

bq2040 SBS v1.0 Gas Gauge Demonstration Module

Features

- ▶ Complete bq2040 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 DM2040 Gas Gauge Demonstration Module is a typical implementation for the bq2040 SBS v 1.0 Compliant Gas Gauge IC. The DM2060 incorporates a bq2040 IC, an EEPROM, a 50mΩ sense resistor, and all other components necessary for gas gauge operation. Each DM2040 module is pre-configured for a specified pack voltage, chemistry, and pack capacity as outlined in Ordering Information. The modules should be ordered on the basis of the pack voltage and chemistry of the application.

The DM2040 includes 4 LEDs to display remaining capacity in 25% increments of the learned full capacity. The LEDs are activated with the on-board push-button switch.

Contacts are provided on the DM2040 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 DM2040 to a battery pack.

Re-Programming

The DM2040 circuit modules are pre-configured for battery chemistry, pack voltage, and pack capacity. The circuit modules can be re-programmed for capacity and other critical operating parameters using the evaluation software. The chemistry and pack voltage, however, are fixed in hardware and cannot be modified using only the software.

Pin Descriptions

B+	BAT+/Battery positive/Pack positive
P-	PACK-/Pack negative
C	SMBC/Communications clock
D	SMBD/Serial data
B-	BAT-/Battery negative
STAT	STAT/No connect

DM2040

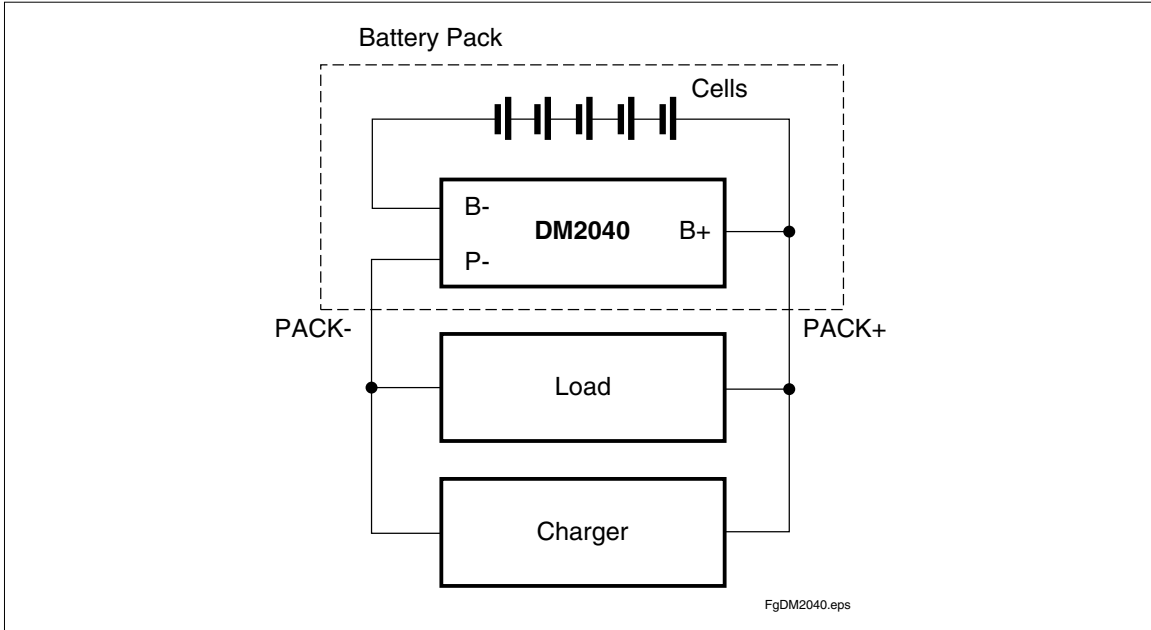
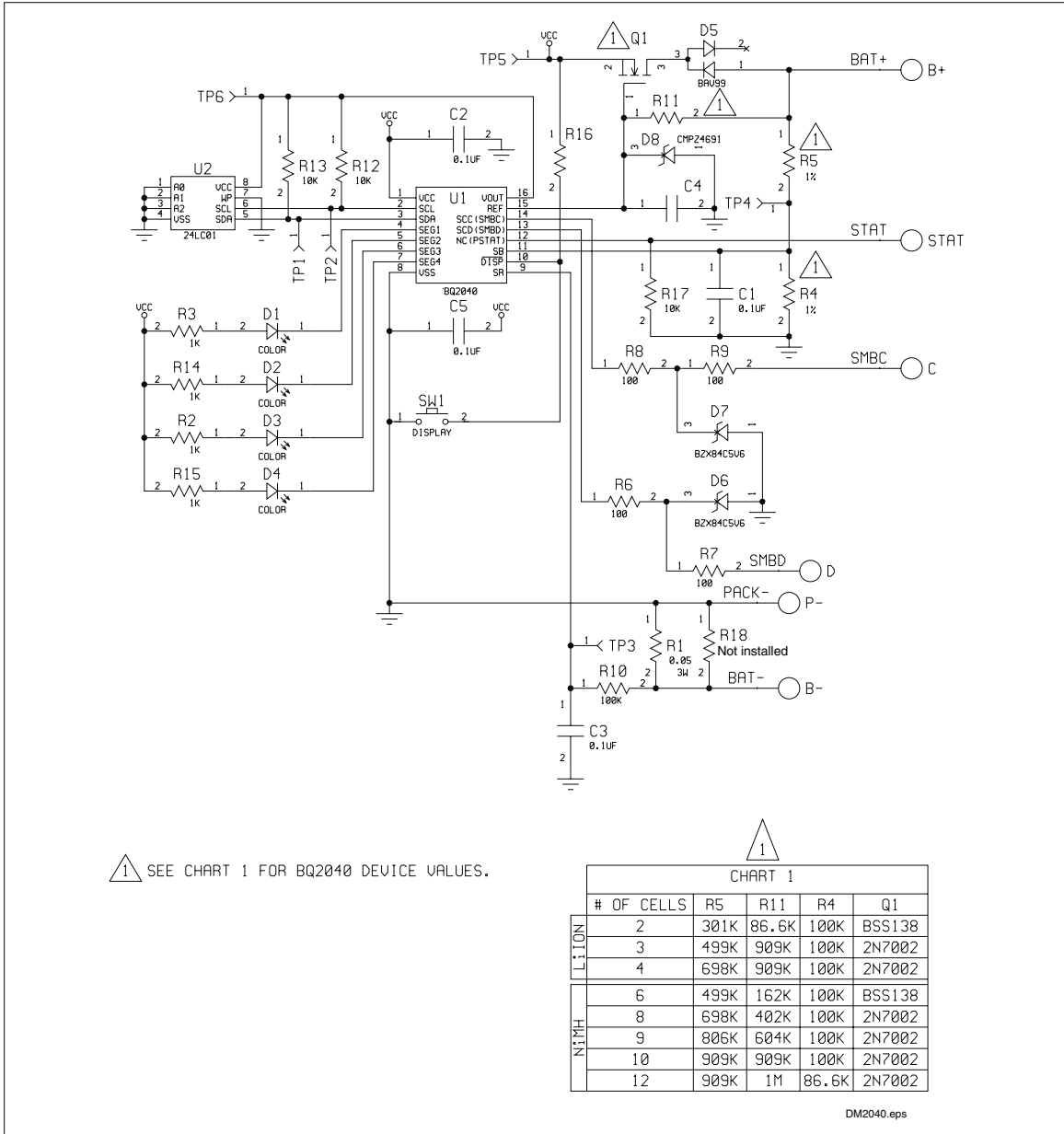


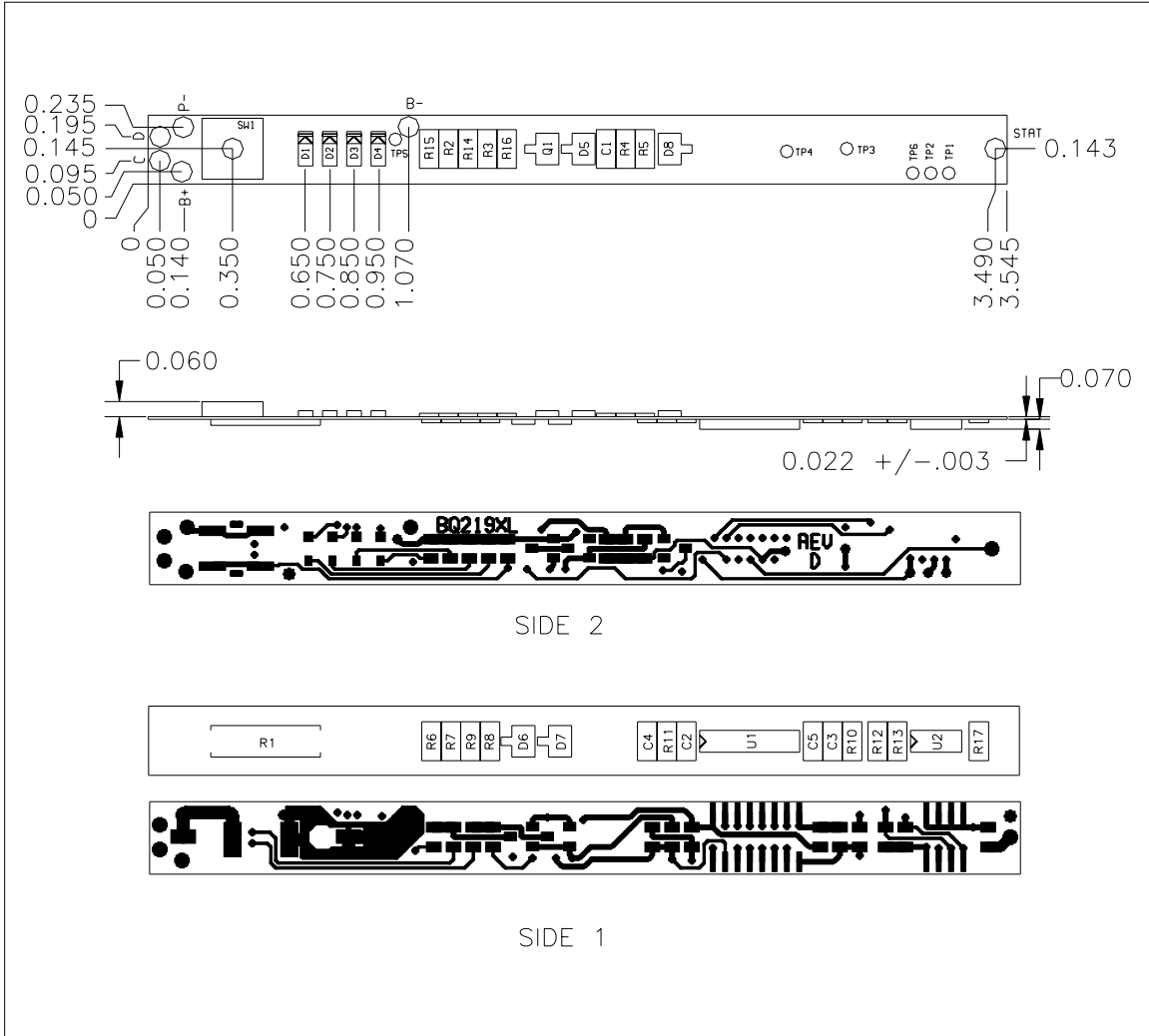
Figure 1. Module Connection Diagram

DM2040 Schematic



DM2040

DM2040 Board



Ordering Information

Part Number	Evaluation Kit Part Number	Chemistry	Pack Voltage	Capacity
DM2040-001	bq2040EVM-001	NiMH	10.8V	4.0Ah*

*Can be modified using the evaluation software.