High-performance broadband phototransistor array of PdSe₂/SOI

Schottky junction

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Fig. S1 Optical image of the fabricated PdSe₂/Si phototransistor.

Fig. S2 UPS spectra of PdSe₂ film. The calculation formula of Fermi energy level of PdSe₂ is as
follows: \( E_c = 21.22 \, eV - 15.98 \, eV = 5.24 \, eV \).
Fig. S5 Photoresponse characteristics of PdSe$_2$/Si phototransistor to pulsed light irradiation at frequencies of (a) 1 kHz, (b) 5 kHz, (c) 10 kHz and (d) 15 kHz under 808 nm illumination. (e) Rising and falling edges for estimating the rise time ($\tau_r$) and the fall time ($\tau_f$) of PdSe$_2$/Si phototransistor at pulsed light frequency of 5 kHz under 808 nm illumination ($V_G = 0$ V and $V_{DS} = 0$ V). (f) Frequency response characteristic of PdSe$_2$/Si phototransistor.