

SEMI PV62-0215 (Reapproved 0121) TERMINOLOGY FOR BACK CONTACT PHOTOVOLTAIC (PV) CELLS AND MODULES

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1 Purpose

1.1 This Standard defines terminology for the manufacturing of back contacted PV cell and module technology, materials, processes, equipment and testing to ensure an unified terminology for this technology.

1.2 To facilitate, streamline and quickly mature this technology, a Terminology Standard for back contact cell and module manufacturing is needed.

2 Scope

2.1 Terminology in the following areas are covered.

2.1.1 Back contact silicon PV solar cell and module manufacturing processes.

2.1.2 Back contact silicon PV solar cell and module equipment.

2.1.3 Back contact silicon PV solar cell and module materials.

2.1.4 Back contact cell and module test methods.

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3 Limitations

3.1 This terminology only is used for back contact PV cell and module technology.

4 Referenced Standards and Documents

4.1 None.

5 Abbreviations and Acronyms

5.1 *BC* — back contact or back contacted

5.2 *BCS* — back contact sheet

5.3 *BiFi* — bifacial

5.4 *BS* — back sheet

5.5 *ECA* — electrically conductive adhesive

5.6 *EVA* — ethylene/vinyl acetate

5.7 *EWT* — emitter wrap through

5.8 *IBC* — interdigitated back contact

5.9 *MWT* — metal wrap through

5.10 *POE* — polyolefin elastomer

5.11 *PV* — photovoltaic

6 Definitions

- 6.1 *back contact (BC)* — to be used in combination with cell or module (e.g., BC Solar Cell, BC PV Module).
- 6.2 *back contact sheet (BCS)* — with an additional conductive layer also referenced to a conductive back sheet (e.g., copper, aluminum, or a combination).
- 6.3 *bifacial (BIFI)* — used in combination with cell or module. A bifacial cell or module that has an open structure on the backside of the cell and module to allow light to enter into the cell from the back.
- 6.4 *back sheet (BS)* — a sheet that forms the backside environmental barrier of a PV module.
- 6.5 *electrically conductive adhesive (ECA)* — is used to contact the PV cell to the conductive layer of the back contact sheet.
- 6.6 *ethylene/vinyl acetate (EVA)* — a kind of hot melt adhesive film, each layer tightly stick together, realizes the cell and the role of the air separation.
- 6.7 *emitter wrap through (EWT)* — where a plethora of vias enlarge the emitter surface of the cell.
- 6.8 *interdigitated back contact (IBC)* — a back contact cell, with interdigitated metal connections on the backside of the cell. The cell has no metallization on the sunny side of the cell.
- 6.9 *isolation material* — a type of isolation film or coating, either on the cell back surface, on the ribbon surface, or exists as a separate layer in the module.
- 6.10 *metal wrap through (MWT)* — where the metallization on the front of the cell is connected to the backside of the cell through a number of vias in the cell.
- 6.11 *polyolefin elastomer (POE)* — a kind of hot melt adhesive film.
- 6.12 *ribbon (conductor)* — conductive material, typical coppers a tin coated surface, to interconnect cell to cell.

7 Symbols

- 7.1 None.

8 Related Documents

- 8.1 *IEC Standards*¹

IEC 61836:2007 — Solar Photovoltaic Energy Systems – Terms, Definitions and Symbols

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