

ABSTRACT

The present invention relates to the field of solar cells, and in particular to a main-gate-free and high-efficiency back-contact solar cell module, a main-gate-free and high-efficiency back-contact solar cell assembly, and a preparation process thereof. The solar cell module, comprising cells and an electrical connection layer, a backlight side of the cells having P-electrodes connected to a P-type doping layer and N-electrodes connected to a N-type doping layer, is characterized in that the electrical connection layer comprises a number of parallel leads each electrically connected to the P-electrodes or the N-electrodes. The present invention has the beneficial effect that a main-gate-free and high-efficiency back-contact solar cell module, a main-gate-free and high-efficiency back-contact solar cell assembly, and a preparation process thereof are provided, which can effectively the short-circuiting of the P-electrodes and the N-electrodes and has the advantages of low cost, high hidden-cracking resistance, high efficiency and high stability.

Fig. 5