

## Electrical Characterization of Hg/n-bulk GaN Schottky Diode

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**Abstract :** We present the results of electrical characterizations current-voltage and capacity-voltage implementation of a method of making a Schottky diode on bulk gallium nitride doped n. We made temporary Schottky contact of Mercury (Hg) and an ohmic contact of silver (Ag), the electrical characterizations current-voltage (I-V) and capacitance-voltage (C-V) allows us to determine the difference parameters of our structure (Hg /n-GaN) as the barrier height ( $\Phi_B$ ), the ideality factor (n), the series resistor ( $R_s$ ), the voltage distribution (Vd), the doping of the substrate (Nd) and density of interface states (Nss).

**Keywords :** Bulk Gallium nitride, electrical characterization, Schottky diode, series resistance, substrate doping

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