

**E1-15 : SEMICONDUCTOR SEPTUM PHOTOELECTROCHEMICAL  
SOLAR CELLS USING GaAS ELECTRODES**

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Conventional Photoelectrochemical cells (PEC) consist of a semiconductor electrode and a counter electrode immersed in an electrolyte and have been extensively investigated since 1972 as a possible means of solar energy utilization. We report the properties of a novel type of photoelectrochemical cell made of a semiconductor septum as the active electrode separating two electrolyte solutions. Light induced open-circuit photovoltage ( $V_{oc}$ ) and short-circuit photo current ( $I_{sc}$ ) as high as 730 mV and  $15 \text{ mAcm}^{-2}$ , respectively, have been obtained. The proper selection of the electrolyte/electrode combination in the back compartment is a key

factor for better performance. Alternatively the cell can be used for the generation of hydrogen from sea water.