

## **THz Schottky diodes on epitaxial AlGaAs- membrane**

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<https://doi.org/10.1109/ICIMW.2007.4516711>

### **Abstract**

Schottky structures based on quasi-vertical diode (QVD) design concept are essentially improved by optimization of the GaAs/AlGaAs wafer layout and fabrication process. Insertion of a 4  $\mu\text{m}$ -thin epitaxial AlGaAs layer permits more accurate micromachining of the membrane-substrate without significant degradation of anode parameters. This greatly improved repeatability and increased the yield of the fabrication process. New technology tolerances allowed further optimization of structure geometry, which in turn led to achievement of state-of-the-art mixer performance at millimeter-waves.