

My country s solar cell patent

Which country has the most patent documents on photovoltaic cells?

The evolution of the total number of patent documents on photovoltaic cells per country in the period from 2004 to 2013 is shown in Fig. 7. It can be seen that the first two positions are occupied by the United States and China respectively, followed by Japan, Germany and South Korea. Fig. 7.

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.

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.

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 .

When was the first amorphous silicon solar cell invented?

The first amorphous silicon solar cell was reported by Carlson in 1976. In the market the same arose in 1981. The high expectation in this material was contained by the relatively low efficiency obtained so far and by the initial degradation induced by light.

How has photovoltaic technology developed over the last 30 years?

Photovoltaic technology has developed rapidly over 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 ,,,.

China has filed 126,400 global patent applications for solar cells, ranking the first in the world, according to data released by the country's National Intellectual Property Administration recently. In recent years, the average annual growth rate of patent applications in the country's photovoltaic industry has reached 23.1 percent.

According to news released on January 6, the latest data from the CNIPA reveals that China currently leads the world in the number of patent applications for solar cells, with a ...

Between 2010 and 2019, Asia accounted for 50% of all renewable energy PCT patent applications, 61% of

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which were for solar energy, whilst the US accounted for 20%, of ...

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, ...

According to the "104 patent, the solar cell has excellent electrical characteristics because the semiconductor substrate 100 is made of a single crystal semiconductor that has high crystallizability and therefore less defects. The "104 patent at 6:55-59. The front and/or back surface of the semiconductor substrate 100 may be textured or have ...

A perovskite solar cell having a stack of layers, wherein the layers are arranged in the following order: a front electrode layer 15, a photo-active layer 13 comprising a perovskite material, and a back electrode layer 11 comprising a porous carbon material having a plurality of open-through pores 111. The solar cell further comprises a charge transport material 12 that fills at least ...

According to the ranking list, LG Group, Jinko Solar and AIKO Technology rank the first, second and third place respectively, with 1,360 patents, 1,101 patents, and 931 patents accordingly,...

The European Commission (EC) has funded perovskite solar cell (PSC)-related projects since 2013, promoting their advancement within several subject areas. In this work, we provide a map to navigate PSC-related projects sponsored by the EC, dividing them into seven major topics and framing them into the global state of the art. Moreover, we delineate ...

Between 2010 and 2019, Asia accounted for 50% of all renewable energy PCT patent applications, 61% of which were for solar energy, whilst the US accounted for 20%, of which 61% were for solar, and Europe accounted for 28%, of which 37% were for solar. However, it is the increase in photovoltaic patent applications from China that is most stark ...

If you're innovating in the solar industry, patents will be a primary tool for legally protecting your IP. This is because solar power systems can typically be reverse engineered by competitors, which means you can't protect them as trade ...

Up to now, JinkoSolar has applied for over 3500 patents and has been granted more than 2000 patents. These patents cover a wide range of high efficiency solar cell and ...

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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 May 1, 2013 to April 30, 2023 (in combination with the application number), and then released



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the Global Ranking of Solar ...

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Russell S. Ohl at Bell Labs invented the first silicon solar cell, securing U.S. 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 per cent. He formed the ingot by fusing metallic silicon in powdered form in a silica crucible in an electric furnace and slowly cooling it ...

According to news released on January 6, the latest data from the CNIPA reveals that China currently leads the world in the number of patent applications for solar cells, with a total of 126,400 applications. This accomplishment underscores China's ...

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