

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.

Which country has the highest number of patent registrations for photovoltaic cells?

Is to identified the technological development of photovoltaic cells by the analysis of patents. The main depositor countries are the USA,China,Japan,Germany and South Korea. American and Japanese organizations stand out with the highest number of patent registrations.

How many scientific publications are there in photovoltaic cells?

The number of scientific publications corroborates with the number of patents in terms of representativeness per country,since,through Fig. 6,it can be observed that of the 17,888publications,the United States,China,Japan,South Korea and Germany were the main countries that published on photovoltaic cells in the period 2004-2013. Fig. 6.

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.

How has photovoltaic technology developed over the last 30 years?

Photovoltaic technology has developed rapidlyover the last thirty years. The main activities of photovoltaic patents began in the late 1950s and the main photovoltaic patent assignees at that time were involved in the space business ,. Patent data has been widely used in technology assessment and forecasting ,,,

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.

Based on the understanding of solar cell technology, IPRdaily confined the relevant keywords and classification numbers, sorted out the data on solar cell patents that were applied for and publicly disclosed globally from ...

The photovoltaic cell may include a front transparent electrode connected to the n-type doped region, and a rear electrode connected to the p-type doped region. ... Justia ...

A tandem photovoltaic device includes a silicon photovoltaic cell having a silicon layer, a perovskite

photovoltaic cell having a perovskite layer, and an intermediate layer ...

A silicon heterojunction solar cell that has been metallised with screen-printed silver paste undergoing Current-voltage curve characterisation An unmetallised heterojunction solar cell ...

A patent landscape analysis was made over all OPV solar cell types, their substrates and encapsulation materials to provide an overview of global patent activity from a ...

The present invention relates to field of photovoltaic technology, and in particular to a kind of solar cell size printing process. Background technology The typography of conventional solar...

The key events were the Bell Labs announcement of the silicon solar cell in 1954 with the Pearson, Chapin, and Fuller patents in 1957 for the 8% efficient silicon solar cell ...

Innovations behind Oxford PV Perovskite Solar Cells. US10622409B2: Photovoltaic device. This patent describes a photovoltaic device that includes a photoactive ...

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Download : Download full-size image; Fig. 2. Evolution of PV patents by application country: (a) absolute values; (b) logarithmic scale. ... The EPT found is the patent ...

A 6-inch size solar cell was divided by the laser scriber; the size of the cell strip was 2.61 cm \times 15.67 cm; in addition, 20 divided cell strips were connected in series with an ...

Photovoltaic cells with high power-conversion efficiencies are more cost effective and more suitable replacements for conventional energy sources. ... 2005-09-20 Priority to ...

operatively coupling a perovskite photovoltaic cell comprising a perovskite layer to the silicon photovoltaic cell, thereby forming a tandem photovoltaic device and planarizing ...

The novel light conversion system includes photosensitive optoelectronic devices, or photovoltaic cells, that convert electromagnetic radiation into electrical currents without applying an...

US-based IntriEnergy has secured a patent for its PV cell tech platform that can increase the energy output of solar panels by up to 60% without increasing the panel size. ...

Improved photovoltaic cells utilizing for a semiconductor layer, titanium dioxide powders, consisting of porous particles, ranging in size from 0.1 to 10 microns (10^{-6} meters), and ...

The results indicate that 1) the number of patents deposited on photovoltaic cells grows every year, 2) the main depositor countries are the United States, China, Japan, ...

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 ...

The First Single-Crystal Silicon Solar Cell. Table 1.3 summarizes the events between 1950 and 1959 leading to the practical silicon single-crystal PV device. The key events were the Bell ...

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