Benchmarq Products
from Texas Instruments

DM2060

bq2060 SBS v1.1 Gas Gauge Demonstration Module

Features

- Complete bq2060 Gas Gauge circuit
- Connects directly across the cells in a battery pack
- Battery information through two-wire (SMBus) communication port
- Includes push-button activated LEDs to display state-of-charge information
- Compact size illustrates typical circuit implementation
- Pre-configured EEPROM

General Description

The DM2060 Gas Gauge Demonstration Module provides a typical implementation for the bq2060 SBS v 1.1 Compliant Gas Gauge IC. The DM2060 incorporates a bq2060 IC, an EEPROM, a 30mΩ sense resistor, and all other components necessary for gas gauge operation. Each DM2060 module is pre-programmed for the pack voltage, chemistry, and capacity, as outlined in Ordering Information.

The DM2060 includes 4 LEDs to display remaining capacity in 25% increments of the learned full capacity. The LEDs are activated with the onboard push-button switch.

Contacts are provided on the DM2060 for direct connection across the battery stack (B+, BAT-) and the individual series cells in a Li-Ion pack (CELL1P, CELL2P, CELL3P, and CELL4P). The SMBD (data) and SMBC (clock) are the SMBus communication lines. Figure 1 shows how to connect a DM2060 to a battery pack.

Re-Programming

Using the evaluation software, the DM2060 circuit modules can be re-programmed for pack voltage, chemistry, capacity, and other critical operating parameters. The bq2060 data sheet and the EV2200-60 User's Guide illustrate typical EEPROM programming for Li-Ion and NiMH battery packs.

Pin Descriptions

B+	**Battery positive/Pack positive**
BAT-	**Battery negative**
CELL1P–CELL4P	**Intermediate cell stack connections for Li-Ion**
SMBD	**SMBus data line**
SMBC	**SMBus clock time**

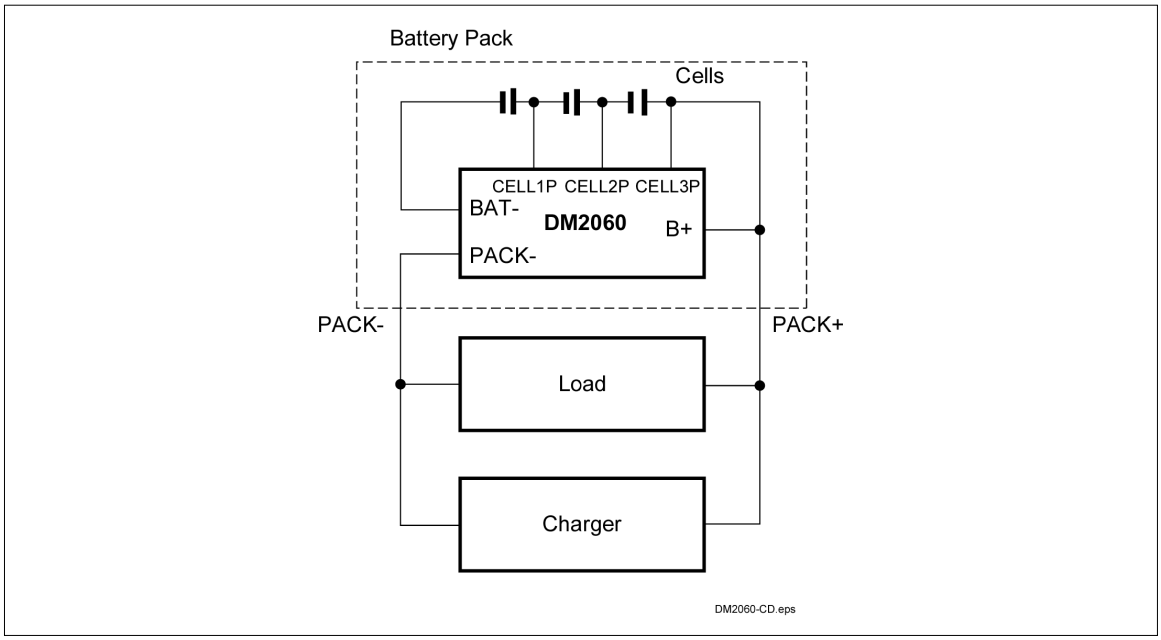


Figure 1. Module Connection Diagram—3-Series Cell 10.8V Li-Ion

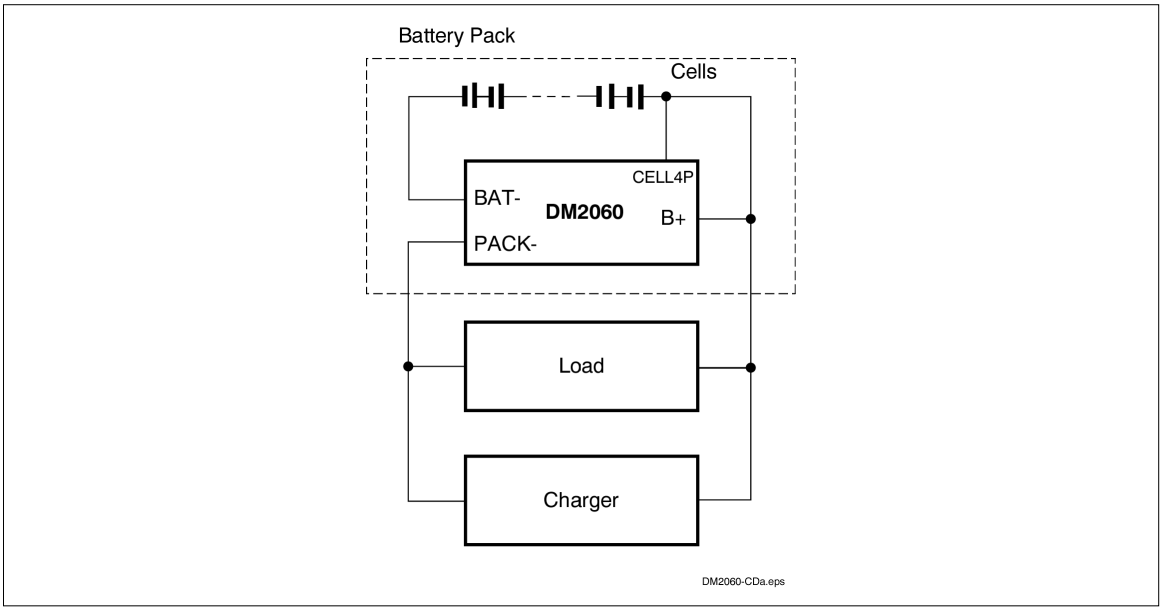
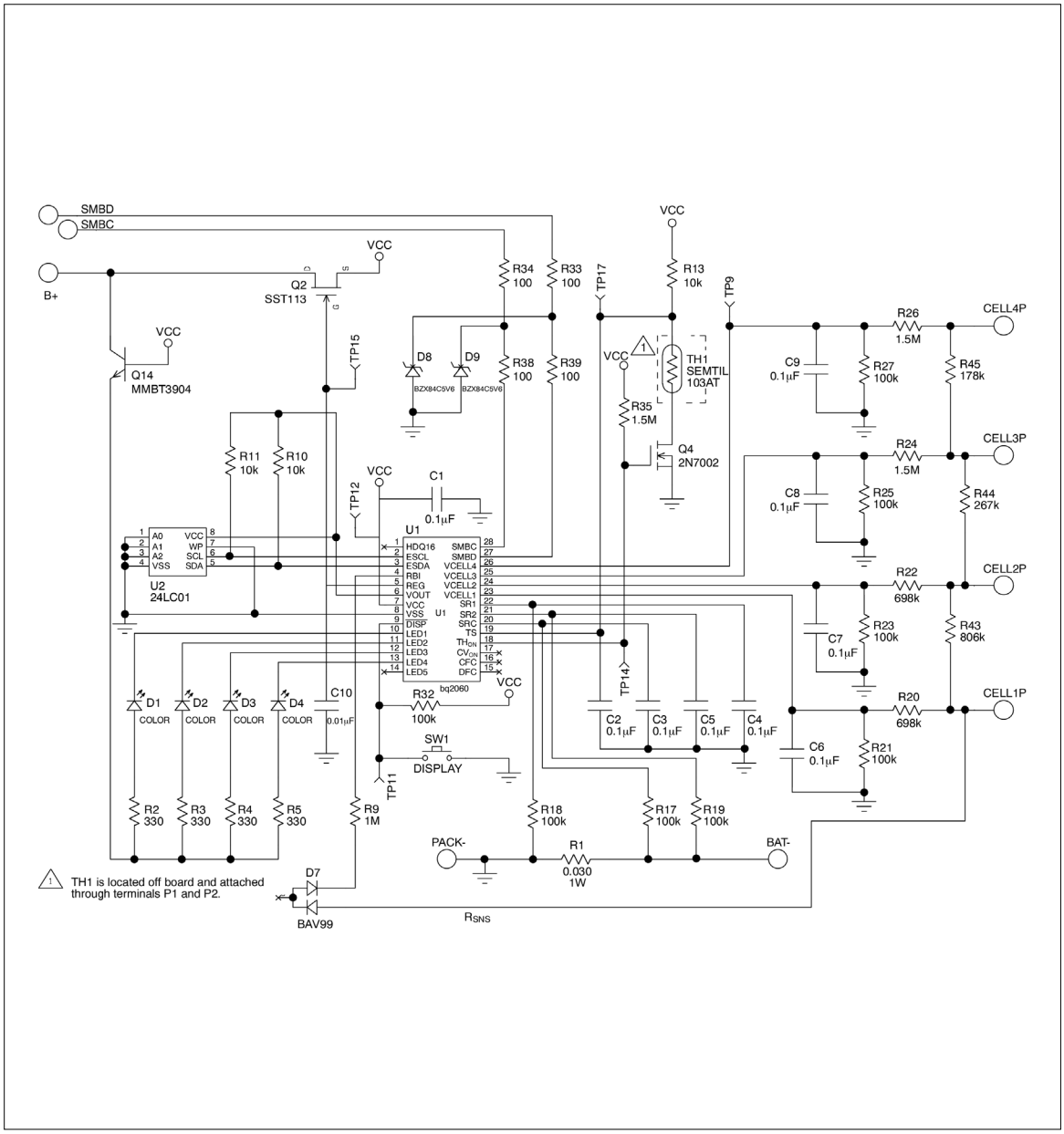
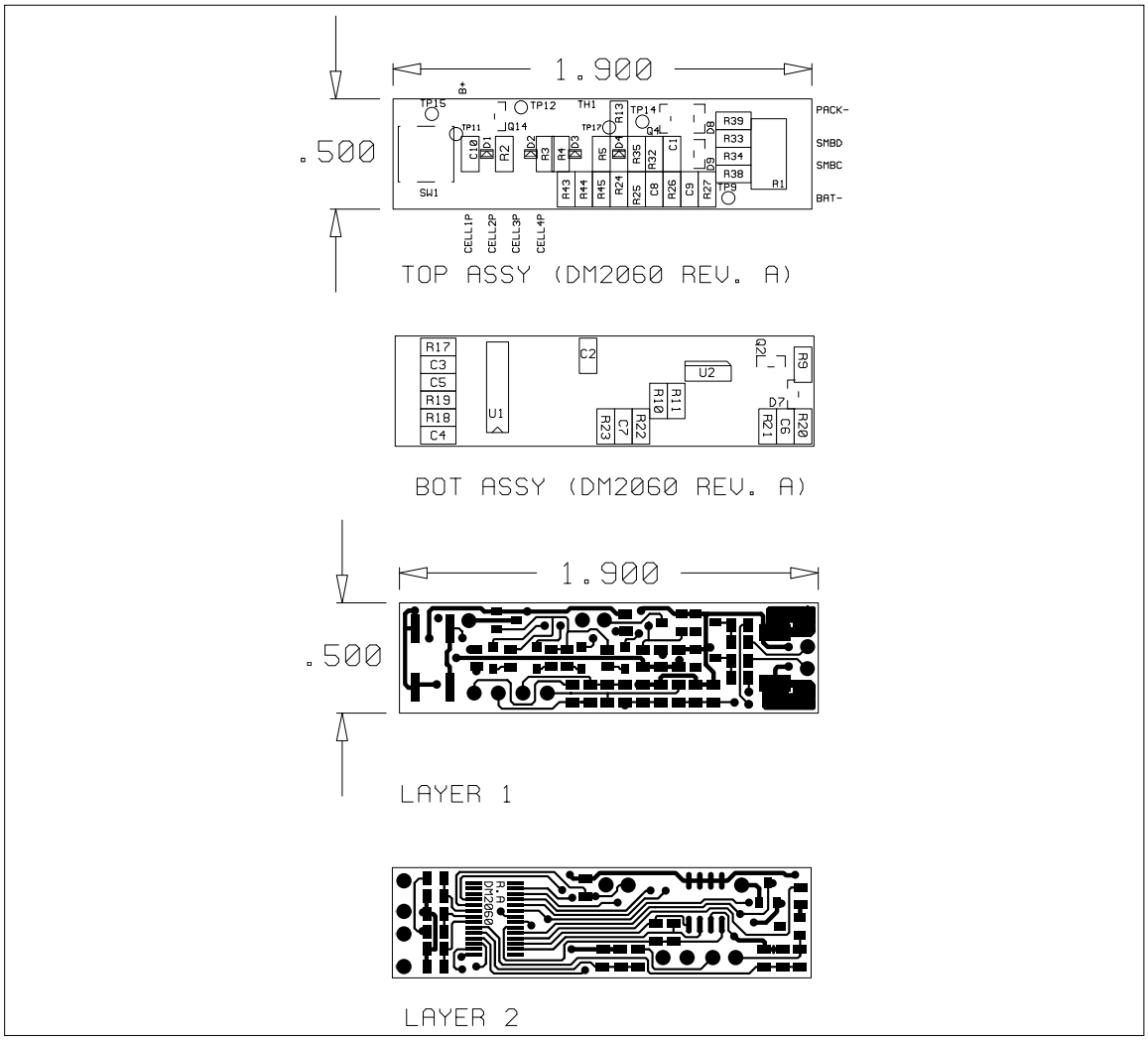


Figure 2. Module Connection Diagram—9-Series Cell 10.8V NiMH

DM2060 Schematic



DM2060 Board



Ordering Information

Part Number	Evaluation Kit Part Number	Chemistry*	Pack Voltage*	Capacity*
DM2060-001	bq2060EVM-001	Li-Ion	10.8V	4.5Ah
DM2060-002	bq2060EVM-002	NiMH	10.8V	4.0Ah

*Default EEPROM programming