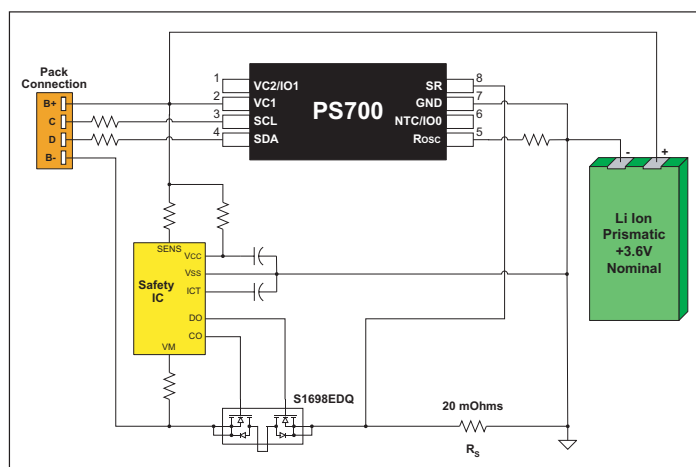# The Microchip PS700 Battery Monitor

The PS700 battery monitor is the newest member of the PowerSmart® product family, focusing on 1-2 series cell Lithium Ion (Li Ion) or 3-6 series cell NiMH chemistries. This integrated device contains an advanced 16-bit programmable A/D converter, which combined with advanced firmware, can yield battery capacity accuracy better than 1% error. The PS700 includes an internal temperature sensor, two oscillators, 512 bytes of EEPROM and utilizes standard SMBus communication. When using the PS700 in a single cell application, customers can use the secondary safety features which include conditions for voltage, current or temperature.

PS700 Application Block Diagram

Features:

- Measures, maintains and reports all critical rechargeable battery parameters with high accuracy
- Supports both Li Ion (1-cell and 2-cell) and NiMH (3 to 6-cell) battery packs
- Current measurement with 16-bit integrating A/D accurate to less than ±0.5% error
- Temperature measurement accurate to within ±2°C absolute, using on-chip temperature sensor or external thermistor
- Accumulation of charge current, discharge current, temperature and voltage in independent 32-bit registers
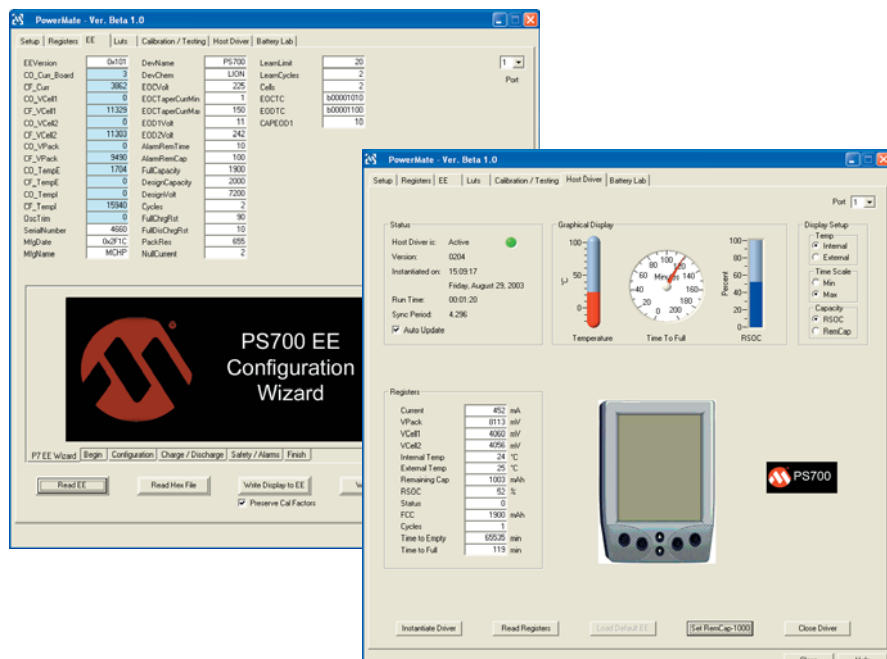- 512-byte nonvolatile EEPROM stores factory programmed, measured and user-defined parameters

Additional Information:

- Microchip's web site: **www.microchip.com**
- Microchip's *Technical Library CD-ROM,* Order No. DS00161
- Microchip's *Product Line Card*, Order No. DS00148
- Microchip's *PS700 Data Sheet*, Order No. DS21760
- Microchip's PS070 *PowerMate™ Development Software Data Sheet*, Order No. DS21774
- Microchip's *PS051 PowerInfo™ 2 Configuration Interface Data Sheet*, Order No. DS21815
- Microchip's *PS052 PowerCal™ 2 Configuration Interface Data Sheet*, Order No. DS21817

MICROCHIP

PowerSmart® Battery Management

www.microchip.com

Ordering Information

Product	Chemistry	Configuration	Description
PS700	Li Ion	1-2 cell in series	PS700 Single Chip Battery Monitor
	NiMH	3-6 cell in series	
PS7070EV	All	All	Development Kit – includes PS7070 evaluation board, PS700 IC, PS070 PowerMate™ software and PS051 PowerInfo™ 2 interface board, USB cable and documentation
PS070	All	All	PowerMate™ Development Software
PS051	All	All	PowerInfo™ 2 Interface Board
PS052	All	All	PowerCal™ 2 Calibration Platform

PowerMate™ Software

PowerCal™ 2 Board

PowerInfo™ 2 Board

PowerMate (PS070) tool – PowerMate 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) tool – Quick start RS-232 or USB to SMBus interface board enables complete setup and evaluation of ICs.

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

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Asia/Pacific

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China – Chengdu	86-28-86766200
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Taiwan	886-2-2717-7175

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Germany	49-89-627-144-0
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