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(54) **Title**: ELECTRONIC GATE ENHANCEMENT OF SCHOTTKY JUNCTION SOLAR CELLS

(57) **Abstract**: Various systems and methods are provided for Schottky junction solar cells. In one embodiment, a solar cell includes a mesh layer formed on a semiconductor layer and an ionic layer formed on the mesh layer. The ionic layer seeps through the mesh layer and directly contacts the semiconductor layer. In another embodiment, a solar cell includes a first mesh layer formed on a semiconductor layer, a first metallization layer coupled to the first mesh layer, a second high surface area electrically conducting electrode coupled to the first metallization layer by a gate voltage, and an ionic layer in electrical communication with the first mesh layer and the second high surface area electrically conducting electrode. In another embodiment, a solar cell includes a grid layer formed on a semiconductor layer and an ionic layer in electrical communication with the grid layer and the semiconductor layer.