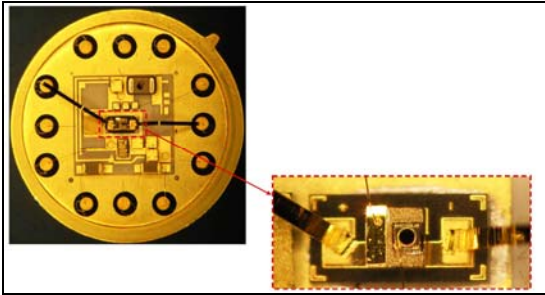


**FOR IMMEDIATE RELEASE**  
**October 29, 2008**



*Voxtel VDHAX 200um APD equipped with a Nextreme OptoCooler UPF4 thermoelectric cooler*

**For more information, contact:**

Karl von Gunten  
Nextreme Thermal Solutions, Inc.  
(919) 597-7348  
[kvongunten@nextreme.com](mailto:kvongunten@nextreme.com)

Katie Omweg  
Voxtel, Inc.  
T. 971.223.5646 x 131  
F. 971.327.7241  
[katieo@voxtel-inc.com](mailto:katieo@voxtel-inc.com)

*Thin-film thermoelectric device cools photon detector in a small package for improved efficiency, performance and reliability...*

## **NEXTREME AND VOXTEL ANNOUNCE THE WORLD'S FIRST OPTOCOOLER EQUIPPED AVALANCHE PHOTODIODE**

**DURHAM, N.C. (October 29, 2008)** — Nextreme Thermal Solutions, the leader in microscale thermal and power management products for the electronics industry, today announced that Voxtel, Inc., a leading developer of sophisticated detectors and electro-optical imaging systems, has integrated Nextreme's OptoCooler UPF4 thermoelectric cooler into Voxtel's VDHAX line of hermetically-packaged avalanche photodiode (APD) receivers. The new OptoCooler-equipped APD device will be used for applications in military laser radar and optical communications and commercial telecommunications.

Avalanche photodiodes are extremely sensitive semiconductor-based detectors of light in the ultraviolet, visible, and near-infrared ranges of the electromagnetic spectrum. APDs can multiply the signal produced by incident light by as much as 100 million times, enabling photon detection at very low light levels. Performance of an APD is usually limited by thermally-generated noise, which can be reduced by cooling the chip. Cooling of the photodiode improves its efficiency, lowers noise, broadens the spectral and frequency response, and improves the overall gain. Cooling also improves the device's reliability and life span required by stringent military laser radar and freespace optical communications standards.

"Our customers are requiring smaller packages that produce higher heat densities," said George Williams, President and CEO of Voxtel, Inc. "Nextreme's OptoCooler enables a lower cost structure and permits a greater amount of cooling of our new APD receiver over a wide range of environments; thereby providing stable operation and improved performance."

-more-

## **Nextreme, Voxel Announce OptoCooler Equipped Avalanche Photodiode, Page 2**

With Nextreme's thin-film thermal bump technology at its core, the OptoCooler™ UPF4 was integrated directly into the VDHAX TO-8 package to deliver more than 45°C of cooling during operation. The UPF4 removes a maximum of 610 mW of heat at 85°C ambient in an active footprint of only 0.55 mm<sup>2</sup>.

"We are pleased that Voxel has chosen Nextreme's OptoCooler UPF4 for their thermal management solution," said Dr. Paul A. Magill, vice president of marketing and business development for Nextreme. "This represents further validation of our technology in a new application space and opens up a new channel for our OptoCooler product line."

The OptoCooler UPF4 is one of several products in Nextreme's OptoCooler family of thermoelectric coolers designed specifically for the optoelectronics and telecommunications industries. All models are available now for production volume orders. Pricing is available upon request. More information on the OptoCooler family can be found at [www.nextreme.com/optocooler](http://www.nextreme.com/optocooler). Contact Nextreme at 3908 Patriot Dr., Suite 140, Durham, NC 27703-8031; call +1-919-597-7300; e-mail [info@nextreme.com](mailto:info@nextreme.com); or go to [www.nextreme.com](http://www.nextreme.com).

Voxel's VDHAX series of APD receivers will be available in December. For more information, contact Voxel at 971-223-5646 or visit [www.voxel-inc.com](http://www.voxel-inc.com).

### **About Voxel, Inc.**

Voxel, Inc., of Beaverton, OR, is a provider of optoelectronic devices using novel semiconductor architectures and nanotechnology-engineered materials, and a leading developer of sophisticated detectors and electro-optical imaging systems for a wide range of government and commercial markets. Their product technologies include near-infrared laser radar (LADAR) receivers, radiation hardened imagers for space applications, highly sensitive avalanche photodiodes for fiber and freespace telecommunications, and nanotechnology-engineered materials.

### **About Nextreme Thermal Solutions™, Inc.**

Nextreme Thermal Solutions designs and manufactures microscale thermal and power management products for the electronics, telecommunications, semiconductor, consumer, and defense/aerospace industries. The company uses breakthrough thin-film thermoelectric material to embed cooling, temperature control and power generation capabilities into the widely accepted copper pillar bumping process used in high-volume electronic packaging. Nextreme's headquarters and manufacturing facility are based near Research Triangle Park, North Carolina.

###

For additional information or to request the electronic image, please email [bgaddy@btbmarketing.com](mailto:bgaddy@btbmarketing.com) or call 919-872-8172.