FOR IMMEDIATE RELEASE

RASIRC Presents Poster on Novel Hydrogen Peroxide Vapor Delivery System

Sponsors International Conference on Silicon Photovoltaics in Hamelin, Germany

San Diego, Calif. – May 8, 2013 – RASIRC® announced that the company sponsored the third annual SiliconPV conference and presented a poster on the topic "*Novel Hydrogen Peroxide Vapor Delivery System for Rapid Oxidation of Silicon in Atomic Layer Deposition*." The silicon photovoltaics conference was held March 25-27, 2013 in Hamelin, Germany.

The RASIRC poster documented hydrogen peroxide superiority over water and/or ozone for generating the backside passivation layer. Advantages include: lower temperature processing, higher reactivity for target materials, and increased processing speed via reduced steric hindrance. Prior to this invention, researchers were unable to deliver hydrogen peroxide at consistent concentration due to Raoult's Law.

According to Raoult's Law, when the vapor is drawn from a multi-component solution, the more volatile component will evaporate faster than the less volatile components. Continuous withdrawal leads to changing component ratios in the vapor, and concentration of lower volatility components. This may gradually convert a stable solution to a hazardous material.

Hydrogen peroxide is proven to grow aluminum oxide (Al2O3) films faster than water at a given temperature. Al2O3 is one of the preferred options for crystalline photovoltaic backside passivation and is typically deposited by Atomic Layer Deposition (ALD). The preferential vaporization of H2O has previously resulted in inconsistent delivery of H2O2 and limited its adoption into industrial process. RASIRC has been able to demonstrate stable control of the hydrogen peroxide mass transfer rate without significant change in liquid solution concentration. By replacing water with hydrogen peroxide, manufacturers will grow AL2O3 faster and at lower temperatures, speeding the adoption in next generation solar cells.

SiliconPV focuses on advanced technologies and materials for crystalline silicon solar cells and modules. “As an original and consistent sponsor of SiliconPV, we felt it was the optimum location to present this new technology. Our novel method will allow for safer and faster adoption of atomic layer deposition for backside passivation,” explains Jeffrey Spiegelman, RASIRC Founder and President. “Detailed experiments and test results presented in our poster show how a constant supply of hydrogen peroxide can be achieved. This can enable efficiency gains in cell performance through backside oxidation.”

More information about hydrogen peroxide vapor delivery systems is available directly from RASIRC.

About RASIRC
RASIRC products purify and deliver ultra-pure liquids and gases. RASIRC technology is the first to generate ultra high purity (UHP) steam from de-ionized water. It reduces cost, increases yield, and improves safety. RASIRC humidifiers, closed loop humidification systems, and steam generators are of critical importance for many applications in the semiconductor, photovoltaic, pharmaceutical, medical, biological, fuel cell, and power industries. Call 858-259-1220, e-mail info@rasirc.com, or visit www.rasirc.com.

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