Supplementary Information

Quantifying the barrier lowering of ZnO Schottky nanodevices under UV light

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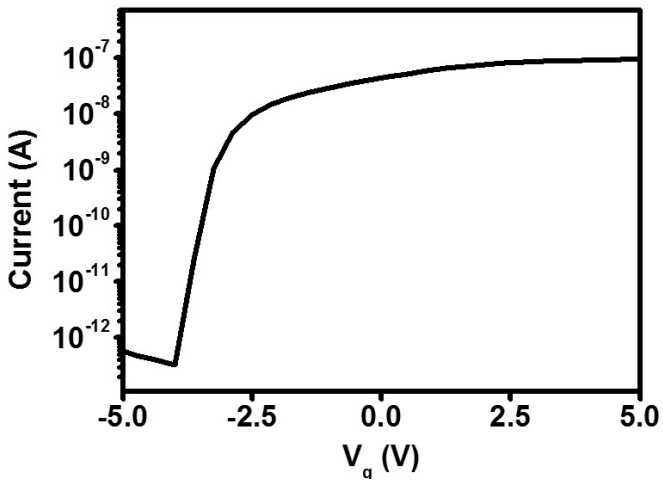

Figure S1. I_d–V_g curve of ZnO NW ohmic device recorded at a value of V_d of 1V

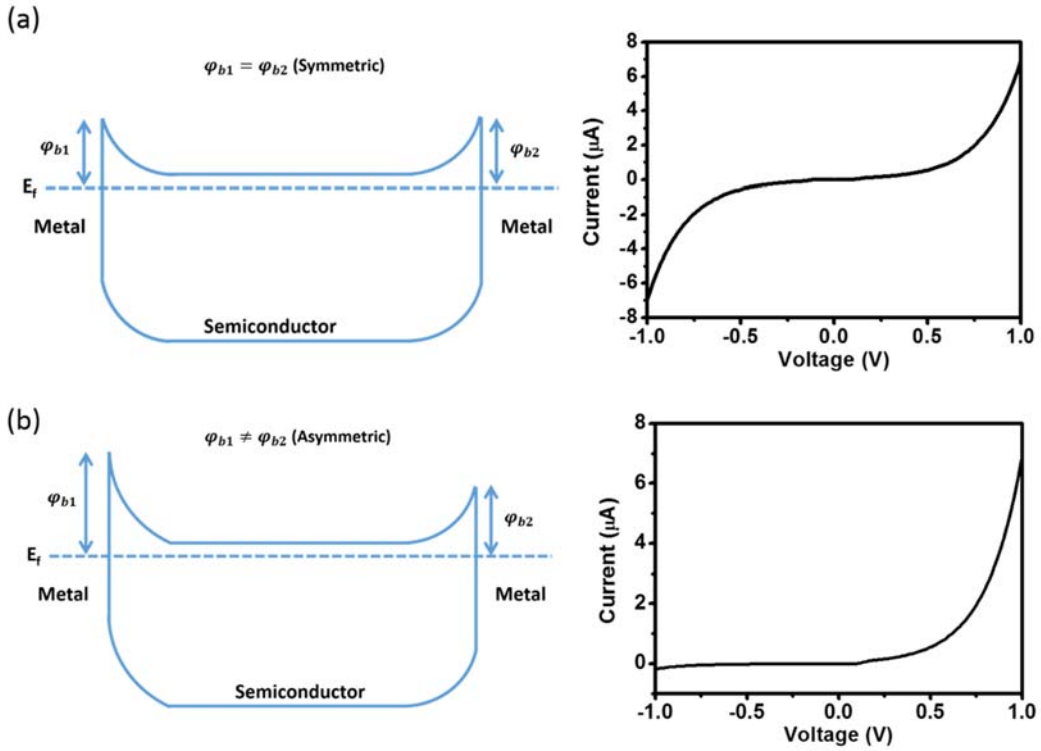

Figure S2. The band diagrams of the back-to-back Schottky device with (a) the same SBHs and (b) uneven SBHs. The corresponding simulated I-V curves are symmetric and asymmetric, respectively.

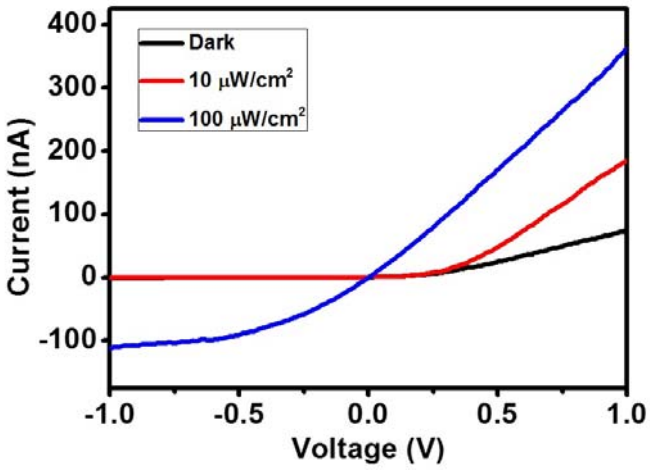

Figure S3. I-V curves of ZnO NW Schottky device at dark state and under 10 and 100 $\mu W/cm^2$ UV light illuminations.

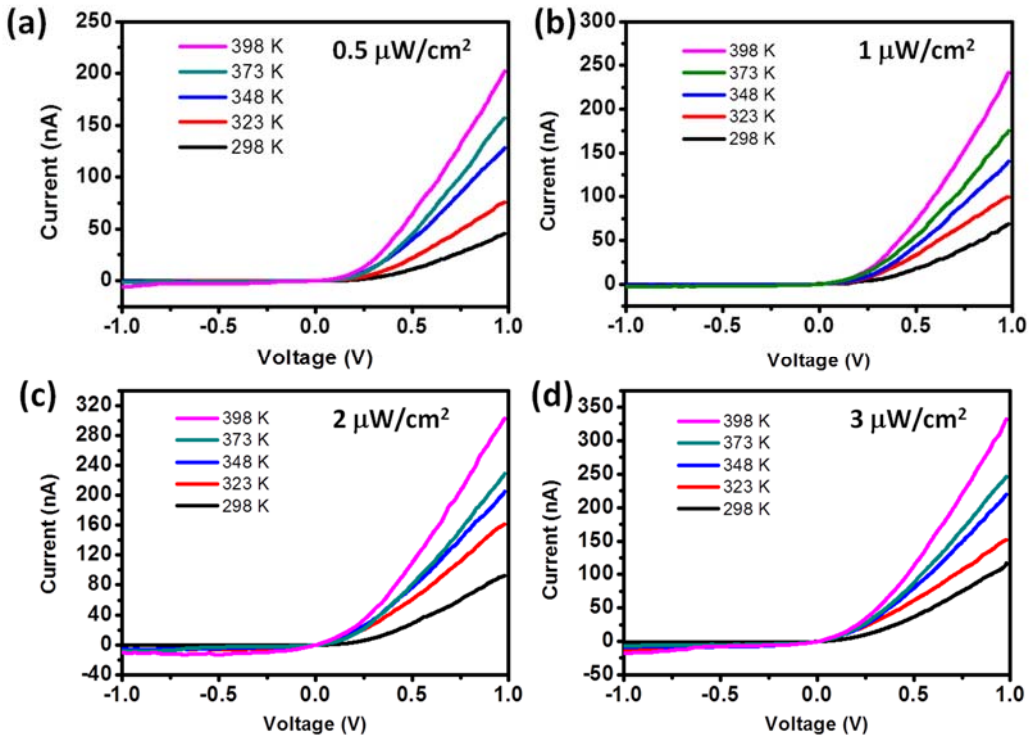

Figure S4. *I–V* curves of the Schottky device measured at temperatures ranging from 298 to 398 K under different UV illumination power density, (a) 0.5 μm/cm^2, (b) 1 μm/cm^2, (c) 2 μm/cm^2, and (d) 3 μm/cm^2.

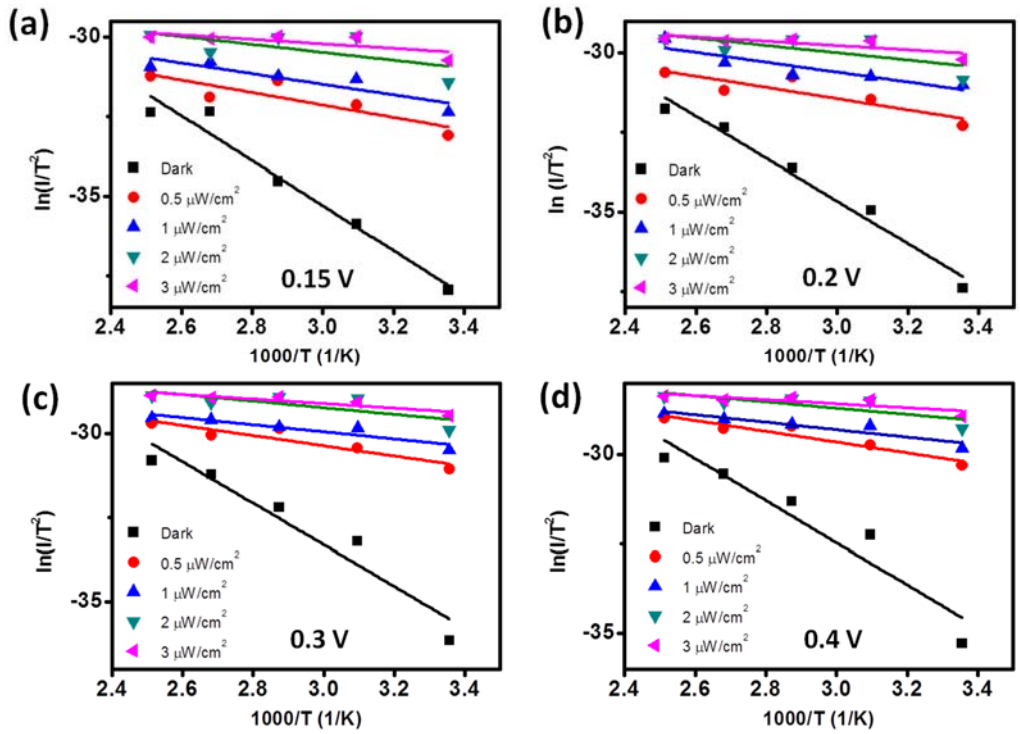

Figure S5. Plots of ln(I/T^2) versus 1000/T of devices measured under different UV illuminated power density, the data are extracted from Fig. S1 at (a) V = 0.15 V, (b) V= 0.2 V, (c) V=0.3 V, and (d) V=0.4 V.