Single-chip microcomputer lithium battery charging system

Which microcontroller is used in a battery charger system?
The schematics for the full charger system is shown in Appendix C. This system includes circuits that may be replaced by others at the designer's option. The PIC16C73Amicrocontroller is shown in the main schematic. However,a PIC16C72 may be used (for STAND-ALONE mode only) or a PIC16C711 (for STAND-ALONE mode,single battery).

How can microchip's Li-ion battery charge management controllers help you?
This application note shows how to take advantage of Microchip's fully integrated simple Li-Ion battery charge management controllers with common directional control to build a system and battery load sharing circuitry. The solutions are ideal for use in cost-sensi-tive applications that can also accelerate the product time-to-market rate.

Is intelligent battery charger based on MCU useful?
The hardware and software realization of intelligent battery charger based on MCU are presented. The charger studied in this paper has higher practical valueand accumulates a lot of practical experience for further research in the future. © 2019,the Authors. Published by Atlantis Press.

Can a microcontroller be used to charge a battery?
Complete battery charging applications may be developed quickly using a microcontroller. Add to this the serial communication capability of the microcontrol-ler,real-time data logging and monitoring is possible. Simple battery chargers use all analog components to accomplish their function.

Can a battery charger be made intelligent?
However,by using a micro-controller,a battery charger can be made intelligent. Flexibility to handle different technologies,volt-ages and capacities. The Microchip Technology PICREF-2 Intelligent Battery Charger (IBC) Reference Design offers a ready-made battery charger solution.

What is a minimum charger system?
The schematic for a minimum charger system is shown in Appendix B. This system will only charge batteries (no discharge). The PIC16C72 microcontroller is used in this system,which means it functions in stand-alone mode only. Also,voltage regulator U10 is used,and there is no input filter.

This applications note shows how to design a simple system load sharing with Microchip"s popular "Advanced Stand-Alone Li-Ion / Li-Polymer Battery Charge Management Controller with Autonomous AC-Adapter or USB-Port Source Selection" for ...

ChipSourceTek is a high-tech enterprise mainly engaged in independent research and development, as well as

agency sales of integrated circuits. ChipSourceTek currently specializes in consumer electronic components such as audio chips, driver chips, Mosfet chips, microwave radar chips, voice chips, charging management chips, lithium protection chips, touch control ...

This application note shows how to take advantage of Microchip"s fully integrated simple Li-Ion battery charge management controllers with common directional control to build a system and battery load sharing circuitry. The solutions are ideal for use in cost-sensi-tive applications that can also accelerate the product time-to-market rate.

Beijing Institute of Technology has developed a lead-acid battery management system with a single-chip microcomputer as the core for the North Bus BFC110EV . Beijing Institute of Technology has also undertaken the research project of the nickel-hydrogen battery pack and management module for EQ7200HEV hybrid electric car, which has been actually ...

Lithiumion batteries have become the most widely used rechargeable batteries due to their many advantages. Combined with the shortcomings of common chargers,I try to design a type of intelligent battery charger based on microcomputer.The hardware circuits of the system include microcomputer circuit, charge control circuit, voltage ...

This application note shows how to take advantage of Microchip"s fully integrated simple Li-Ion battery charge management controllers with common directional control to build ...

An effective battery charger maximizes battery capacity, extends battery life and monitors the charging process. We offer a large selection of battery management solutions supporting a variety of battery chemistries to solve your portable power conversion challenges. Our battery charge management controllers are reliable, low-cost and high-accuracy voltage regulation solutions ...

The invention provides a single chip microcomputer-based multifunctional smart battery charging system. According to the system, all controls are achieved only by a single chip microcomputer;...

This is a design of intelligent charger with battery capacity detection based on STC12C5AS2 single chip microcomputer. By connecting PC, users could set cut-off charge-discharge voltage and current directly to get monitor the no-man. It ...

resources, the use of solar photovoltaic cells lithium battery charging plate board, pre-24V lithium battery voltage through DC-DC conversion is about 400V DC high voltage, after the class by a

The BQ24074 is a versatile Li-ion battery charger IC capable of charging single-cell lithium-ion or lithium polymer batteries with high efficiency. It offers a wide input voltage range and supports USB On-The-Go (OTG) functionality. This is particularly useful in applications where the battery must be charged, and the

system needs to be powered simultaneously. The ...

In this paper, an intelligent charging system which is based on single-chip microcomputer system is introduced. The hardware and software realization of intelligent ...

This is a design of intelligent charger with battery capacity detection based on STC12C5AS2 single chip microcomputer. By connecting PC, users could set cut-off charge-discharge voltage and current directly to get monitor the no-man. It realized to judge limiting voltage and current automatically and has intelligent floating and trickle charge ...

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management controllers for single-cell Lithium-Ion batteries. The MCP7382X battery charger IC Family offers high-accuracy (±1%) solutions for single-cell Li-Ion battery charging applications. The devices can be used with an external P-channel MOSFET to form a 2 chip, low cost, low dropout linear charger. The MCP7328X products charge the ...

This paper extensively consults the scientific and technological literature, and through in-depth investigation, designs a battery intelligent charger based on STC89C52 single-chip computer ...

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