

What are the patents on photovoltaic cells?

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 generators for the direct conversion of light energy into electric energy and in the area of solar panels adapted for roof structures.

Who invented the solar cell?

In 1941, Russell S Ohl at Bell Labs invented the first silicon solar cell, securing US patent no 2,402,662 on his invention. In the '662 patent, Ohl described a process of forming a silicon ingot using silicon of a high degree of purity, ideally around 99.85%.

Why are photovoltaic cell patent registrations important?

Photovoltaic cell patent registrations are a valuable data set in the analysis and diffusion of PV technology and R&D activities. The dynamics of PV R&D activity is considered high, documented in a large increase in PV patent documents .

How many patents does first solar have?

In the ninth position, with 151 patents, is First Solar, a US company one of the largest manufacturers of photovoltaic solar modules with production units in the United States, Malaysia, Germany and Pakistan.

Who invented a photovoltaic cell?

In 1954, Bell Labs' Daryl Chapin, Calvin Fuller, and Gerald Pearson created a silicon single-crystal photovoltaic (PV) cell capable of about 6% conversion efficiency with direct sunlight, enough to power an electric device for several hours of a day. 15 Their patent, US patent no 2,780,765, issued in 1957.

Are photovoltaic cells a technological development?

There is a prominence of deposited patents for polymer-based photovoltaic cell technologies, carbon nanostructures, III-V compounds, CdTe and amorphous silicon cells. The objective of this article is to identify the technological development of photovoltaic cells by the analysis of patents.

Solar cell technology has seen exponential growth over the last two decades. It has evolved from serving small-scale niche applications to being considered a mainstream energy source. In this article, Finnegan attorney ...

Solar-cell efficiency is the portion of energy in the form of sunlight that can be converted via photovoltaics into electricity by the solar cell. ... Mean harmonized energy payback time varied from ...

Abstract: The present invention is aimed at providing a float aggregate which can be manufactured at low cost and has countermeasures against wind pressure suitable for use on water. According to the present invention,

provided is a float aggregate formed by connecting a plurality of floats configured for mounting a solar panel thereon, wherein the solar panel is ...

Abstract: This paper researches the fields of solar cell based on the data of patent literature sides conventional methods of information analysis such as statistic,associate and so on,this paper adopts some new methods and some conclusions that what is the main technology development trend and what the key companies are doing,are obtained which is ...

How a Solar Cell Works. Solar cells contain a material that conducts electricity only when energy is provided--by sunlight, in this case. This material is called a semiconductor; the "semi" means its electrical conductivity ...

A patent is the granting of a property right by a sovereign authority to an inventor. A patent provides the inventor exclusive rights to the patented process, design, or invention ...

According to data from the CNIPA, the annual growth rate of patent applications in China's photovoltaic industry has reached 23.1%, and the quality of patents is steadily improving. Chinese enterprises have already emerged as global leaders in the photovoltaic conversion efficiency of solar cells.

The main component of a solar panel is a solar cell, which converts the Sun's energy to usable electrical energy. The most common form of solar panels involve crystalline ...

Solar cells, also known as photovoltaic cells, are a revolutionary technology that harnesses the power of the sun to generate electricity for homes. This clean and renewable energy source has gained popularity in recent years as concerns about climate change and environmental sustainability have become more prevalent. But how exactly do solar cells work ...

Patent systems exist to encourage innovation by providing a government-granted monopoly in return for public disclosure of new inventions. Thus, analysis of published patent data can provide a useful indicator of research and development activity in any field of technology. An analysis of solar energy inventions reveals some interesting trends.

The Historical Roots of "Patent" Where does this word come from? It turns out the term "patent" has Latin roots. The word "petrera," from which patent is derived, means "lying open" or "open to view." In medieval England, the term "letters patent" was used to describe open letters or decrees from the monarchy.

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