

Supporting Information

Photovoltage Coupled Dual-gate InGaZnO Thin-Film Transistors Operated at Subthreshold Region for Low Power Photodetection

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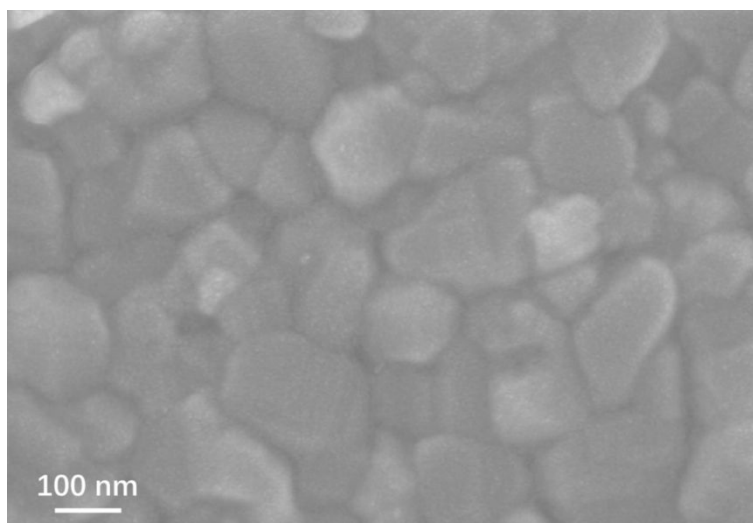


Figure S1. SEM image of the thermal evaporated perovskite film.

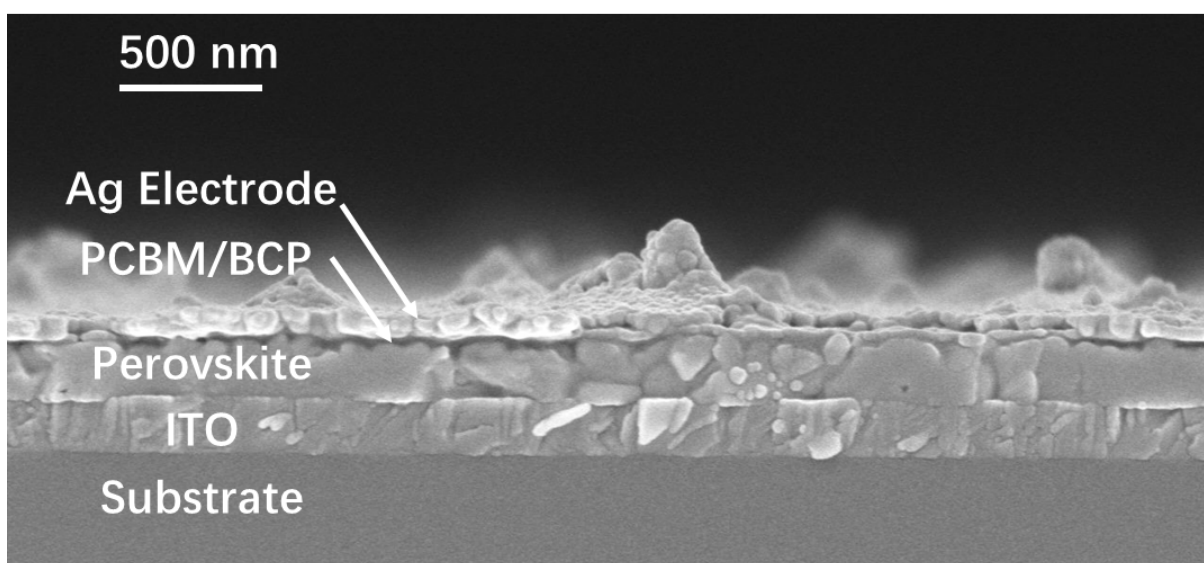


Figure S2. The cross-section structures of the thermal evaporated perovskite PD.

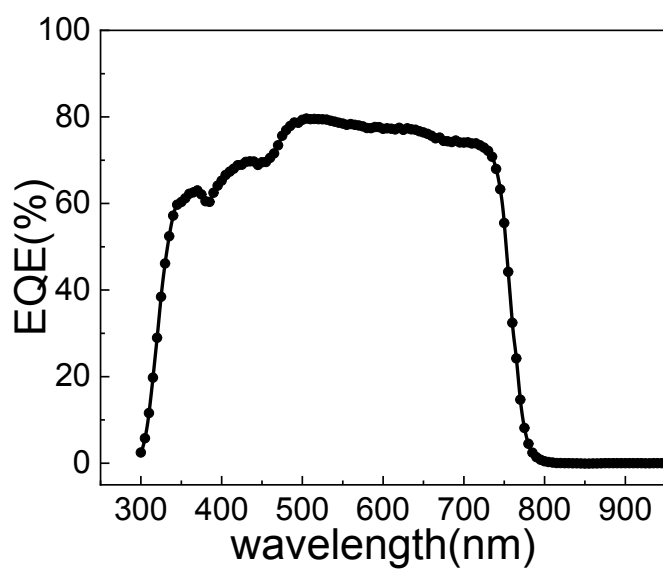


Figure S3. EQE results of the thermal evaporated perovskite photodiode.

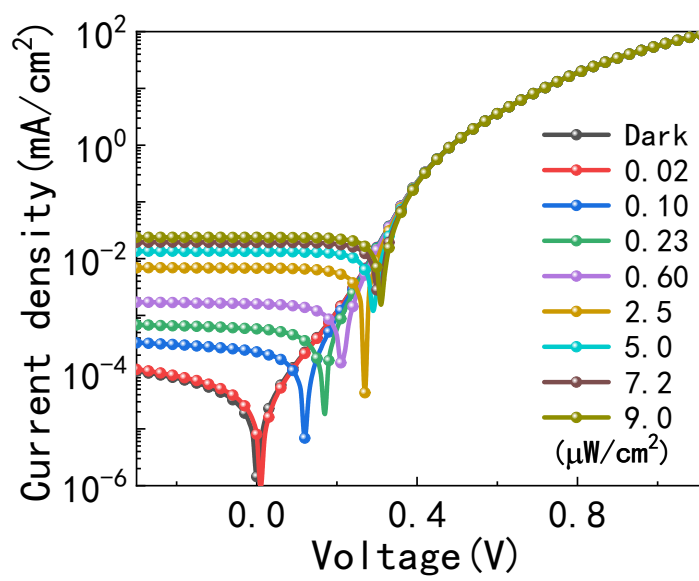


Figure S4. The current density-voltage curves of Si-based PD under dark and illumination with different light intensities.

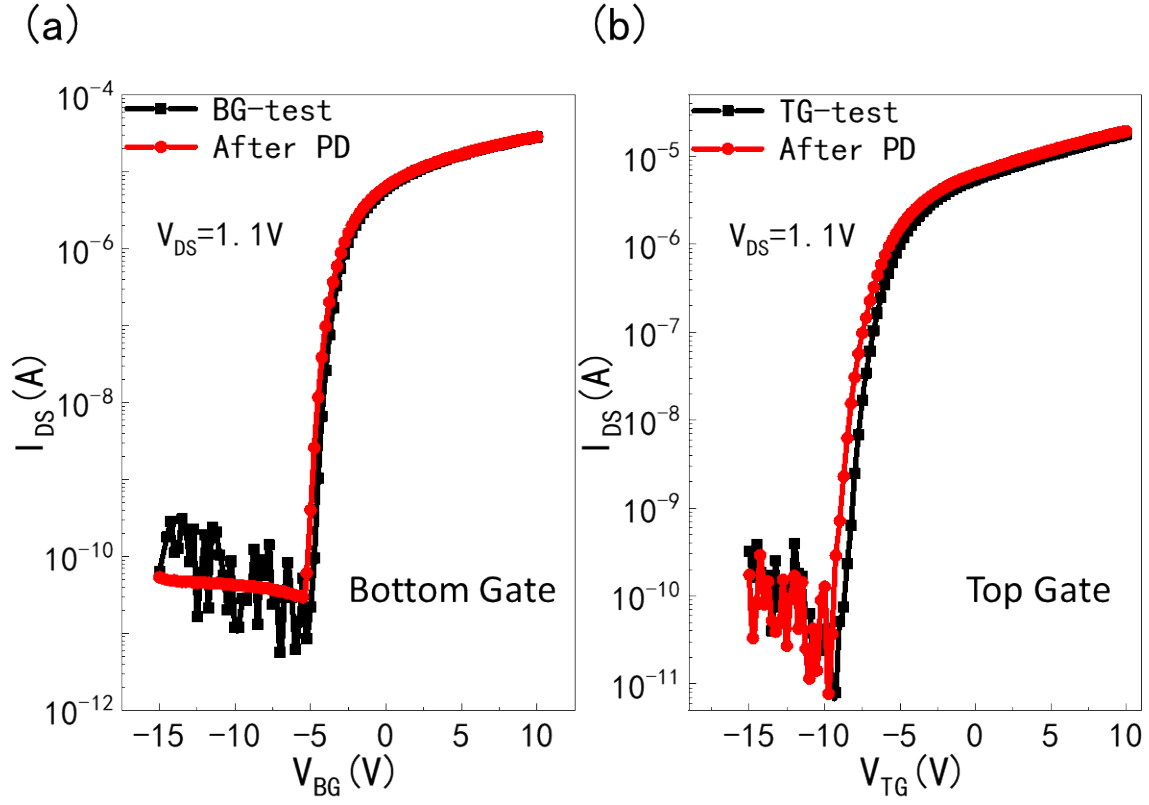


Figure S5. The transfer characteristics of DG a-IGZO TFT measured in (a) bottom-gate modes (b) top gate modes before and after the integration of perovskite PD (IGZO/PD).

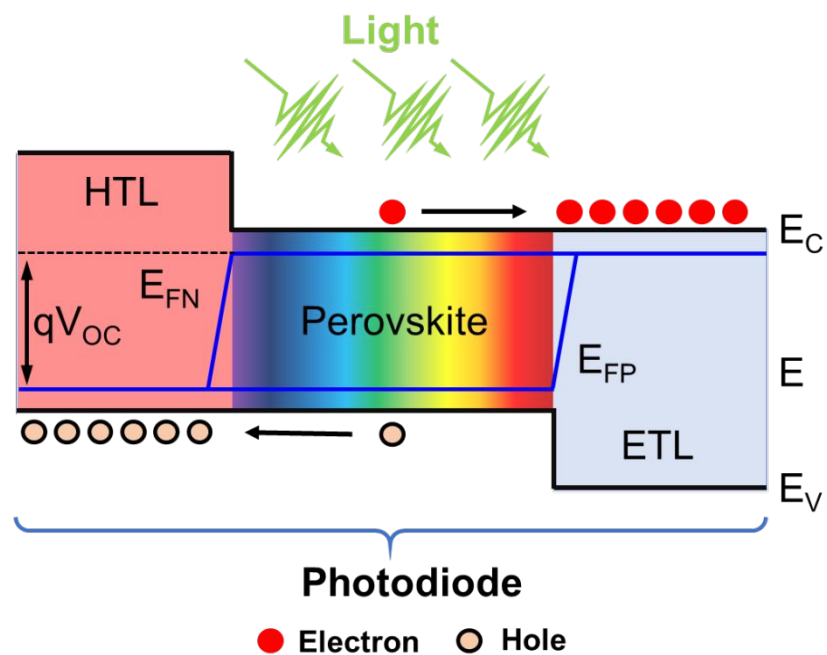


Figure S6. The energy band diagram of the integrated perovskite PD under illumination.

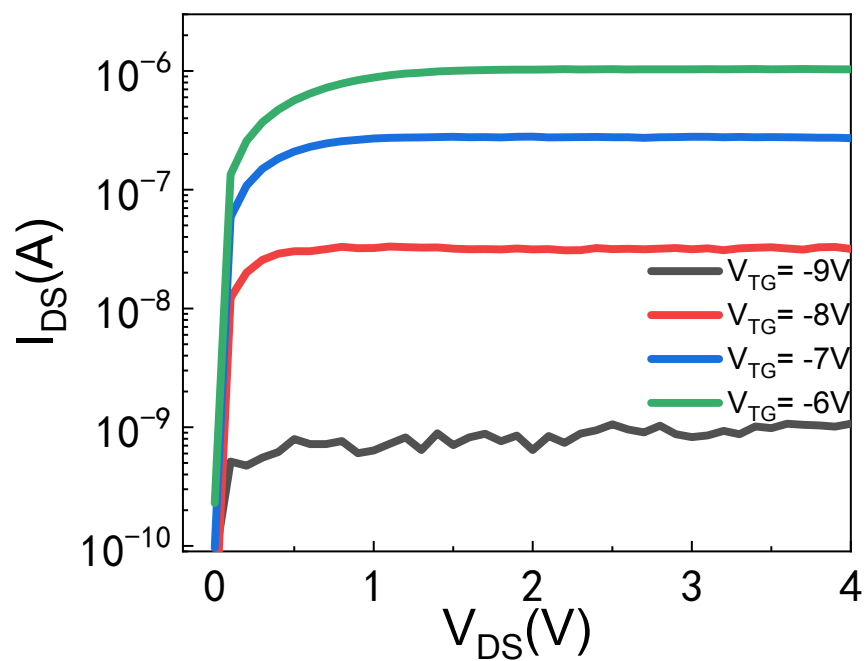


Figure S7. The output characteristic curve of the DG a-IGZO TFT in top gate operation mode.

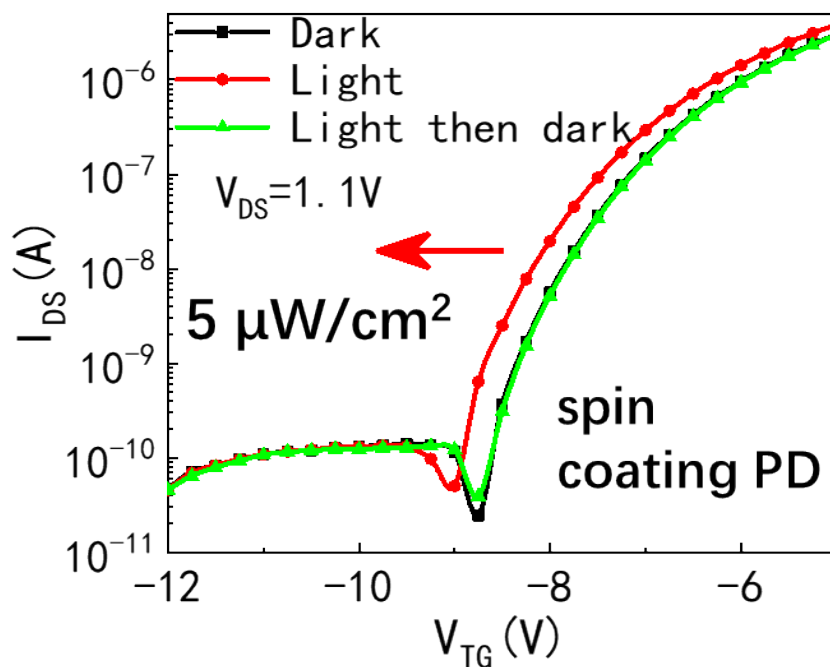


Figure S8. The photoresponse of spin coating PD integrated with DG a-IGZO TFT pixel in the log axis. In dark, light illumination with an intensity of $5 \mu\text{W}/\text{cm}^2$ and after the light illumination, the integrated system can return to the dark state.

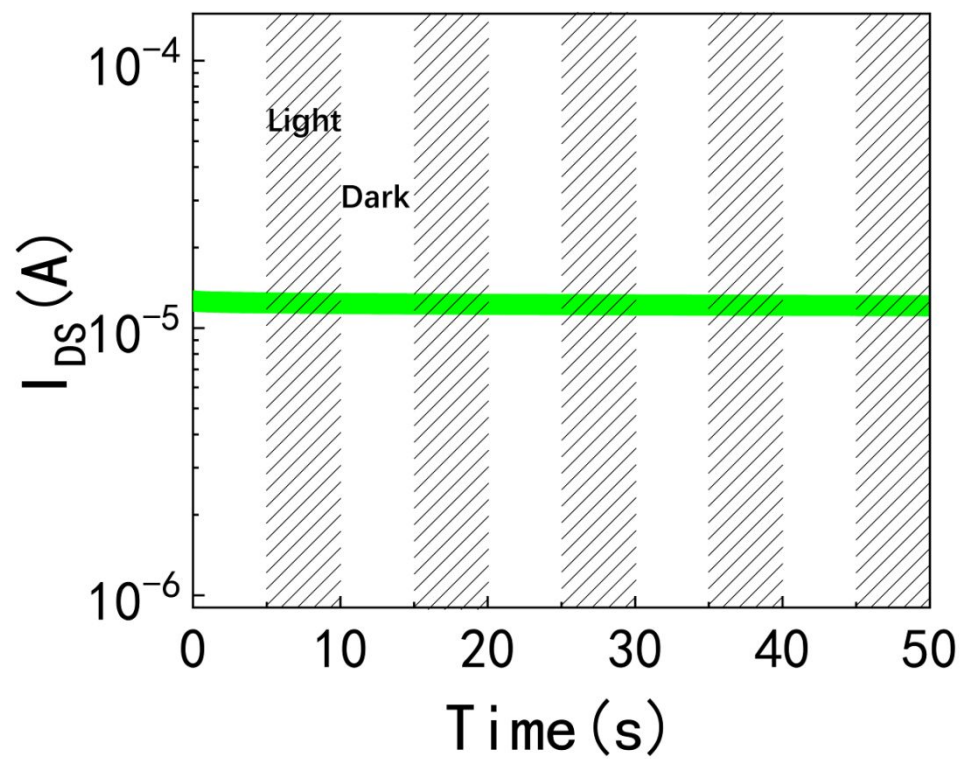


Figure S9. The transient response of pristine DG a-IGZO TFT to pulse light. The pristine DG a-IGZO TFT shows no response to the light.