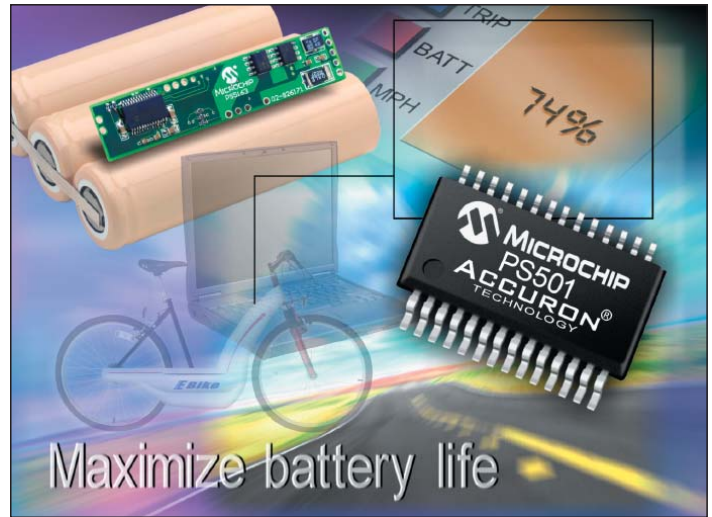
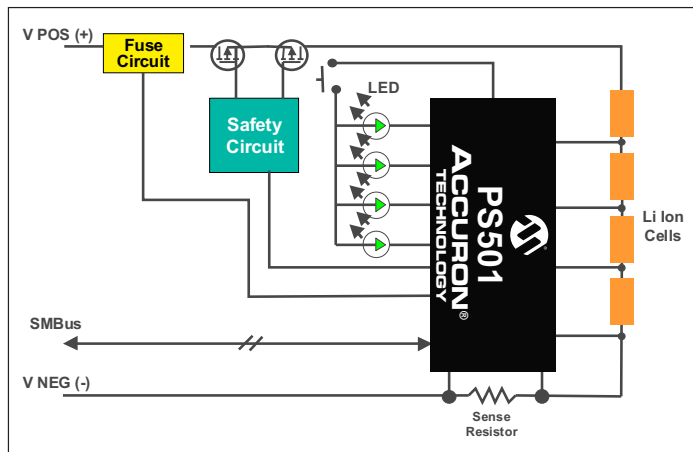


# The Microchip PS501 Battery Manager

The PS501 is a full-featured, SBS compliant battery manager that supports both 2-4 cell Li Ion/Li Polymer or 6-12 cell NiMH/NiCD battery packs. The PS501 incorporates the industry recognized PIC18F RISC microcontroller, 16 Kbytes of field reprogrammable Flash memory, 12 GPIO and a high resolution 16-bit A/D. To further optimize system design, the PS501 integrates a precision internal oscillator, temperature sensor and regulator. The PS501 implements Microchip's proprietary Accuron® technology, with advanced battery management algorithms and user customizable functionality, such as an LED-based State-Of-Charge display, charge control and safety for Lithium rechargeable chemistries. The resulting battery management solution provides the user with accurate State-Of-Charge, battery health and instantaneous battery status.



## PS501 Li Ion/Li Poly Application Block Diagram



## Features:

- Customizable battery algorithms and 3D cell models in 16 Kbytes Flash memory
- Learned battery parameters stored in 256 bytes of EEPROM
- Precise current, voltage and temperature measurement using an integrating 16-bit Sigma Delta A/D converter
- Integrated temperature sensor, voltage regulator and time base
- 12 GPIO for control of safety, charge control or LED SOC display
- Communication using fully compliant SBDData v1.1 command set over SMBus two-wire interface

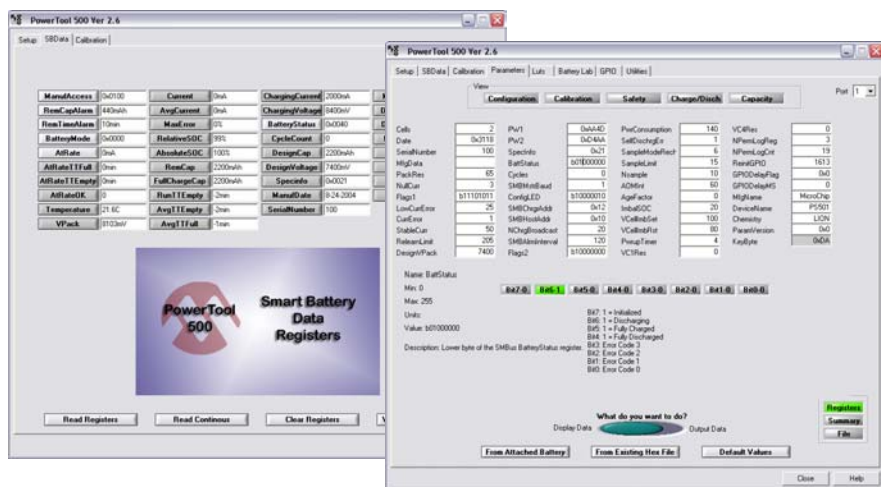
## Additional Information:

- Microchip's web site: [www.microchip.com](http://www.microchip.com)
- Microchip's PS501 Data Sheet, [Order No. DS21818](#)
- Microchip's PS5100 Data Sheet, [Order No. DS21903](#)
- Microchip's PS5162 Data Sheet, [Order No. DS21842](#)
- Microchip's PS5163 Data Sheet, [Order No. DS21851](#)
- Microchip's PS5164 Data Sheet, [Order No. DS21850](#)
- Microchip's PS051 PowerInfo™ 2 Configuration Interface Data Sheet, [Order No. DS21815](#)
- Microchip's PS052 PowerCal™ 2 Calibration Platform Data Sheet, [Order No. DS21817](#)
- Microchip's PS050 PowerTool™ 500 Development Software User's Guide, [Order No. DS21885](#)  
(PowerTool™ 500 may be referenced as PowerTool™ 2 in previous documents)

## Ordering Information

Product	Chemistry	Configuration	Description
PS501	Li Ion/Li Poly or NiMH/NiCD	2-4 cells in series or 6-12 cells in series	IC Single Chip Battery Manager
PS5100	NiMH or NiCD	6-12 cells in series	Battery Management Module without Safety
PS5162	Li Ion/Li Poly	2 cells in series	Battery Management Module w/ Safety
PS5163	Li Ion/Li Poly	3 cells in series	Battery Management Module w/ Safety
PS5164	Li Ion/Li Poly	4 cells in series	Battery Management Module w/ Safety
PS051	All	All	PowerInfo™ 2 Communication Board
PS052	All	All	PowerCal™ 2 Calibration Board
PS5100EV	NiMH or NiCD	6-12 cells in series	Evaluation Kit: Includes PS5100 Battery Management Module without Safety, PS051 PowerInfo™ 2 Communication Module, PS050 PowerTool™ 500 Software and Documentation
PS5162EV	Li Ion/Li Poly	2 cells in series	Evaluation Kit: Includes PS5162 Battery Management Module w/ Safety, PS051 PowerInfo™ 2 Communication Module, PS050 PowerTool™ 500 Software and Documentation
PS5163EV	Li Ion/Li Poly	3 cells in series	Evaluation Kit: Includes PS5163 Battery Management Module w/ Safety, PS051 PowerInfo™ 2 Communication Module, PS050 PowerTool™ 500 Software and Documentation
PS5164EV	Li Ion/Li Poly	4 cell in series	Evaluation Kit: Includes PS5164 Battery Management Module w/ Safety, PS051 PowerInfo™ 2 Communication Module, PS050 PowerTool™ 500 Software and Documentation

### PowerTool™ 500 Software



### PowerCal™ 2 Board



### PowerInfo™ 2 Board



**PowerTool 500 (PS050) software** – PowerTool 500 software is a Windows® based program that provides a comprehensive, user-friendly environment that simplifies both development and production of smart batteries.

**PowerInfo 2 (PS051) hardware** – Quick start RS-232 or USB to SMBus interface board enables complete setup and evaluation of ICs.

**PowerCal 2 (PS052) hardware** – Designed for calibration, programming and testing Microchip based smart batteries in the production environment.

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As of 08/24/04

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