SBS 1.1-COMPLIANT GAS GAUGE ENABLED WITH ImpedanceTrack™ TECHNOLOGY FOR USE WITH THE bq29312

FEATURES

- Uses ImpedanceTrack Technology to Provide Accurate Measurement of Available Charge in Li-Ion and Li-Polymer Batteries
- Better than 1% Error Over Lifetime of the Battery
- Instant Accuracy – No Learning Cycle Required
- Supports the Smart Battery Specification SBS V1.1
- Works With the TI bq29312 Analog Front End (AFE) Protection IC to Provide Complete Pack Electronics Solution
- Full Array of Programmable Voltage, Current, and Temperature Protection Features
- Integrated Time Base Removes Need for External Crystal with Optional Crystal Input
- Electronics for 7.2-V, 10.8-V or 14.4-V Battery Packs With Few External Components
- Based on a Powerful Low-Power RISC CPU Core With High-Performance Peripherals
- Integrated Field Programmable FLASH Memory Eliminates the Need for External Configuration
- Measures Charge Flow Using a High-Resolution, 16-Bit Integrating Converter
  - Better Than 0.65-nVh of Resolution
  - Self-Calibrating
  - Offset Error Less Than 1-μV
- Uses 16-Bit Delta Sigma Converter for Accurate Voltage and Temperature Measurements
- Extensive Data Reporting Options For Improved System Interaction
- Optional Pulse Charging Feature for Improved Charge Times
- Drives 3-, 4- or 5- Segment LED Display for Remaining Capacity Indication
- 38L TSSOP (DBT)

APPLICATIONS

- Notebook PCs
- Medical and Test Equipment
- Portable Instrumentation
- EEPROM

DESCRIPTION

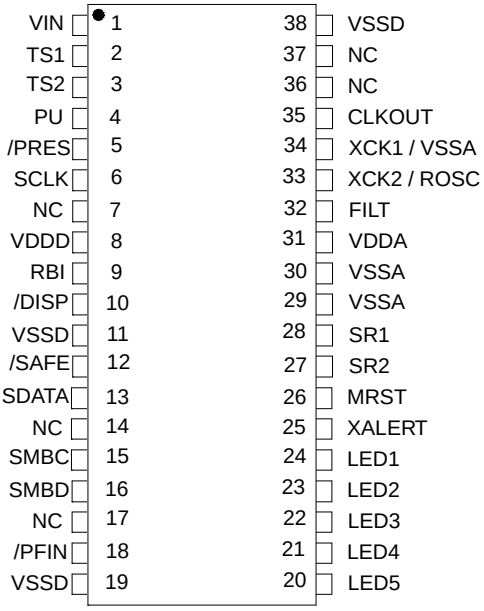
The bq20z80 SBS-compliant gas gauge IC incorporating ImpedanceTrack technology is designed for battery pack or in-system installation. The bq20z80 measures and maintains an accurate record of available charge in Li-ion or Li-polymer batteries using its integrated high-performance analog peripherals. The bq20z80 monitors capacity change, battery impedance, open circuit voltage, and other critical parameters of the battery pack and reports the information to the system host controller over a serial communication bus. It is designed to work with the bq29312 analog front-end (AFE) protection IC to maximize functionality and safety and minimize component count and cost in smart battery circuits.

The superior ImpedanceTrack technology gas- gauging accuracy is created by the continuous analysis of the impedance of the battery. This enables remaining capacity to be calculated with discharge rate, temperature, and cell aging all accounted for during each stage of every cycle.

PRODUCT PREVIEW

TSSOP (DBT)

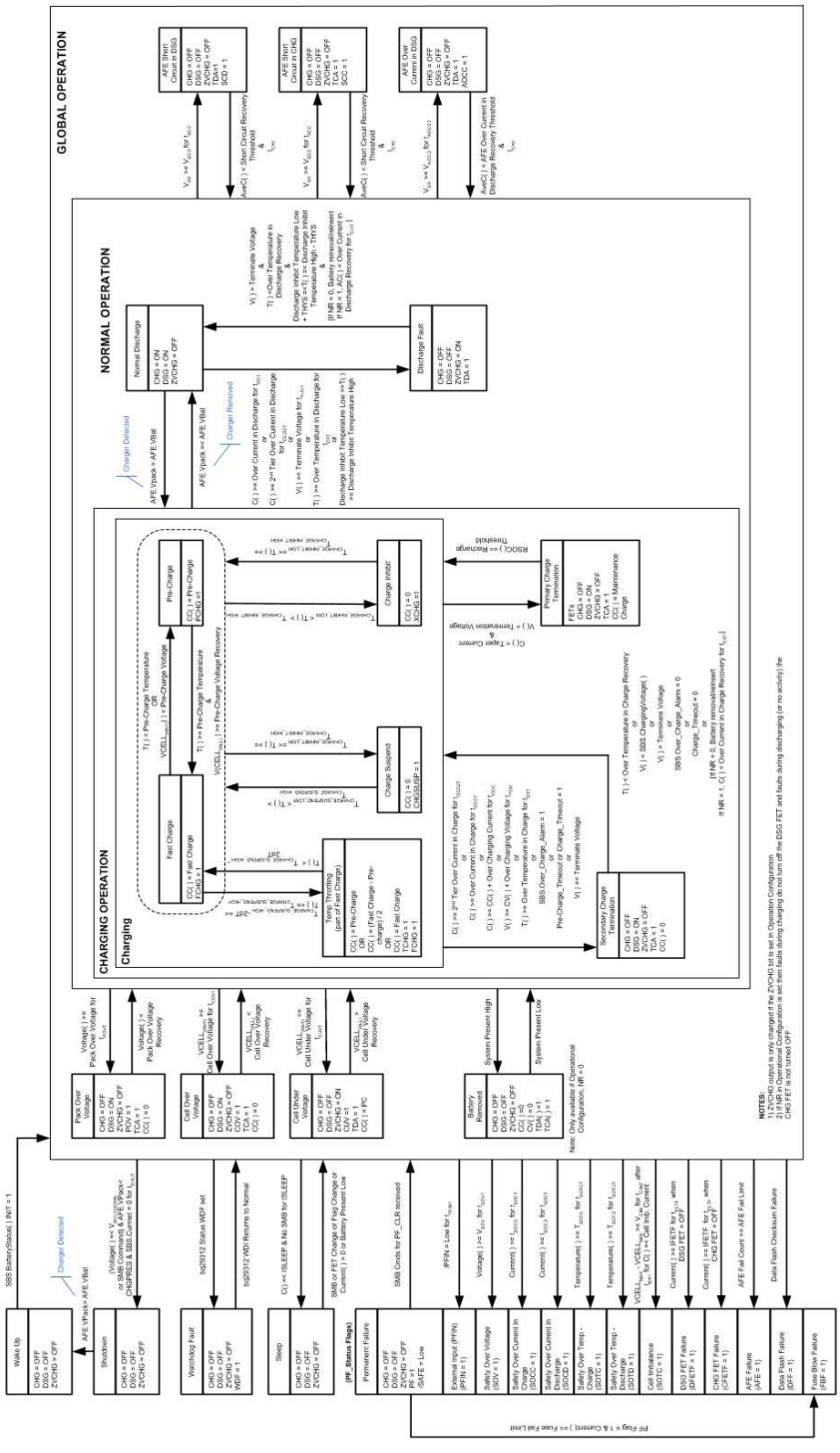
(TOP VIEW)



NC − No internal connection

PRODUCT PREVIEW

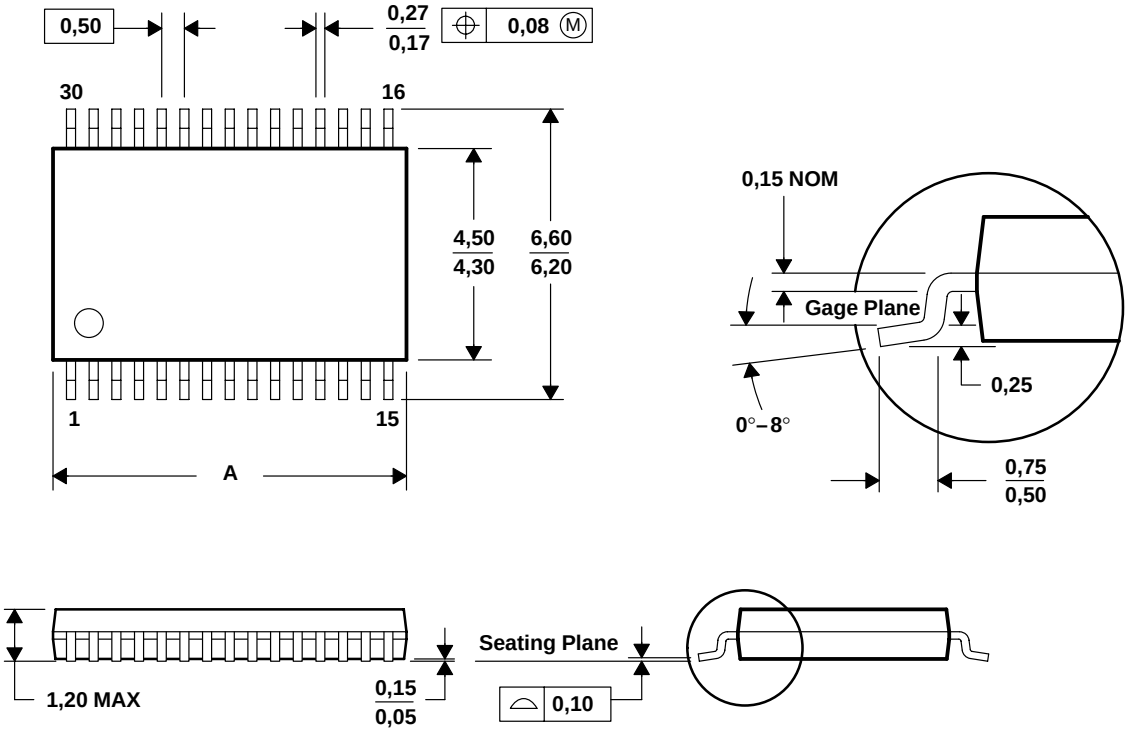
Operation Diagram



MPDS019D – FEBRUARY 1996 – REVISED FEBRUARY 2002

DBT (R-PDSO-G)** **PLASTIC SMALL-OUTLINE PACKAGE**

30 PINS SHOWN



DIM \ PINS **	20	24	28	30	38	44	50
A MAX	5,10	6,60	7,90	7,90	9,80	11,10	12,60
A MIN	4.90	6,40	7,70	7,70	9,60	10,90	12,40

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NOTES: A. All linear dimensions are in millimeters.
B. This drawing is subject to change without notice.
C. Body dimensions do not include mold flash or protrusion.
D. Falls within JEDEC MO-153

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