SOLAR PANEL WITH A STRUCTURE AND AT LEAST TWO PHOTOVOLTAIC CELLS

Technological advantages

Innovative :

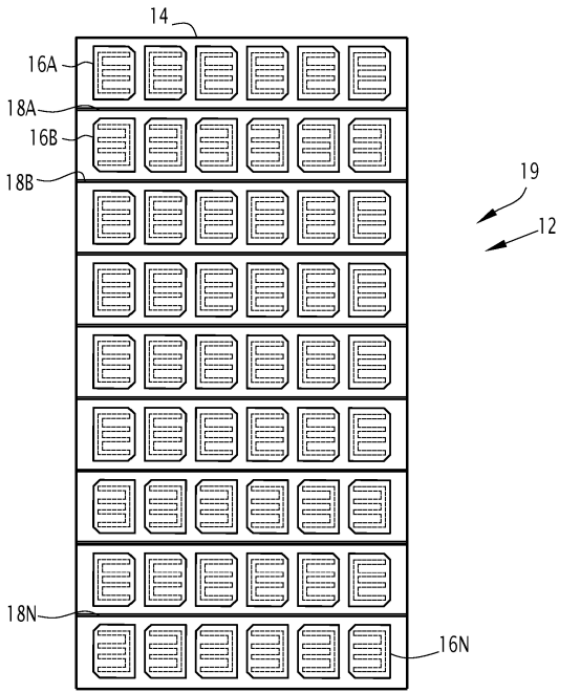
- Optimized solar panel cells geometric placement.

Efficient :

- Significant enhancement in electric arc protection.

Invention synthesis

The invention deals with a multi-cells solar panel with good protection against electric arcs.
Solar panels internal tensions, especially for space related use, can be very high (350V and more). Thus electric arcs may be triggered leading to partial or complete panel destruction. Because of the high tensions, present shielding may not be sufficient.
The invention set-up places neighboring cells in opposite facing directions such that the shortest path in the ambient medium is at least 20mm long. A protruding insulator made from a flexible, dielectric material (polyimide polymer) is placed when tensions gets larger than 30V. Spacing between opposite facing cells must be greater than 9mm.



Example of a solar panel according to this invention

(14) Solar panel
(16A,16B) Cells in opposite facing directions
(18A,18B) Protruding flexible dielectric insolator

Commercial benefits

- Significant enhancement in solar panel life span.
- Compatible with the increase in panels tension.
- Cost effective shielding method.

Potential applications

- Solar panels used for powering in space.

Patented invention - under license.

For more information :

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