Abstracts

A Wide-Band Mechanically Stable Quasi-Optical Detector for 100-300 GHz

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A wide-band mechanically stable quasi-optical detector for 100-300-GHz waves propagating in free space has been constructed. The circuit consists of a whisker diode and an oversized waveguide tuning section. The whisker diode using a honeycomb p-Si Schottky-barrier diode chip is placed on the aperture of the oversized waveguide open to the free space. For an incident power of 1 W/m², output voltage of 10-0.1 mV is obtained over the 100-300-GHz range. The present detector looks attractive for practical use in wide-band instrumentation.

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