

Nondispersive Infrared Gas Sensor Using InSb-Based Photovoltaic-Type Infrared Sensor

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We have developed an uncooled InSb-based infrared sensor with small features, high sensitivity, fast response, and spectral response ranging from 2 to 7 μm . A miniaturized nondispersive infrared (NDIR) gas sensor module was also implemented and tested. Gas concentration measurements were performed, showing that the sensor can detect several gases, such as CO_2 , CO, and NO_x , which have absorption peaks at the wavelength response range of the detector. In this work, a fully digital CO_2 meter was implemented, showing that our detector allows fast response measurements implementable in small modules.

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