Balanced voltage of lithium battery pack protection board

What is a lithium battery protection board?
The lithium battery protection board is a core component of the intelligent management system for lithium-ion batteries. Its main functions include overcharge protection,over-discharge protection,over-temperature protection,over-current protection,etc.,to ensure the safe use of the battery and extend its service life.

What is a battery protection board?
Hardware-type protection board: Use special lithium battery protection chip, when the battery voltage reaches the upper limit or lower limit, the control switch device MOS tube cut off the charging circuit or discharging circuit, to achieve the purpose of protecting the battery pack. Characteristics: 1.

What are the technical parameters of lithium battery protection boards?
Prevent the battery from being damaged by excessive current. Important technical parameters of lithium battery protection boards include overcharge protection, over-discharge protection, over-current protection, short-circuit protection, temperature protection, internal resistance, power consumption, etc.

How to protect a lithium battery?
Use special lithium battery protection chip,when the battery voltage reaches the upper limit or lower limit,the control switch device MOS tube cut off the charging circuit or discharging circuit,to achieve the purpose of protecting the battery pack. Characteristics: 1. Only over-charge and over-discharge protection can be realized.

What happens if a lithium battery is used in pack?
When the lithium battery is used in PACK,it is more likely to over-charge and over-discharge,which is caused by the consistency difference of the cell. If the charging and discharging process is not properly controlled,it will be further increased,resulting in the phenomenon of over-charging and over-discharging of part of the cell.

How does a microcontroller control a lithium battery?
The microcontroller will send a control signal when the battery voltage and current exceed or fall below the set threshold. The MOS tubeis turned on or off to control the charge and discharge of the battery. Part 3. How does the lithium battery protection board protect the battery? 1. Overcharge protection

In terms of balance, there are two ways: active and passive. Passive balance: By discharging the number of strings with high voltage and recharging repeatedly, the voltage of each string of the battery can reach the expected voltage (that is, basically fully charged) over time.

Charge balance, or uniform charge for short, is a maintenance method that balances battery characteristics and prolongs battery life by increasing the charging voltage of the battery pack and activating the battery, so as to

prevent the deterioration of the imbalance trend.

Balanced management: the protection board can also realize the balanced management of the single voltage of the power lithium battery, ensure the voltage balance of ...

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You can customize the protection requirements of various additional functions for your lithium battery, such as communication function, SOC calculation, SOH estimation, warning function, recording function, display function, etc. Tritek can provide your battery with a professional protection board and BMS.

The 4S 18650 40A Lithium Battery Protection BMS Board - Balanced is designed to manage and protect 4-series lithium-ion battery packs, typically utilising 18650 cells. Operating at a nominal voltage of 14.8V (3.7V per cell) and a maximum charge voltage of 16.8V, this board offers comprehensive protection against overcharging, over-discharging, and short circuits, ensuring ...

Balance activation voltage: 4.17V-4.2V; Balance current: 100 mA; Size: Approx.: 48.4 x 20.1 x 4mm; Package included: 1 x Li-ion Battery 2S 20A Protection board. ATTENTION: These BMS protection modules may arrive "Activated". Apply 8.4V across the charge/load terminals will reset the board. If after assembling your pack, you have zero volts at ...

Lithium battery protection board principle. Lithium battery protection board includes all above functions, here is a diagram to explain in theory: When the protection board is normal, Vdd is high level, Vss and VM are low level, and DO and CO are high level. When any of Vdd, Vss and VM parameters change, the level of DO or CO terminal will be ...

For the life of the battery pack, it is recommended that the battery charging voltage not exceed 3.6v at any time, which means that the protective action voltage of the protection board is not higher than 3.6v, and the balanced voltage is recommended to be 3.4v-3.5v (each cell 3.4v has been charged more than 99 % Battery, refers to the static ...

Battery Management System (BMS) for Lithium Batteries. For high-voltage lithium batteries, a more advanced solution than protection boards is required. This is where a Battery Management System (BMS) comes into play. A BMS offers a wide range of additional functions that are crucial for larger battery packs, ensuring their safe and efficient ...

These boards are engineered to provide monitoring and protection functions for low-voltage lithium batteries. For high-voltage lithium batteries, a more comprehensive battery management system (BMS) is typically used, which offers a more nuanced and comprehensive monitoring of the battery pack. Main Parts &

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Functions of A Protection Board

In the application of MOS protection board, the two most critical indicators, I think one is the withstand voltage, the other is the on-resistance R (DSon), the former ...

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In the application of MOS protection board, the two most critical indicators, I think one is the withstand voltage, the other is the on-resistance R (DSon), the former represents the voltage that can withstand the entire battery pack and the charger voltage, such as 72V For lithium batteries, when we make protection boards, we cannot use 75N75 ...

Balanced management: the protection board can also realize the balanced management of the single voltage of the power lithium battery, ensure the voltage balance of each single battery during the charging and discharging process, and improve the overall performance of the battery pack.

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