Self-Driven Near-Infrared Photodetector Based on Sb_2Te_3/n-Si Heterostructure with Low Dark Current and Fast Response

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S1. Sb_2Te_3 thickness versus sputtering powers

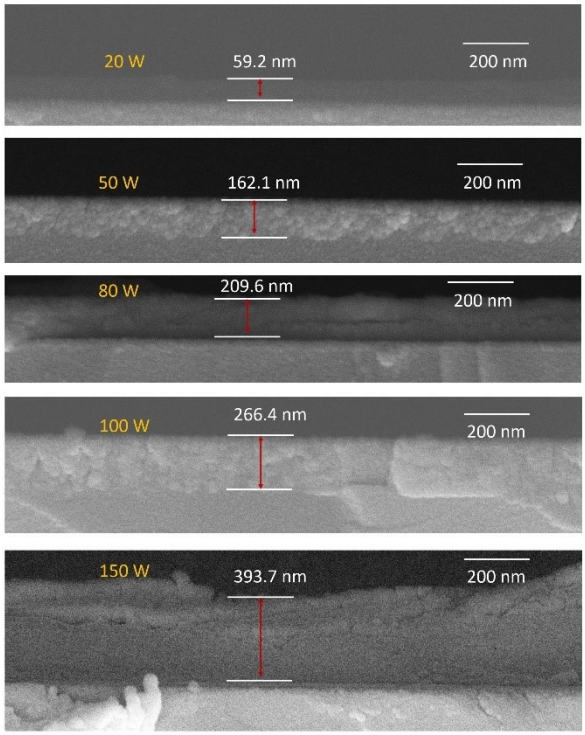

Figure S1 Sb_2Te_3 thickness versus sputtering powers

S2. Carrier concentration and mobility versus annealing time of Sb_2Te_3 films

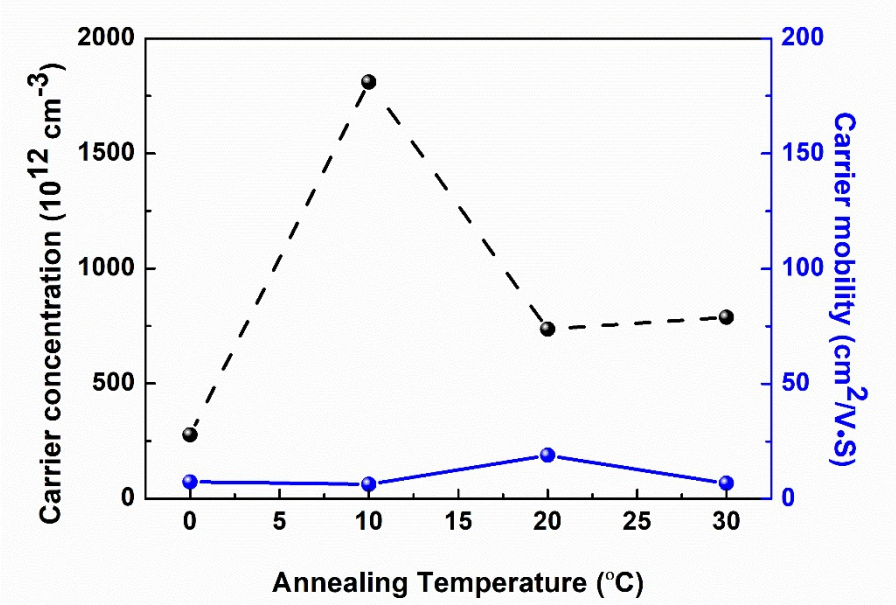

Figure S2 Carrier concentration and mobility versus annealing time of Sb_2Te_3 films.

S3. Schematic diagrams of fabrication process for a Sb_2Te_3/n-Si heterojunction device.

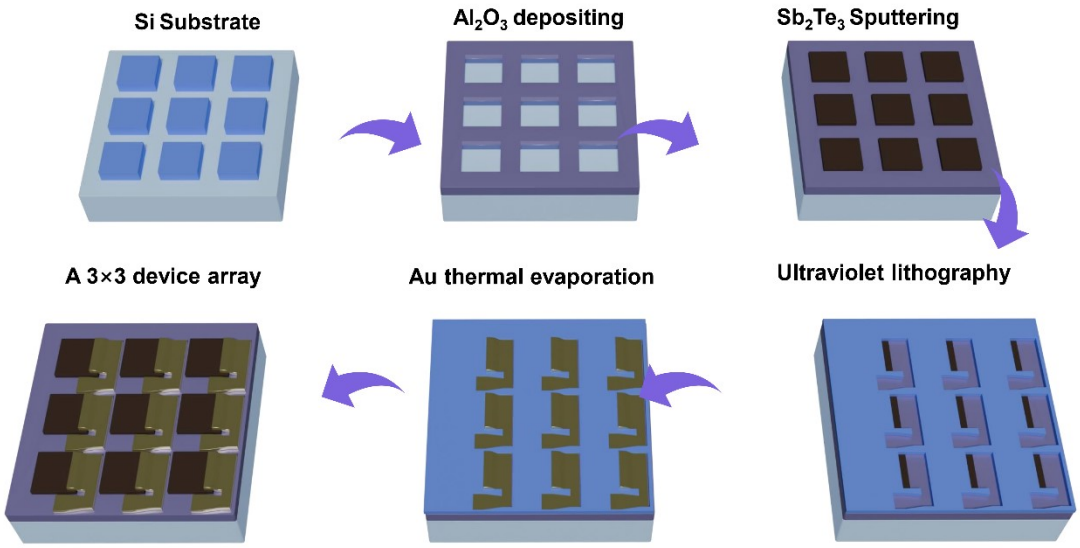

Figure S3 Schematic diagrams of fabrication process for a Sb_2Te_3/n-Si heterojunction device.

S4. Detectivity as a function of different thickness of Sb_2Te_3 under 980 nm illumination

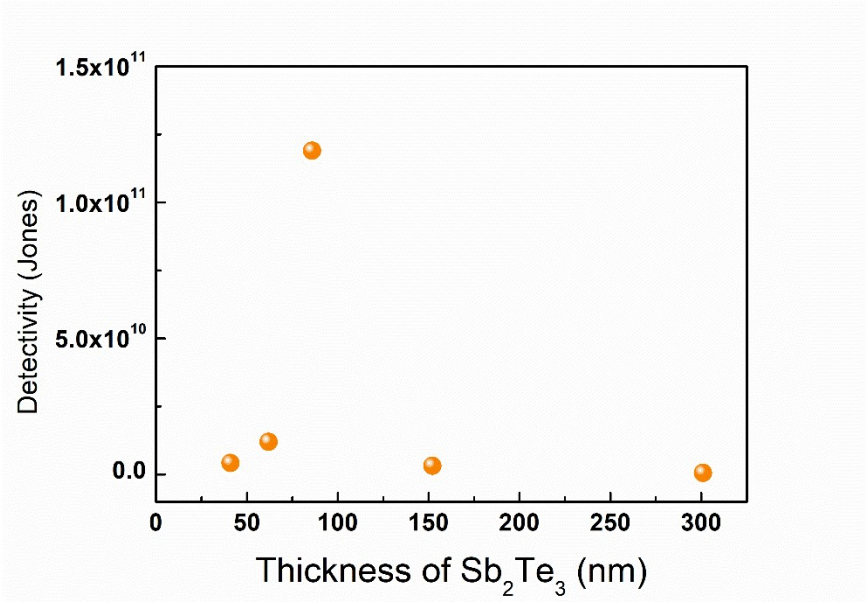

Figure S4 Detectivity as a function of different thickness of Sb_2Te_3 under 980 nm illumination. The illumination power density is 1.4 mW/cm^2;Vsd=0 V.

S5. Dependence of noise power density on frequency with zero bias

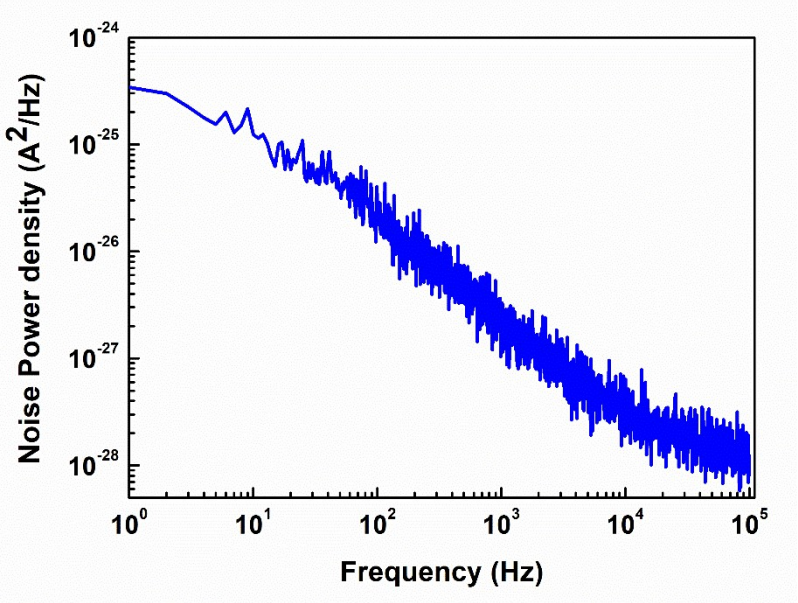

Figure S5 Dependence of noise power density on frequency with zero bias.