

Power Minder™ Mini-Board

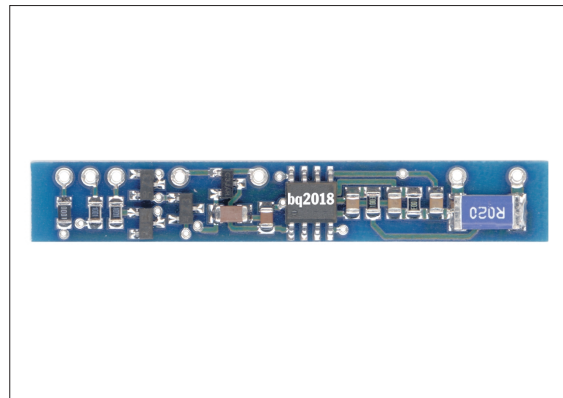
Features

- Complete and compact charge/discharge counter
- Combines the bq2018, voltage regulator, sense resistor, and backup capacitor on a single PCB
- Communicates charge/discharge information to a host with a single-wire interface
- Designed for battery pack integration
 - Less than 0.5 square inches
 - Small size allows it to fit in the crevice formed by two adjacent cells
 - Low operating current
- Direct connections for the pack cells and communications port

General Description

The bq2118 Power Minder mini-board provides a complete and compact solution for charge and discharge counting of all types of battery chemistries, including NiCd, NiMH, or Li-Ion batteries. Designed for battery pack integration, the bq2118 incorporates a bq2018 Power Minder IC, supply voltage regulator, sense resistor, and backup capacitor on a small circuit board. The module provides direct connections for the positive and negative terminals of the series cells in the battery pack, and can fit in the crevice formed by two adjacent cells. The bq2118 allows a battery pack to be equipped easily with accurate charge/discharge counting electronics.

Unitrode configures the bq2118 based on the information requested in Table 1. The configuration defines the battery chemistry, the number of series cells, and the charge/discharge current. Figure 1 shows how the module connects to the cells.



A module development kit is also available for the bq2118. The bq2118B-KT includes one configured module and the following:

1. An EV2200-18 interface board that allows connection to the serial port of an AT-compatible computer.
2. Menu-driven software to display charge/discharge activity and to allow user interface to the bq2118 from any standard Windows 3.1 or 95 PC.

Pin Descriptions

BAT+	Battery positive/pack positive
BAT-	Battery negative
HDQ	Communications port
PACK-	Pack negative
WAKE	Wakeup output
RBI	Register backup input
VCC	bq2018 supply voltage

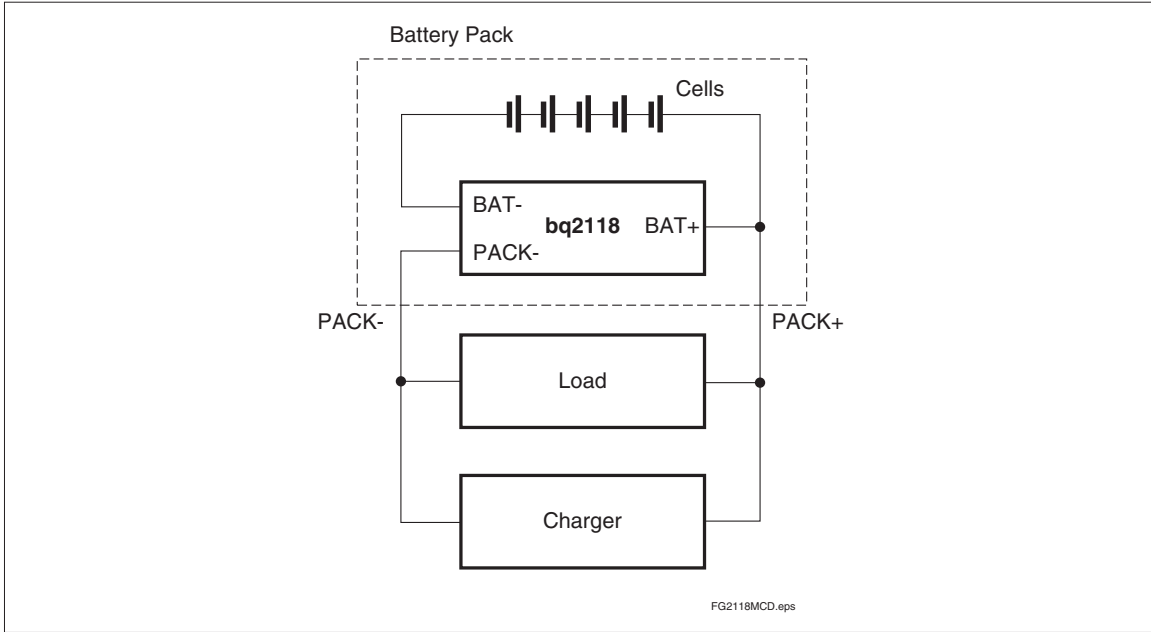


Figure 1. Module Connection Diagram

Table 1. bq2118 Module Configuration

Customer Name: _____

Contact: _____ Phone: _____

Address: _____

Sales Contact: _____ Phone: _____

Number of series battery cells _____

Coke or graphite cell anode _____

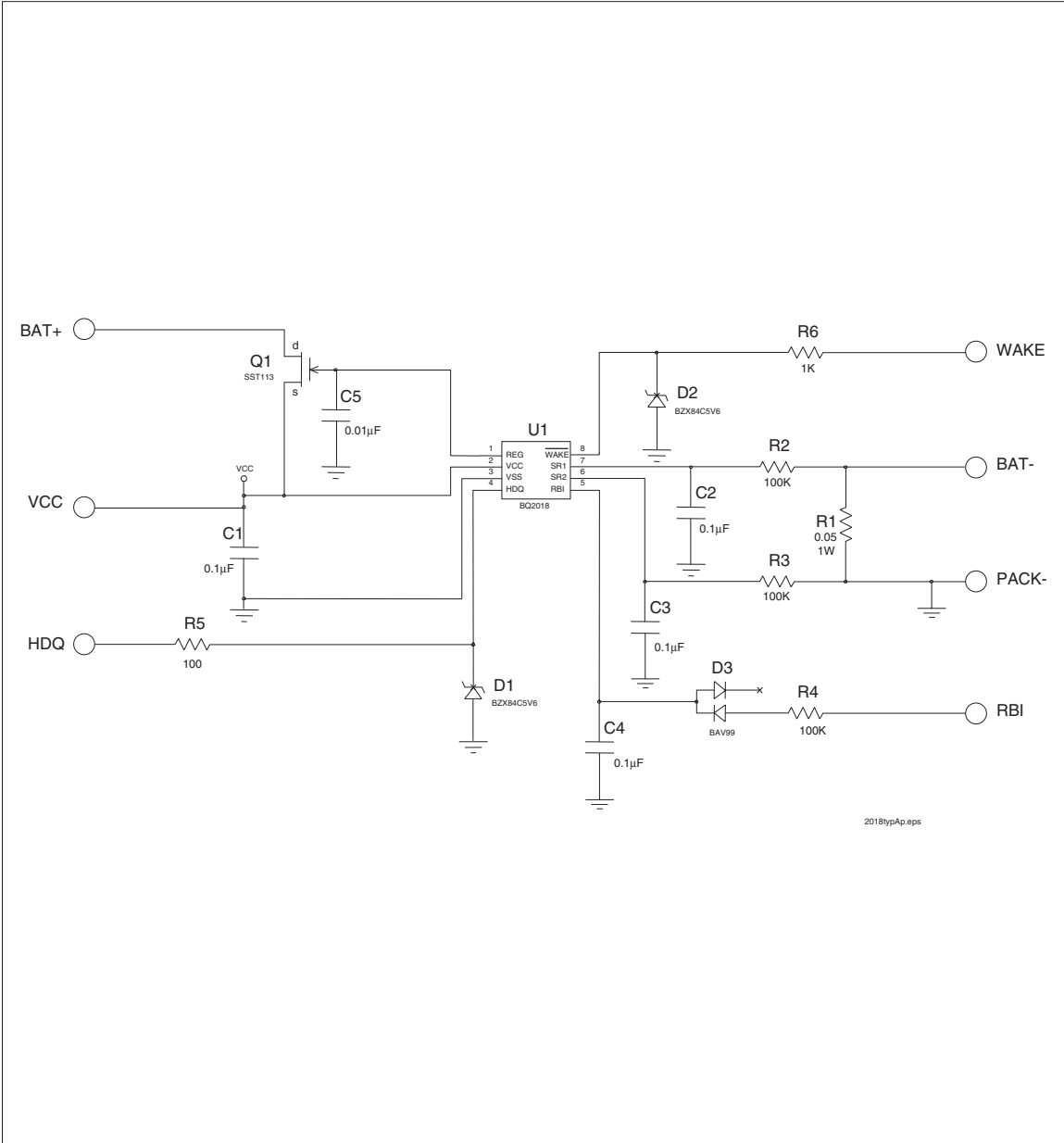
Battery pack capacity (mAh) _____

Discharge rate into load (4.0A max) Min. _____ Avg. _____ Max. _____

Charge rate (4.0A max) _____

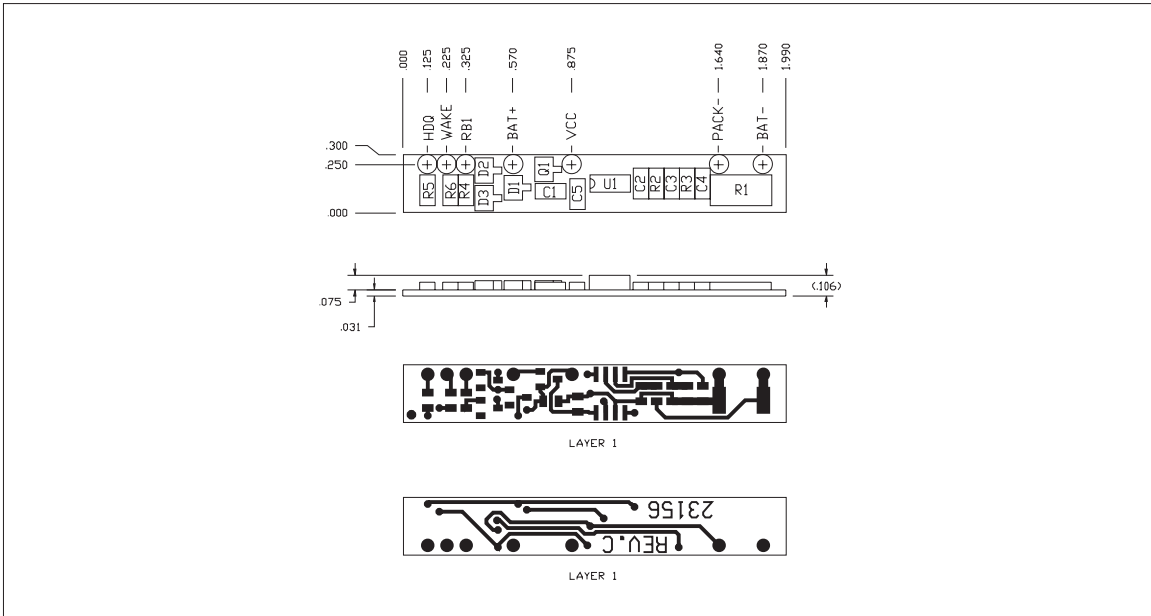
FAE Approval: _____ Date: _____

bq2118 Schematic



bq2118 Preliminary

bq2118 Board



Ordering Information

bq2118 B - XXX

Customer Code:

Blank = Sample or Pre-production¹

KT = Evaluation system

XXX = Customer-specific; assigned by Unitrode²

Package Option:

B = Board-level product

Device:

Power Minder Mini-Board

- Notes:**
1. Requires configuration sheet (see Table 1)
 2. Example production part number: bq2118B-001

IMPORTANT NOTICE

Texas Instruments and its subsidiaries (TI) reserve the right to make changes to their products or to discontinue any product or service without notice, and advise customers to obtain the latest version of relevant information to verify, before placing orders, that information being relied on is current and complete. All products are sold subject to the terms and conditions of sale supplied at the time of order acknowledgement, including those pertaining to warranty, patent infringement, and limitation of liability.

TI warrants performance of its semiconductor products to the specifications applicable at the time of sale in accordance with TI's standard warranty. Testing and other quality control techniques are utilized to the extent TI deems necessary to support this warranty. Specific testing of all parameters of each device is not necessarily performed, except those mandated by government requirements.

CERTAIN APPLICATIONS USING SEMICONDUCTOR PRODUCTS MAY INVOLVE POTENTIAL RISKS OF DEATH, PERSONAL INJURY, OR SEVERE PROPERTY OR ENVIRONMENTAL DAMAGE ("CRITICAL APPLICATIONS"). TI SEMICONDUCTOR PRODUCTS ARE NOT DESIGNED, AUTHORIZED, OR WARRANTED TO BE SUITABLE FOR USE IN LIFE-SUPPORT DEVICES OR SYSTEMS OR OTHER CRITICAL APPLICATIONS. INCLUSION OF TI PRODUCTS IN SUCH APPLICATIONS IS UNDERSTOOD TO BE FULLY AT THE CUSTOMER'S RISK.

In order to minimize risks associated with the customer's applications, adequate design and operating safeguards must be provided by the customer to minimize inherent or procedural hazards.

TI assumes no liability for applications assistance or customer product design. TI does not warrant or represent that any license, either express or implied, is granted under any patent right, copyright, mask work right, or other intellectual property right of TI covering or relating to any combination, machine, or process in which such semiconductor products or services might be or are used. TI's publication of information regarding any third party's products or services does not constitute TI's approval, warranty or endorsement thereof.