

Title: Optical Transducers Based on Amorphous Si/SiC Photodiodes

Author(s): Vieira, Manuela¹; Louro, Paula¹; Fernandes, Miguel¹; Vieira, Manuel A.¹; Costa, João¹

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Abstract: Amorphous Si/SiC photodiodes working as photo-sensing or wavelength sensitive devices have been widely studied. In this paper single and stacked a-SiC:H p-i-n devices, in different geometries and configurations, are reviewed. Several readout techniques, depending on the desired applications (image sensor, color sensor, wavelength division multiplexer/demultiplexer device) are proposed. Physical models are presented and supported by electrical and numerical simulations of the output characteristics of the sensors.

Author Keywords: Amorphous Si/SiC Photodiodes; Photonic; Optoelectronic; Image Sensors; Demultiplexer Devices; Optical Amplifiers

Reprint Address: Vieira, M (reprint author), ISEL, Elect Telecommun & Comp Dept, Lisbon, Portugal.

Addresses:

1. ISEL, Elect Telecommun & Comp Dept, Lisbon, Portugal

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