

RoseStreet Labs

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RoseStreet Labs Scientists Demonstrate First Long Wavelength LED Based on InGaN On Silicon Technology.

PHOENIX, ARIZONA, July 11, 2011—RoseStreet Labs, (RSL), announced today the world's first demonstration of a long wavelength LED device utilizing low cost silicon wafer substrates. Green and longer wavelength LEDs have been sought after by both science and industry for an extensive period of time because they would fill a high-value gap in the rapidly growing global LED market for lighting and illumination where energy efficiency, low cost and miniaturization are critical product characteristics.

RSL's breakthrough device compliments its proprietary thin-film InGaN on silicon technology for high efficiency photovoltaic applications and power devices. These RSL longer wavelength devices are fabricated utilizing commercial scale deposition tools at RSL's Nitride Research Center in Phoenix, Arizona. Silicon substrates have a substantial cost advantage over the more traditional sapphire or silicon carbide substrates typically utilized in LED fabrication.

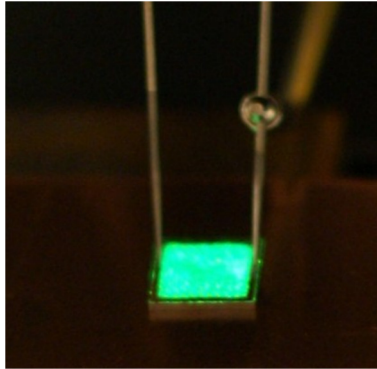
Efficient long wavelength LEDs are essential milestones in the roadmap for Solid State Lighting (SSL), LED backlighting and next generation display technology. Green or longer wavelength nitride based LEDs are very challenging to fabricate compared to UV and Blue LEDs due to decreasing quantum efficiencies and have remained a tough milestone for the LED industry.

RSL plans to eventually package the Green and longer wavelength LEDs through its sister company, FlipChip International (FCI). FCI has extensive experience in packaging semiconductor power devices at its manufacturing locations globally and FCI plans to provide a proprietary packaging solution for these LED devices.

RSL scientists have also demonstrated initial tunability of this technology to multi-color and white light spectrums. This RSL device illustrates great promise due to its potential for high intensity, low energy consumption and a roadmap to a very low commercial cost. RSL believes this technology can be commercialized in 2-3 years with migration to 200mm silicon substrates.

Bob Forcier, CEO, of RSL, stated, "These longer wavelength and Green LED breakthrough devices fit perfectly into RSL's roadmap for disruptive energy innovation at all levels on a global scale and leverages its GaN and InGaN on Silicon investments."

Wladek Walukiewicz, CTO, announced, "Green LED's have been elusive due to material challenges of producing a high efficiency device in the green region and the longer wavelengths of the spectrum...we are quite excited about the potential of this device"



RoseStreet Labs is a privately held supplier of products and services for the renewable energy and semiconductor markets. For more information, visit www.rosestreetlabs.com

FlipChip International, LLC is a privately held supplier of wafer bumping, wafer scale packaging and Flip Chip products and services. For more information, visit www.flipchip.com

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