

Supplementary information

Wide Channel Broadband CH₃NH₃PbI₃/SnS Hybrid Photodetector: Breaking the Limit of Bandgap Energy Operation

Mohit Kumar^{†, ^}, Hong-Sik Kim,^{†, ^, #} Dae Young Park[#], Mun Seok Jeong [#] and Joondong Kim^{, †, ^}*

[†] Photoelectric and Energy Device Application Lab (PEDAL), Multidisciplinary Core Institute for Future Energies (MCIFE), Incheon National University, 119 Academy Rd. Yeonsu, Incheon, 22012, Republic of Korea

[^] Department of Electrical Engineering, Incheon National University, 119 Academy Rd. Yeonsu, Incheon, 22012, Republic of Korea

[#] Department of Energy Science, Sungkyunkwan University, Suwon 16419, Republic of Korea

*E-mail: *J. Kim (joonkim@incheon.ac.kr)*

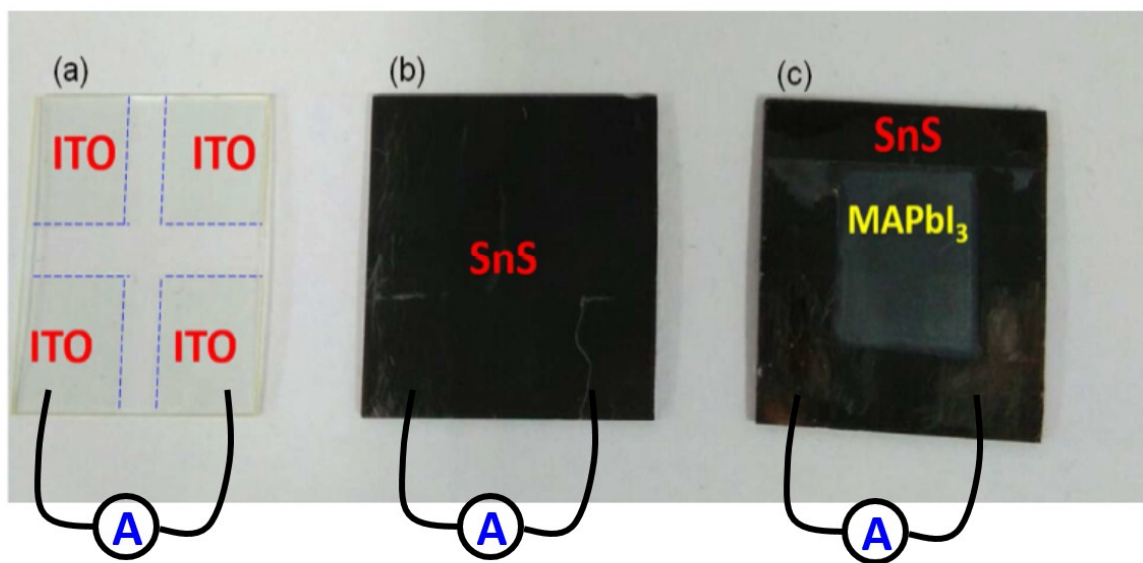


Figure S1. A photograph of the device. (a) The cross-shape patterned ITO, (b) SnS on patterned ITO, (c) Perovskite on top of the device.

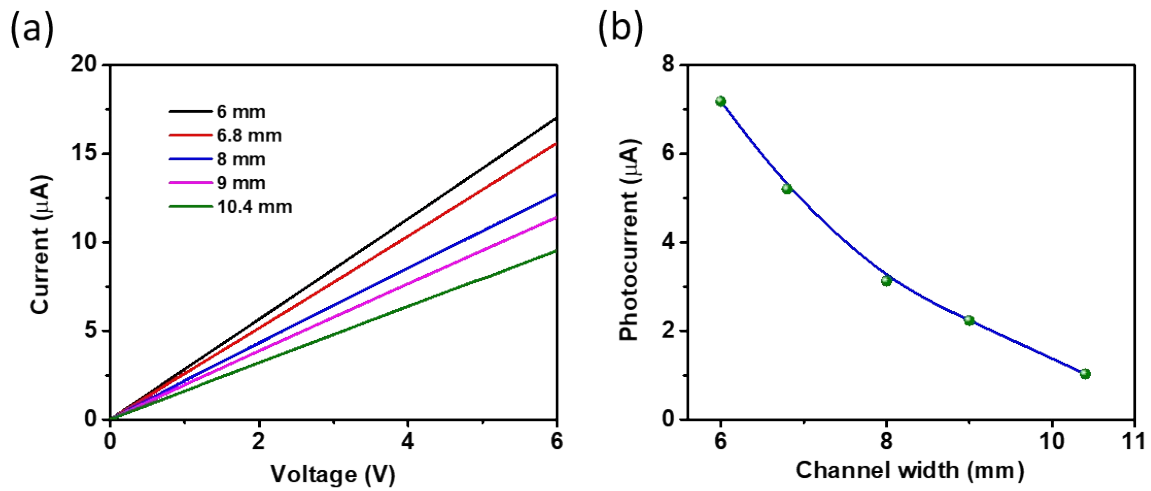


Figure S2. a) Dark $I-V$ characteristics of the $\text{CH}_3\text{NH}_3\text{PbI}_3/\text{SnS}$ device with different channel widths, b) The change in the photocurrent as a function of channel width.