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## Temperature dependence of current-voltage characteristics of p-silicon Schottky diodes for radiation-hard detectors

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### Abstract content <br> &nbsp; (Max 300 words)

Current-voltage measurements were carried out on Schottky diodes in the temperature range of 280 – 330 K. The diodes were fabricated on undoped and on metal-doped p-type silicon. The temperature dependence of the following parameters; saturation current, Schottky barrier height and the ideality factor were investigated. The results obtained were interpreted in terms of defect levels induced by metals in the energy gap of silicon material. These levels are responsible for the conversion of silicon from a lifetime material to a relaxation material. The diodes fabricated from relaxation material are characterized by the Ohmic behavior and low conductivity due to the recombination of charge carriers by the levels. Properties of these relaxation diodes are not affected by the incident radiation. Thus, the diodes can be used to devise the radiation-hard detectors.

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No

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Yes

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