

# Schottky Barrier Diode and Method Thereof

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## DESCRIPTION

This invention is a Schottky barrier diode formation for use as an ultraviolet (UV) sensor. The diode formation includes depositing a first gallium nitride layer of predetermined thickness, a second buffer layer, a third n+ epilayer, and a fourth n- epilayer sequentially on top surface of a sapphire wafer. The wafer having the deposited layers is cleaned. The top surface of fourth layer is masked to cover and protect at least one area and is etched to produce Schottky contact area(s).

## FEATURES AND BENEFITS

- The method provides extreme UV sensor that is capable of rejecting the bulk of solar spectrum at longer wavelengths, while successfully operating at wavelengths below 200 nm.
- The extreme UV sensor meets the requirement of long-term stability, has large surface area (up to 1 cm<sup>2</sup>) and low leakage current, is radiation hardened, does not produce outgassing contamination, successfully operates in the wavelength range of 5-125 nm, and detects extreme UV while remaining visibly blind, that is, provides no visible or near infrared (NIR) radiation contamination.

## APPLICATIONS

- Pharmaceutical
- Electronics Assembly
- Automotive Manufacturing
- Food Packaging

## FOR MORE INFORMATION

If you are interested in more information or want to pursue transfer of this technology, GSC-14777-1, please contact:

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