ariston, one of the leading brands of Merloni Elettrodomestici (MERI.MI), and

Texas Instruments Incorporated (TI) (NYSE:TXN) today announced that TI's -based TMS320C24x controllers reduce noise levels and improve washing efficiency. Ariston's Super Silent line of washing machines. Using TI's low-power controllers, leading white goods manufacturer Merloni

Elettrodomestici has implemented a more efficient three-phase alternating current (AC) motor with Field Oriented Control (FOC) in its designs.

For more information on TI's TMS320C24x, see [www.ti.com/merlonipr](http://www.ti.com/merlonipr)

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## CoolSET provides lowest stand-by power

Infineon announced its third generation integrated multi-chip power IC family, reinforcing the company's position as a leading supplier of power semiconductors for switched-mode power supply (SMPS) applications. The CoolSET F3 family allows SMPS manufacturers to quickly design lighter, more cost-effective power supplies with high reliability and optimized efficiency.

"The U.S. government estimates that the total amount of electricity flowing through external and internal power supplies in that country alone is more than 207 billion kWh/year, or about 6 percent of the national electric bill, and that more efficient designs could save an estimated 15 to 20 percent of that energy," said Arunjai Mittal, Vice President and General Manager, Power Management & Supply Business Unit, Infineon Technologies AG. "With the industry's lowest stand-by power consumption,

the CoolSET F3 family can contribute significantly to achieving those savings."

The stand-by power consumption of Infineon's CoolSET F3 products is the lowest currently available, exceeding the specifications of such standards as Energy Star and the German Blue Angel Eco Norm. For example, in a typical 30 watt (W) DVD recorder, the stand-by power consumption of a CoolSET F3 device is less than 100 mW. The maximum allowed for 15 W-to-50 W supplies under the Energy Star and European energy commission target specifications is 500 mW. The lowest consumption achieved by a competitive device in the same type of application is above 150 mW measured on a 10 W board.

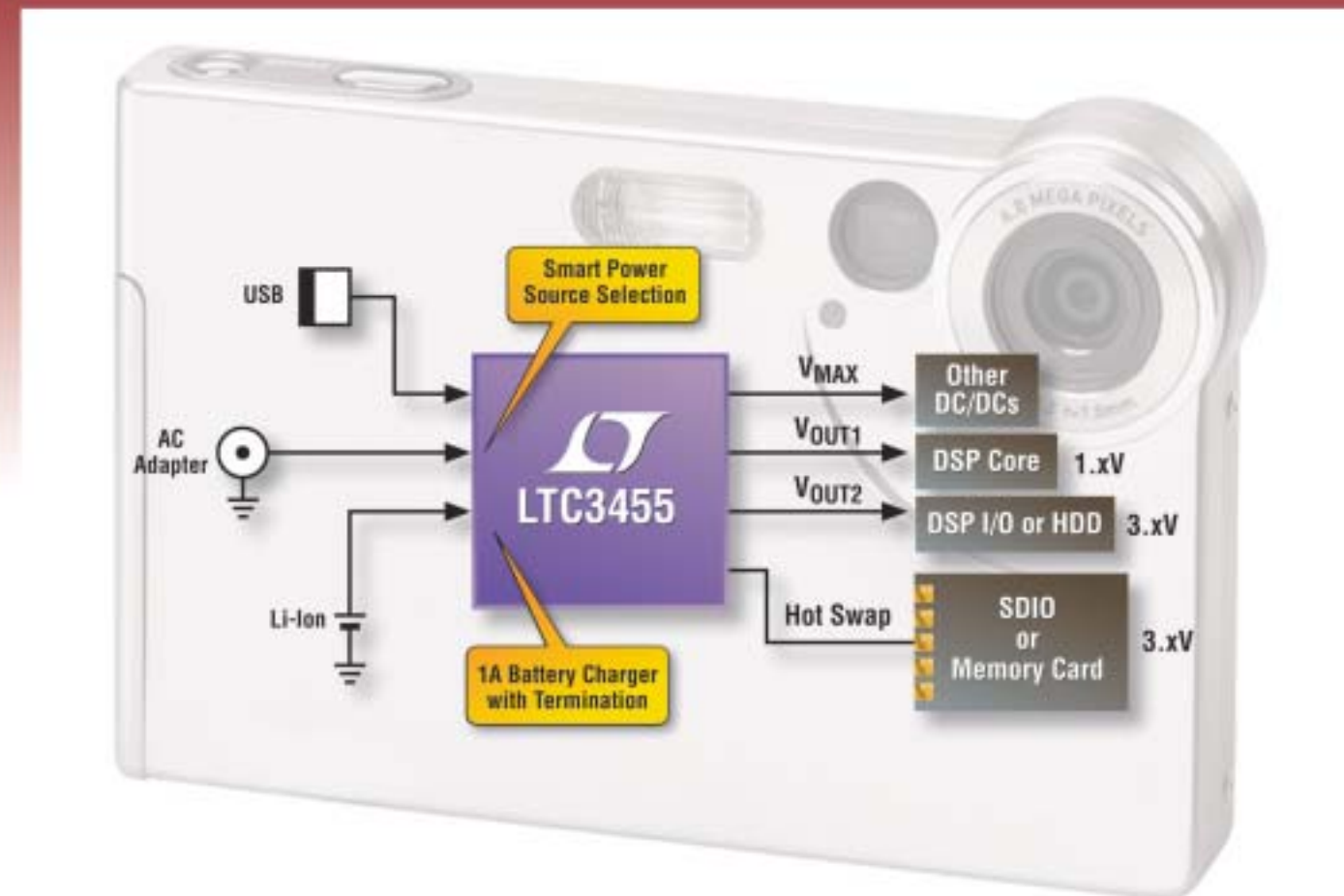
Further information on Infineon's CoolSET products is available at: [www.infineon.com/coolset](http://www.infineon.com/coolset)

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### Power Events

- **York EMC 2004**, July 1-2, York Racecourse UK, [www.yorkemc.co.uk/emcyork](http://www.yorkemc.co.uk/emcyork)
- **EPE-PEMC 2004**, September 2-4, Riga, Latvia; [www.rtu.lv/epe-pemc2004](http://www.rtu.lv/epe-pemc2004)
- **H2Expo 2004**, September 15-17, Hamburg, [www.h2exp0.de](http://www.h2exp0.de)
- **Automotive EMC 2004**, October 12, York Racecourse UK, [www.AutoEMC.net](http://www.AutoEMC.net)
- **Electronica 2004**, November 9-12, Munich, [www.global-electronics.net](http://www.global-electronics.net)
- **Surface Mount 2004**, November 16-18, Brighton UK, [www.smartgroup.org](http://www.smartgroup.org)
- **SPS/IPC/DRIVES 2004**, November 23-25, Nuremberg, [www.mesago.de](http://www.mesago.de)

# Portable Power Made Easy



## USB Power Manager, Charger, Dual Synchronous DC/DCs in 16mm<sup>2</sup>

Linear Technology offers a true standalone USB power manager, a full-featured linear Li-Ion charger, dual step-down DC/DC converters and Hot Swap™ controller in a 24-pin, 4mm x 4mm QFN package. The LTC3455 simplifies system power design for MP3 players, digital still cameras and PDA/GPS systems since no software or firmware are needed. Unlike conventional systems, the LTC3455 delivers full power to the system from the USB port or wall adapter even when the battery is fully depleted or removed.

### Features

- Seamless Transition between Input Power Sources
- No Digital Interface or  $\mu$ Controller Required
- 96% Efficient DC/DC Converters
- Switchers with Defeatable Burst Mode® Operation and 1.5MHz Switching Frequency
- Full-Featured Li-Ion Linear Battery Charger
- Can Still Charge with Power Source as Low as 4.2V

### LTC3455 Typical Circuit



(Actual Size)

### Info & Online Store

[www.linear.com](http://www.linear.com)  
Tel: 1-408-432-1900



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