

Ag//Au Solar Converters

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Abstract

A new type of solar cells which are designed from single crystals using silver and gold metals to construct point contacted photocells are reported and discussed. The influence of the driving electric field on the performance of the device was tested. The current density-electric field dependence curve reflected a space charge limited photocurrent effect being dominant in the field region of 1-4.3 V/cm. In addition, the solar cell short circuit and loaded current dependence on the excitation intensity was measured. The short circuit current is observed to exhibit exponential trap distribution effect and supralinear recombination at low and high illumination intensities, respectively. The device displays a current density of 0.5 (mA/cm²) for excitation intensity of 76 klux. When loaded it displayed a stable power dissipation curve. Such behavior reflects the novelty of these types of cells for future application.

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