Delivering ‘What’s Next’

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Mouser beams in on energy-efficient technologies

In keeping with its philosophy of bringing "What’s Next" to the engineering marketplace, Mouser Electronics, Inc. is taking the lead in providing new energy-friendly technologies to meet growing demand for high-performance components with lower energy consumption. Russell Raser, Vice President of Advanced Technology at Mouser Electronics, Inc. explained the detail.

The company’s Advanced Technology Group is concentrating on energy-harvesting components and solid-state lighting, as well as leading-edge advancements in ultra-efficient MCUs to stay at the forefront for design engineers.

In the area of energy management, the industry has seen a huge movement towards components with lower-power consumption, where the newest 32-bit microcontrollers can consume one quarter of the energy of other 8-, 16- and 32-bit MCUs. Mouser stocks low-power MCUs from such top manufacturers as Texas Instruments, ST Microelectronics and Microchip, to name a few. The trend to reduce power consumption and extend battery life continues to escalate, and Mouser is keenly focused on being able to deliver those cutting-edge technologies to design engineers.

In addition, with 14 global customer support locations, the company is providing important product data assistance to help engineers across the world bring their ideas to market faster.

In the quest to find alternative energy sources, the buzz centers around micro energy harvesting, which captures tiny amounts of energy from the environment through vibration (piezoelectric and oscillating mass), temperature (TEGs or thermoelectric generators), light (solar panels) and RF (induction through ambient electro-mechanical waves), among other sources. For example, such harvesting can make the operation of wireless sensors virtually maintenance-free over the long term. In fact, this trend is projected to become a leading power source for many of tomorrow’s wireless devices. An estimated 200 million energy harvesters and thin-film batteries will be in use by 2012, according to The Darnell Group, a market research firm. The market for automotive, home, industrial, medical, military and aerospace energy harvesting applications is expected to grow from 13.5 million units in 2008 to 164.1 million units by 2013. For information on the latest alternative energy products, visit www.mouser.com/knowledge/alternative_energy/
Energy harvesting from a natural source, where a remote device is deployed and its natural energy source is essentially limitless, has become an increasingly attractive alternative to inconvenient wall plugs, costly batteries and the like, explained Russell Rasor, Mouser Vice President of Advanced Technology. Since this energy source is basically free, it is sparking the attention of the design engineers. Plus, the cost of harvesting has now decreased to the point where it is a practical alternative to traditional power sources, Rasor added.

A harvesting system can be composed of multiple components that efficiently and effectively capture, accumulate, store, condition and manage this energy, and supply it in a form that can be used in various applications. Some examples of this can be found in thermal meter reading for HVAC systems or humidity sensors in agriculture. Viable low-leakage storage options include conventional rechargeable batteries, as well as newer thin-film batteries, ultra capacitors and EDLCs (electrochemical double-layer capacitors). When designed and installed properly, this energy source is available throughout the lifetime of the application, hence the advantages, Rasor continued.

Mouser’s Advanced Technology Group is also offering support to key applications in energy-efficient lighting. At the forefront is SSL (solid-state lighting), including LEDs (light emitting diodes), OLEDS (organic light emitting diodes) and PLEDs (polymer light emitting diodes). The LED market is predicted to account for 16% of the worldwide lighting market by 2013 and will generate over $20 billion in revenue in the United States alone. The upcoming sales ban on incandescent light in a number of countries, including the US and Canada, is fueling the LED movement, too, Rasor explained.

SSL will continue to take the place of existing lighting solutions in industrial, commercial and residential applications because they offer more brightness per watt while producing less heat eliminating the need for heat management solutions. The lifespan, flexibility and variety of these new SSL options provide value-added benefits for design engineers as they seek improved technologies, which in the end, will offer tremendous benefits to the consumers of tomorrow.

“Along with providing these emerging technologies, Mouser is committed to producing solution-based content on its website as a resource to the design community,” Rasor stated. “These are all technologies that require much more than a list of part numbers. We provide downloadable data sheets, supplier-specific reference designs, application notes, technical design information and engineering tools.”

Mouser has created a Light Application Center section of the Knowledge Center on its website, www.mouser.com/Application_lighting to help the design community further aid new development. We want to provide more guidance to help customers select the correct components to fit their design requirements. Our goal is to help our customers be at the forefront of ‘What’s Next,’ Rasor added.

Mouser Electronics, Inc., part of Berkshire Hathaway, Inc. is known as a leading global design engineering resource for emerging technologies and products. The company’s extensive website, www.mouser.com features more than 1.8 million products online from more than 400 manufacturers. Mouser currently has 14 global customer support centers and the company offers fast global shipping to over 300,000 customers in 170 countries from its 492,000 sq. ft. state-of-the-art facility in Texas, USA.

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