



Espacenet

CN114613865A Solar cell and preparation method thereof

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Solar cell and preparation method thereof

Abstract

The invention provides a solar cell and a preparation method thereof. The solar cell comprises a silicon substrate, a front electrode and a back electrode, the front electrode and the back electrode are arranged on the two sides of the silicon substrate respectively, the silicon substrate is provided with a first part and a second part which are adjacent, and a tunneling layer and a doped polycrystalline silicon layer are sequentially arranged on the front face of the first part in a stacked mode; the front electrode is in contact with the doped polycrystalline silicon layer, and a doped layer is formed on the front surface of the second part; an intrinsic amorphous silicon layer, a doped amorphous layer and a transparent conductive layer are sequentially stacked on the back surface of the silicon substrate, and the back electrode is arranged on the surface of one side, deviating from the silicon substrate, of the transparent conductive layer. According to the solar cell and the preparation method thereof, the passivation performance of the surface of the cell can be improved, the recombination loss and contact resistance of the position of the front electrode can be reduced, meanwhile, the absorption loss of incident light can be reduced, the doped amorphous layer can also avoid the back high-temperature doping process, defects possibly caused by high temperature can be reduced, and the service life of the cell can be prolonged.