

**Title:** Optical Transducers Based on Amorphous Si/SiC Photodiodes

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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

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