

NEXTREME ENHANCES eTEC TECHNOLOGY TO INCREASE PERFORMANCE

Improved thin film thermoelectric material enables new markets...

Research Triangle Park, N.C. (May 15, 2007) – Nextreme, a leading manufacturer of advanced thermoelectric components that address thermal management and power generation needs of the semiconductor, photonics, test-and-measurement and defense/aerospace industries, has enhanced its miniature embedded thermoelectric component (eTEC™) material. The technology advancements have made it possible for researchers at Nextreme to consistently achieve temperature differentials of 55-60°C with eTECs at room temperature. This achievement compares favorably with the performance of conventional thermoelectric technology, which is physically larger and typically produces 65°C under the same conditions. Nextreme devices employ proprietary materials that are 5-15 um thick, about 100 times thinner than the typical 1 mm thick pellets used in conventional thermoelectric devices.

“It is remarkable that devices no thicker than a piece of paper can deliver this kind of performance,” said David Koester, VP of Engineering at Nextreme. “This should have an immediate impact in photonics and other industries where a lack of an integrated cooling solution is limiting market penetration of various products.”

Nextreme’s eTECs are designed utilizing thin films that are small, thin, fast, efficient and reliable, adding as little as 100 microns (0.1 mm) of height to a heat spreader or package; enabling unobtrusive integration close to the heat source. The eTEC’s ultra fast, millisecond response time rapidly cools or heats to maintain a precise temperature depending on the needs of the application. A typical device pumps a maximum heat flux of 150 W/cm² with some designs delivering as much as 400 W/cm² versus 10-20 W/cm² for typical bulk TECs.

Prototypes for Nextreme’s eTEC are available for sampling and are expected fully qualified by the third quarter of 2007.

For more information, or to request eTEC prototype, contact Nextreme at 3040 Cornwallis Road, P.O. Box 13981, Research Triangle Park, NC 27709-3981; call (919)-990-8300; e-mail info@nextreme.com; or go to www.nextreme.com.

About Nextreme

Nextreme manufactures thin-film thermoelectric components that address most challenging thermal management and power generation needs of the semiconductor, photonics, consumer and defense/aerospace industries. Nextreme's miniature, thin-film eTEC offers an industry first — a micro-refrigerator the size of a piece of confetti that enables solid-state temperature control or power generation on a micro-scale, in close proximity source. eTECs operate as point-specific heat pumps for rapid cooling or heating of semiconductors and other electronics; for thermal management of fiber-optic laser controls integrated optoelectronics; or for power generation by converting otherwise wasted heat useful electricity.