



Solar cell patent application conditions

A perovskite solar cell includes a first electrode; an electron transport layer on the first electrode, containing a semiconductor; a light-absorbing layer on the electron transport layer, containing a perovskite compound represented by a compositional formula ABX_3 where A represents a monovalent cation, B represents a divalent cation, and X represents a halogen anion; a hole ...

A solar cell panel or assembly including a string of solar cells, each solar cell having an oblique cut corner defining a space; a blocking diode positioned in correspondence with the space defined by said oblique cut corner; a first contact member connecting said blocking diode with the solar cell; a second contact member to connect said blocking diode to a metal ...

Olga Malinkiewicz and her team have been chosen as the winners, by an independent jury, in the "SMEs" category of the European Inventor Award 2024. The team were also chosen by the public to receive the Popular Prize. Malinkiewicz has been honoured as a winner in both categories for developing groundbreaking perovskite solar cells that efficiently ...

In particular, they include solar cells that release electrons when exposed to sunlight. ... heated or unheated two-roll mills, and the like. Additional examples of suitable compounding processes and conditions may also be found in the Kirk-Othmer ... Textured rolls are described in, e.g., U.S. Pat. No. 4,035,549 and U.S. Patent Application ...

CROSS REFERENCE TO RELATED APPLICATION [0001] This disclosure claims the priority of the Chinese patent application filed with the State Intellectual Property Office of China on Nov. 27, 2018 with the application No. 201821965911.8 and the invention titled "crystalline silicon solar cell and photovoltaic module", the entire contents of which are incorporated by reference in this ...

Data collection. Patents are downloaded from issued databases of the United States Patent and Trademark Office (USPTO). The USPTO is the most important such database, as the US is the center of the global economy and technological development, especially in solar cell industry, and as such the patents in the USPTO are more representative and valuable.

U.S. Patent Application 20210217907 for Crystalline Silicon Solar Cell And Preparation Method Therefor, And Photovoltaic Module ... and implantation conditions are as follows: an ion acceleration voltage is 10 kV, a beam current after acceleration is 120 mA, and a vacuum degree of an ion implantation chamber is 2×10^{-5} Torr. ...

A solar cell module is constructed from light-receiving surface and back surface panels, a solar cell matrix comprising a plurality of solar cells sandwiched between the panels, and a silicone encapsulant layer for encapsulating the solar cell matrix. A silicone encapsulant composition is to form the silicone encapsulant layer that has a storage elastic modulus of 1 ...



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The device may be a solar cell, subcell, or other optoelectronic device with a metamorphic or lattice-mismatched base layer, for which the low bandgap absorber region improves the effective bandgap combination of subcells and current balance within the multijunction cell, for higher efficiency conversion of the solar spectrum. ... Patent Number ...

EP2924755A3 EP15160752.0A EP15160752A EP2924755A3 EP 2924755 A3 EP2924755 A3 EP 2924755A3 EP 15160752 A EP15160752 A EP 15160752A EP 2924755 A3 EP2924755 A3 EP 2924755A3 Authority EP European Patent Office Prior art keywords compound solar cell perovskite transport layer electrode Prior art date 2014-03-27 Legal status (The legal status is ...

IPV requires wider optimal bandgaps than solar cells (1.8 vs 1.3 eV) due to the differences between the spectra of artificial lights versus solar radiation. For IPV applications, ...

Justia Patents US Patent Application for PEROVSKITE-SILICON TANDEM SOLAR CELL Patent Application (Application #20210273127) ... Dimensional and performance stability is such that the solar cell output between two humidity conditions (e.g., humidity measured as values that are at least 80% RH apart, preferably at least 70% RH apart, 60% ...

In what concerns the technological distribution, Fig. 5 b shows that 39% of the global patents belongs to solar cell technologies. The solar panels group forms the second ...

NREL's perovskite patent portfolio focuses on eight technology areas that are critical to the development of a commercial perovskite solar cell device. These patents reflect perovskite ...

Justia Patents US Patent Application for INVERTED METAMORPHIC MULTIJUNCTION SOLAR CELL Patent Application (Application #20220254948) ... whereas even the most efficient silicon technologies generally reach only about 18% efficiency under comparable conditions. Under high solar concentration (e.g., 500x), commercially available III ...

@article{osti_1735085, title = {Organic-semiconducting hybrid solar cell}, author = {Ramos Murillo, Manuel Antonio and Nogan, John Joseph and Ambrosio Lazaro, Roberto Carlos and Rodriguez Gonz#225;lez, Claudia Alejandra and Ortiz Diaz, Manuela and Enriquez-Carrejo, Jose Luis and Mireles Jr. Garcia, Jose}, abstractNote = {The embodiment of this ...

The patents that stand out in this TR are: US20040200520A1 (Metal contact structure for solar cell and method of manufacture), US20050016585A1 (Manufacturing a solar cell with backside contacts), US20060130891A1 (Back-contact photovoltaic cells) and US20070186970A1 (Solar cell and method of fabricating the same).

The embodiment of this invention lies on experimental evidence of photoconductivity activity of a hybrid



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solar cell, organic/chalcogenide. The device is made of thin layers of conductive indium-tin-oxide (ITO) on glass with a 100 nm layer of chalcogenide molybdenum di-sulfide (MoS₂) and a thin layer of about ~50 nm of complex organic compound assembled at room temperature.

The patents on photovoltaic cells are concentrated in the area of semiconductors for the conversion of solar radiation into electric energy, in the area of ...

The literature about photovoltaic solar cell technology considers three generations. Table 1 presents the main photovoltaic technologies: first generation (fully commercial) systems that use crystalline silicon technology in both their simple crystalline form and polycrystalline; second generation systems that are based on photovoltaic thin and ...

the present disclosure relates to a perovskite solar cell (PSC) for photovoltaic (PV) applications, including indoor and outdoor solar structures, glass-based solar cell modules,...

Flexible solar cells have a lot of market potential for application in photovoltaics integrated into buildings and wearable electronics because they are lightweight, shockproof and self-powered.

Solar cells are the electrical devices that directly convert solar energy (sunlight) into electric energy. This conversion is based on the principle of photovoltaic effect in which DC voltage is generated due to flow of electric current between two layers of semiconducting materials (having opposite conductivities) upon exposure to the sunlight [].

Learn how solar cell technology evolved from selenium, heat and thermopiles to silicon and photovoltaics over 180 years. Explore the patents filed by pioneers such as Fritts, Mouchot, Weston and Severy.

7. The solar cell according to claim 3, wherein the third oxide sub-layer is a phosphorus-doped silicon oxide layer, and a doping concentration of phosphorus in the phosphorus-doped silicon oxide layer is in a range from $1 \times 10^{10} \text{ cm}^{-3}$ to $1 \times 10^{18} \text{ cm}^{-3}$, and/or a doping concentration of phosphorus in the phosphorus-doped silicon oxide layer increases ...

The table contains patent applications of categories A and B. The main point of this search was that mainly the innovations from the following areas were protected: reuse of materials used in solar cells and reuse of chemicals used in the manufacturing process of solar cells. Figure 11 shows the patent applications of A and B category by country.

The present application provides a perovskite solar cell, including conductive glass, a hole transport layer, a perovskite layer, an electron transport layer and a back electrode, where a passivation layer may be disposed between the hole transport layer and the perovskite layer, and the passivation layer may include an amide and/or a cation thereof, where the ...



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A method for generating electric power including the steps of: (a) preparing a solar cell having a condensing lens and a solar cell element, wherein the solar cell element includes an n-type GaAs layer, a p-type GaAs layer, a quantum tunneling layer, an n-type InGaP layer, a p-type InGaP layer, a p-type window layer, an n-side electrode, and a p-side ...

Current boundary conditionsThe polymer solar cell is most similar to current thin film photovoltaic solar cells such as amorphous silicon, CdTe and CIGS. ... It is clear that polymer solar cell patent applications published in 2003-2007 are dominated by US and Japanese filings as they represent 62% of the patents. The majority of the patents ...

Justia Patents US Patent Application for FLEXIBLE SOLAR CELL Patent Application (Application #20210288277) FLEXIBLE SOLAR CELL . Sep 27, 2017 - SEKISUI CHEMICAL CO., LTD. The present invention aims to provide a flexible solar cell having excellent high-temperature, high-humidity durability and excellent initial performance. The present ...

Perovskite/silicon tandem solar cells have the potential to achieve high efficiencies through improvements to the optical and electrical parameters of perovskite/silicon ...

The EPT found is the patent US20160197204A1 "Solar cell and method for manufacturing the same" and developed a solar cell formed by a crystalline semiconductor ...

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