

## **Silicon-Based Micro Fuel Cells for Mobile Electronic Applications**

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Modern semiconductor processing techniques are being used at Neah Power to develop unique, silicon-based electrodes for direct methanol micro fuel cells. Microfluidics technology is being used to integrate these electrodes into full-function fuel cell prototypes. These prototypes are intended to demonstrate the ability to achieve the high power density and small size required to power mobile electronic devices. The advantages of these approaches will be described and compared with competitive fuel cell designs and with lithium-ion batteries. Silicon-based electrode designs, performance results, and system integration techniques will also be discussed. The barriers to commercialization of the technology will be described, along with the strategy Neah is using to manage these barriers. The presentation will conclude with an overall assessment of the market potential for micro fuel cells.