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Title: Low-frequency noise of unipolar nanorectifiers
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Abstract: Unipolar nanodiodes, also known as self-switching devices, have recently been demonstrated as terahertz detectors at room temperature. Here, we study their low-frequency noise spectra and noise equivalent power and show that both performance parameters are comparable to those reported for state-of-the-art Schottky diodes. The truly planar nanodiode layout enables building structures with thousands of devices connected in parallel, which reduce low-frequency noise without affecting sensitivity. The observed 1/f noise can be described by Hooge's mobility fluctuation theory.