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Quasi optical Schottky diode detectors for fast ultra-wideband detection

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Abstract

We present ultra-wideband zero-bias Schottky diode detector modules with monolithically integrated log-spiral antenna. Detectors exhibit a broad-band response with a stronger roll-off above 800 GHz and the minimum noise-equivalent power of 10 pW/√Hz. The intrinsic diode response time to a short THz radiation has been measured to be less than 25ps.