

**For Immediate Release**

## **OKI<sup>®</sup> Implements Sarnoff's Takecharge<sup>®</sup> On-Chip ESD Protection In High-Voltage ICs**

*Design Approach for On-Chip ESD Protection Successfully Implemented in High-Voltage Chips*

TOKYO, JAPAN / PRINCETON, NJ, USA / GISTEL, BELGIUM (August 26, 2005) – Oki<sup>®</sup> Electric Industry Co., Ltd. (TSE: 6703, [www.oki.com](http://www.oki.com)) of Tokyo, Japan, has successfully produced ICs in 0.5um/43V, 0.35um/16.5V, and 0.25um/25V process technologies using TakeCharge<sup>®</sup> design technology from Sarnoff Europe of Gistel, Belgium. Sarnoff is a diversified technology & services company with a long history of semiconductor innovations.

“Under a technology transfer agreement, Oki has licensed silicon-proven TakeCharge devices customized specifically for our high-voltage processes. Our goal is to ensure that we can consistently manufacture chips that perform at high voltages with full electrostatic discharge (ESD) and latch-up protection,” said Mr. Shiratori, Deputy General Manager, Display Driver Division of Oki's Silicon Solution Company. “We have implemented these TakeCharge devices in our various high volume products, such as LCD and OLED driver devices, where they deliver substantial added value for Oki and its customers.”

TakeCharge technology is a design approach to on-chip ESD circuitry. It reduces the size of the I/O section on IC dies, while maintaining or improving on-chip protection against ESD. Implementing robust ESD protection devices is an important part of IC design.

“We're very pleased that an industry leader like Oki has chosen TakeCharge for its new line of high-voltage ICs,” said Koen Verhaege, Managing Director of Sarnoff's Integrated Circuit Systems & Services business unit and Executive Director of Sarnoff Europe. “Our technology is optimized for ESD protection and latch-up immunity in high-voltage applications, and we are proud of its consistently successful implementation in Oki's ICs.

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“We look forward to working with Oki to ensure yet more successful implementations in a broad range of IC’s.”

In addition to significant die size reductions, TakeCharge technology ensures “first time right” ESD design, according to Verhaege. With more dies on a wafer and less time spent in design and revisions, the technology has the potential to save millions of dollars in product development and production costs. It also helps eliminate the cost of additional mask sets.

TakeCharge has been silicon proven in advanced processes down to 65nm CMOS including SOI. TakeCharge technology has been widely licensed by leading IC producers worldwide, including Toshiba, Sony, Oki, JRC, Hynix, Epson, Matsushita, Renesas, Ricoh, Infineon, Altera, PMC-Sierra, and Scintera.

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**About Oki Electric Industry Co., Ltd.**

Founded in 1881, Oki Electric Industry Co., Ltd. is Japan's first telecommunications manufacturer, with its headquarters in Tokyo, Japan. With the corporate vision, "Oki, Network Solutions for a Global Society," Oki provides top-quality products, technologies and solutions to its customers through its info-telecom system business, semiconductor business and printer business. All three businesses function as a collective force to create exciting new products and technologies that satisfy a spectrum of customer needs in various markets. Visit Oki's global web site at <http://www.oki.com/>.

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**About Sarnoff**

Sarnoff Corporation ([www.sarnoff.com](http://www.sarnoff.com)) produces innovations in electronic, biomedical and information technology that generate successful new products and services for clients worldwide. Founded in 1942 as RCA Laboratories, it develops breakthroughs in ICs, lasers, and imagers; drug discovery, manufacture and delivery; digital TV and video for security, surveillance, and entertainment; high-performance networking; and wireless communications. Its history includes the development of color TV, the liquid-crystal display, and the disposable hearing aid, and a leadership role in creating the new U.S. digital and HDTV standard. Sarnoff also founds new companies to bring its technologies to market. It is a subsidiary of SRI International.

**About Sarnoff Europe**

Sarnoff Europe ([www.sarnoffeurope.com](http://www.sarnoffeurope.com)), headquartered in Gistel, Belgium, is a subsidiary company of Sarnoff Corporation. Sarnoff Europe assumes worldwide responsibility for the commercialization of Sarnoff's Integrated Circuit Systems and Services portfolio offerings, including the ESD protection families TakeCharge® and ESDdoctor™, the SelectCores™ families for Audio, Video, and Communications, and the Sarnoff Bitstreams for video standards compliance testing.