Supporting Information

Performance Optimization in Gate-tunable Schottky Junction Solar Cells with Light Transparent and Electric-field Permeable Graphene Mesh on n-Si

Su Han Kim, Jae Hyung Lee, Jin-Sung Park, Min-Soo Hwang, Hong-Gyu Park, Kyoung Jin Choi and Won Il Park*
**Figure S1.** The difference of depletion zone areas between Gr-Si and GM-Si Schottky junctions (i.e., depletion area of GM-Si Schottky junction – depletion area of GM-Si Schottky junction) in Figure 4. The depletion zone was defined as the region whose electrical potential is smaller than 4.26 eV (dotted lines in Figure 4).
Figure S2. FEA simulation results for Gr-Si (a) and GM-Si (b) SJSCs with positive $V_g$. 
Figure S3. J-V plots of (a) Gr-Si and (b) GM-Si SJSCs that have initially poor performance (presumably due to poor interface between graphene and Si), under AM1.5G illumination and the indicated $V_g$ applied to the gate electrode. Bottom: The corresponding photovoltaic parameters.