METHOD FOR CONNECTING SOLAR CELLS

TECHNICAL FIELD

[0001] Embodiments of the subject matter described herein relate generally to techniques for interconnecting solar cells. More particularly, embodiments of the subject matter relate to techniques for handling interconnects for solar cells to reduce fabrication inefficiency.

BACKGROUND

[0002] Interconnects are used to electrically couple adjacent solar cells. Because photovoltaic solar cells can be arranged in serial electrical connections, the negative electrical terminals of one solar cell are electrically connected to the positive electrical terminals of a neighboring solar cell. This connection can be made with an electrically-conductive metal piece called an interconnect. Such interconnected photovoltaic solar cells can be later used in a solar panel.

[0003] Interconnects are typically joined to one or more electrical terminals of a solar cell with solder. Soldering interconnects to solar cells in a manufacturing environment can require an expensive, multi-step process. Improving the manufacturing efficiency of this step of producing solar panels from individual solar cells can advantageously reduce the cost to produce solar panels.

SUMMARY

[0003a] According to a first aspect of the invention, a method of connecting two solar cells is provided, comprising: gripping an interconnect with a head of positioning device; heating the interconnect with the head of the positioning device to between a first predetermined temperature and a second predetermined temperature, where the second predetermined temperature is higher than the first predetermined temperature; positioning the interconnect so as to overlay two adjacent solar cells; coupling the interconnect to each of the two adjacent solar cells; and releasing the interconnect from the head.

[0003b] According to a second aspect of the invention, a method of coupling two solar cells is provided, comprising: heating an interconnect with a head of a gripping device, the interconnect comprising a plurality of solder paste preforms; positioning the heated interconnect such that it overlays two solar cells, the solar cells adjacent one another; and pressing the heated interconnect onto the two solar cells.

[0003c] According to a third aspect of the invention, a method of preparing an interconnect for coupling two solar cells is provided, comprising: coupling the interconnect to a head of a positioning device; heating the interconnect with the head of the positioning device; adjusting the position of the interconnect by moving the head of the positioning device; and positioning the interconnect against both of the two solar cells.

BRIEF DESCRIPTION OF THE DRAWINGS

[0004] A more complete understanding of the subject matter may be derived by referring to the detailed description and claims when considered in conjunction with the following figures, wherein like reference numbers refer to similar elements throughout the figures.

[0005] FIG. 1 is a side view of an embodiment of an interconnect processing assembly;

[0006] FIG. 2 is a top view of an embodiment of an interconnect for solar cells;

[0007] FIG. 3 is a top view of two adjacent solar cells;