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Darnell Group

NEWS

New Dynamic Bus Architecture to Shake Up DC-DC Modules Market

Corona, California, January 12, 2011 – The real changes occurring in the dc-dc converter module and IC market are at the power architecture and advanced materials levels. In fact, the emergence of the Dynamic Bus Architecture (DBA) will be one of the most significant developments in the power supply industry in 10 years. These developments are highlighted in a new global analysis from Darnell Group, “Dc-dc Converter Modules and ICs: Market Forces, Power Architectures and Technology Developments.”

The DBA is already being designed into some high-end systems, and widespread adoption is expected in the next few years. Most of the distributed power architectures being implemented today, and certainly future systems, include some form of digital power management and control. The evolution of the Intermediate Bus Architecture (IBA) – from the Central Control Architecture (CCA) to the emerging Dynamic Bus Architecture – is in part due to system demands that digital power management can address effectively.

The DBA makes use of a Digital Bus Converter (DBC), which is able to dynamically optimize its intrinsic efficiency, along with overall system efficiency, and can be controlled and monitored. In addition, the emergence of the DBC threatens to obsolete all of today’s analog bus converter products, including unregulated, semi-regulated and even regulated devices.

With global economies slowly recovering from the recession, companies are looking to keep costs low and optimize the equipment they already have. Advanced materials, such as Silicon-carbide (SiC) and Gallium-nitride (GaN), are slowly becoming more cost-effective. And as costs come down, these materials are likely to improve converter efficiencies and enable higher operating frequencies and smaller converter sizes.

In addition, the 94-page report looks at how close “on-chip power supplies” (such as Power-Supply-in-Package [PSiP] and Power-Supply-on-Chip [PwrSoC]) are to commercialization. Opportunities in the Smart Grid and dc building power are driving many innovative solutions that require energy efficiency, new packaging, and increased power density. These are, in part, pushing developments at the materials level.

It also examines how standards are driving sales in digital power, dc powering of buildings, and Power-over-Ethernet. Company-led organizations are pushing standards and product certifications that are expected to lead to rapid commercial adoption of the newer technologies, while further refining existing ones. The report includes an overview of these standards, along with the companies participating in their development.

Other sections consider the current dynamics in the traditional dc-dc module market, including bricks, bus converters, point-of-load converters and “power blocks.” These mainstays of the dc-dc converter market are still holding their own against the trend toward IC solutions, with a focus on power density, thermal issues and packaging. Along with dc building power, photovoltaics and light-emitting diodes (LEDs) are likely to provide sales for power supply manufacturers going forward. Finally, of the nearly 180 companies mentioned in this report, 24 are discussed in more detail in an overview of the major dc-dc converter module and PwrSoC and PSiP manufacturers.

The Eleventh Edition of Darnell’s “Dc-dc Converter Modules and ICs: Market Forces, Power Architectures and Technology Developments” report is available for immediate delivery. For more information, or to sponsor the report, please contact Darnell by phone at (951) 279-6684 x240; by e-mail Traci at tshepard@darnell.com; or visit <http://www.darnell.com/dcdc11>.

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