

Title: Large area image sensing structures based on a-SiC : H: a dynamic characterization

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Abstract: In recent works large area hydrogenated amorphous silicon p-i-n structures with low conductivity doped layers were proposed as single element image sensors. The working principle of this type of sensor is based on the modulation, by the local illumination conditions, of the photocurrent generated by a light beam scanning the active area of the device. In order to evaluate the sensor capabilities is necessary to perform a response time characterization. This work focuses on the transient response of such sensor and on the influence of the carbon contents of the doped layers. In order to evaluate the response time a set of devices with different percentage of carbon incorporation in the doped layers is analyzed by measuring the scanner-induced photocurrent under different bias conditions. (C) 2004 Elsevier B.V. All rights reserved.

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