

Which patents are related to solid-state batteries?

related to solid-state batteries. In that period, Knowmade has selected and analyzed all patents related to electrolyte, electrode, separator, battery cell, and battery pack.

Are alternative battery chemistries getting more patents?

Between 2012-2021, the number of patent families filed in CPC class H01M10/054,13 which relates to alternative battery chemistries, has steadily increased. The trends follow those seen for redox flow and solid-state battery technology, with a steady growth in the number of patent families filed in this class.

How many patent families are there in a solid-state battery?

The numbers represent the number of patent families. One patent family can belong to different segments. o In Q2 2021, there are 30+ newcomers in solid-state battery patent landscape. Most of them are Chinese companies

How many Chinese companies are pursuing a solid-state battery patent in Q2 2021?

o In Q2 2021, there are 30+ newcomers in solid-state battery patent landscape. Most of them are Chinese companies This table shows main new collaborations involving industrial applicants.

What is a solid state battery?

Solid State Batteries Solid state battery technology provides a promising means of overcoming some of the problems associated with traditional liquid electrolyte lithium batteries. Solid-state batteries use solid ceramic or polymer-based electrolytes instead of the traditional solvent-based liquid electrolytes.

What are alternative battery chemistries?

For example, sodium and aluminium chemistries provide two potential alternatives to traditional lithium-based battery chemistries. One reason for the interest in alternative battery chemistries is based on supply chain issues relating to lithium and its co-metals nickel, cobalt, and manganese.

The Y02E 60/10 international patent classification (IPC) is a specific technology classification indicating climate change mitigation technologies relating to energy storage ...

Search for Battery Charger Patents and Patent Applications (Class D13/107) Filed with the USPTO

Several South Korean material manufacturers entered the patent landscape in 2022 (i.e., first solid-state battery-related patent published in 2022). Kolon Industries is a South ...

Battery storage systems come in numerous forms, so for the purpose of this new standard MCS has adopted a

classification system aligned with the four EESS classes: ...

For Battery Pack Patents (Class 320/112) ... Assignee: TVS MOTOR COMPANY LIMITED Inventors: Prabhanjan Kumar, Senthilnathan Subbiah, Samraj Jabez ...

The push for renewable energy has led to a surge in global patent filings for battery technology. Lithium-ion batteries, while dominant, have drawbacks including resource ...

Patent attorney Ben Lincoln looks at the opportunities & challenges for intellectual property strategies in the light of the new EU Battery Directive. ... at least in view of the patent filings in ...

The combination of these strategies dramatically improves battery performance to the point where the performance recorded is comparable to batteries using conventional ...

Status of the Battery Patents -2017 Patenting Activity | April 2018 | Ref.: KM18004 KEY FEATURES OF THE REPORT (2/2) oThe report also provides an extensive Excel database ...

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The Y02E 60/10 international patent classification (IPC) is a specific technology classification indicating climate change mitigation technologies relating to energy storage using batteries.

Based on International Patent Classification (IPC) codes, we compare these two big datasets in three parts: IPC distribution, IPC co-occurrence network, and nation-IPC co-occurrence network.

The technical content of patent documents is classified in accordance with the International Patent Classification (IPC). The publishing office assigns an IPC symbol valid at the time of ...

2004-10-29 Priority to US10/979,043 priority Critical patent/US7807299B2/en ... Classifications. H ... a battery may be provided in the form of a button cell type battery having a diameter of ...

Before filing a Patent Application, any applicant should be sure about the type of application that he/she wants to file with the Patent Office. There are majorly five different ...

Disclosed is a lithium iron phosphate module having seventy-two (72) 26650 lithium iron phosphate cylindrical cells arranged in an 8S9P architecture, with the "S" being the ...

Depending on size, form, rechargeability, chemical composition, or any other factor, batteries can be classified into many types. Depending on their rechargeability, the cells ...

The trends follow those seen for redox flow and solid-state battery technology, with a steady growth in the number of patent families filed in this class. Top filers include: 14 United States: Toyota (150), Global Graphene ...

WHAT HAVE WE LEARNED ABOUT PATENT TRENDS IN BATTERY TECHNOLOGY? Looking specifically at battery technology, the patent classification system allows us to look at a range ...

The main findings are that patenting in batteries rises robustly and the lithium-ion battery is the most vibrant technology; lithium-sulfur and flow batteries are the most notable emerging ...

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