MAX17801

Advanced, Smart Battery-Pack Controller

Industry's Smallest SBS-Compliant Battery Fuel Gauge with nFET Protection Drivers

Overview | Technical Documents | Ordering Info | Related Products | User Comments (0) | All

Status

All versions are No Longer Available. See Ordering Information for recommended replacements.

Description

The MAX17801 smart battery-pack controller integrates a user-programmable 16-bit MAXQ® microcontroller core, a coulomb-counting fuel gauge, a multichannel data-acquisition unit, and an SMBus v1.1-compliant master/slave SMBus interface. The 16-bit RISC microcontroller core integrates 32k words of user-programmable flash along with 4k words of ROM, which provide battery-pack designers with complete flexibility in developing fuel gauging and control algorithms. The IC is equipped with in-system debug (ISD) capability for efficient firmware development and debugging.

The device includes a 12-bit data-acquisition unit to measure individual cell voltages, thermistors, current, and pack voltage. Internally adjustable overcurrent thresholds and delay timers provide a flexible solution.

The integrating fuel-gauge module provides a typical input offset of less than 1µV, and gain accuracy of better than 1% with no trimming required during pack manufacture.

The IC has a wide 3.5V to 25V operating voltage range. The IC is available as a 38-pin TSSOP. The MAX17801 EV kit is available to assist with development.

Key Features

- ModelGauge™ m3 Algorithm
  - Long-Term Influence by Voltage Fuel Gauge Cancels Coulomb-Counter Drift
  - Short-Term Influence by Coulomb Counter Provides Excellent Linearity
  - Does Not Require Empty, Full, or Idle States to Maintain Accuracy
- 16-Bit MAXQ Microcontroller Core
- 32k x 16 Program Flash
- 4k x 16 Program ROM
- 1024 x 16 RAM
- 512 x 16 Data Flash
- Accurate Fuel Gauge Uses V-to-F Method
  - 1µV Input Offset Voltage
  - 1% Gain Error
  - 138nAh Resolution (5mΩ)
  - No Calibration Required
- 12-Bit ADC
- Integrated Development Environment (IDE)
  - C Compiler
  - Inline Assembler
- Eliminates Separate Primary-Protection IC
  - Individual Cell-Voltage Measurements with 0.5% Accuracy
  - n-Channel MOSFET Gate Drivers
  - Low-Current Charge Pump for Pass FET Drive
  - 8% Accurate Overcurrent Protection
  - Programmable Overcurrent Delay Timers
- 3-Pin, 6-LED PWM Driver
- SMBus v1.1 Compliant with Master Capability
- Typical Shutdown Current of 1nA
- Integrated 32kHz Oscillator: No Crystal
- Fully Integrated 3.4V and 1.9V LDOs

Reliability Reports

Show FIT data for: MAX17801 Go

Request Reliability Report for: MAX17801 Go

Software/Models

none

Ordering Information

Filters: Part Number: Package: Any Temperature: Any Tape and Reel Sample Go

Part Number	Free Sample	Buy	Status	Recommended Replacement	Package: TYPE PINS FOOTPRINT DRAWING CODE/VAR *	Temp	RoHS/Lead-Free? Materials Analysis
MAX17801DB+		N/A	No Longer Available		KIT; Land Pattern: Not Available	-40°C to +85°C	See data sheet
MAX17801EUU+		N/A	No Longer Available	MAX1789EUI+	TSSOP;38 pin;63.7 mm² Outline Drawing:21-0081 (PDF) Land Pattern: 90-0140 (PDF) Use pkgcode/variation: U38+2*	-40°C to +85°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX17801EUU+T		N/A	No Longer Available	MAX1789EUI+	TSSOP;38 pin;63.7 mm² Outline Drawing:21-0081 (PDF) Land Pattern: 90-0140 (PDF) Use pkgcode/variation: U38+2*	-40°C to +85°C	RoHS/Lead-Free: Lead Free Materials Analysis
MAX17801EVKIT+		N/A	No Longer Available	MAX1789EUEVKIT+	KIT; Land Pattern: Not Available		See data sheet
MAX17801EVMINIQU+		N/A	No Longer Available	MAX17801EVMQ2USB+	KIT; Land Pattern: Not Available	-40°C to +85°C	See data sheet
MAX17801EVMQ2USB#		N/A	No Longer Available		KIT; Land Pattern: Not Available	-40°C to +85°C	See data sheet
MAX17801EVMQ2USB+		N/A	No Longer Available		KIT; Land Pattern: Not Available	-40°C to +85°C	See data sheet

Notes:

1. Other options and links for purchasing parts are listed at: http://www.maxim-ic.com/sales.
2. Didn't Find What You Need? Ask our applications engineers. Expert assistance in finding parts, usually within one business day.
3. Part number suffixes: T or T&R = tape and reel; + = RoHS/lead-free; # = RoHS/lead-exempt; -D = drypack; -U/+U on DS parts = cut tape. More: See Full Data Sheet or Maxim Product Naming Conventions.
4. * Some packages have variations, listed on the drawing. "PkgCode/Variation" tells which variation the product uses. Note that "+", "#", "-" in the part number suffix describes RoHS status. Package drawings may show a different suffix character.

Similar Products by Application

Computers: Notebooks > Fuel Gauges
Uninterruptible Power Supply (UPS) > Fuel Gauge

Your Comments

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Didn't Find What You Need?

Next Day Product Selection Assistance from Applications Engineers
Parametric Search
Applications Help

Information Index

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