



Effect of different ohmic electrodes on InAs/GaSb tunnel diode electrical properties

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Abstract

In this paper, we present the InAs/GaSb tunnel diodes with negative differential resistance (NDR) beginning at low voltage. We use different ohmic electrodes to decrease contact resistance of the InAs and GaSb for low power consumption. Therefore, the tunnel diodes use Ti/Ni ohmic electrode on InAs core and Ni/Pt/Au ohmic electrode on GaSb shell. Comparing with Ti/Au ohmic electrode on InAs/GaSb nanowires, which shows the peak voltage (V_p) shifting to 0.03V and peak to valley current ratio (PVCR) of 3.03.