Benchmarq Products from Texas Instruments

bq2060E207 Errata

Sept 29, 2000

(Reference bq2060 Data Sheet Dated December 2000)

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The bq2060 revision E207 (bq2060E207) is fully qualified and released to full production with the following known errata items relative to the final bq2060 data sheet dated December 2000. The errata items are fixed on the bq2060 revision E411.

Errata Items:

- If compensated EDVs are enabled, the bq2060E207 incorrectly computes a very low threshold for EDV0. As a result the bq2060E207 does not issue a TERMINATE_DISCHARGE_ALARM at the 0% capacity level. With compensated EDVs enabled, the bq2060E207 generates a TERMINATE_DISCHARGE_ALARM *only* when an individual Li-Ion cell is below the programmed cell under voltage limit. If compensated EDVs are disabled, the bq2060E207 operates as specified.

- If master mode broadcasts are enabled, a simultaneous broadcast from the bq2060E207 and an SMBus start condition from another device may lock SMBus communication and prevent the bq2060E207 from acknowledging its address.

- There is a small possibility that the VDQ (probability of 0.1%) and the EDV2 (probability of 0.3%) bits in PackStatus may read 0 and not reflect the true status of these bits. These two bits mirror internal bits and are presented in PackStatus for reading purposes only. The bq2060E207 properly maintains the internal bits according to the VDQ and EDV2 functionality described in the specification.

- There is a small possibility (0.03%) that the bq2060E207 may miss write commands to the CAPACITY_MODE, CHARGER_MODE, or ALARM_MODE bits in BatteryMode().

- The bq2060E207 requires a 12s minimum wait after SMBus On-State detection before BatteryMode() bits 13-15 can be written. There is no minimum wait requirement on the bq2060 revision E411.

- The bq2060E207 does not use the *EDV C1 Factor* in the compensated EDV calculation. The factor allows the user to program the bq2060 to calculate compensated EDV values at points that provide some residual battery capacity at the EDV0 (RM=0) level. With this factor programmed to 0, the bq2060 revision E411 computes compensated EDVs the same as the bq2060E207. For the bq2060E207, the corresponding bits to program this factor must be programmed to zero.

- The bq2060E207 does not reset the VDQ bit and disqualify a learning cycle if a midrange voltage correction occurs during the discharge cycle.

- The orderable part number for the bq2060E207 must include the revision number. The orderable part numbers are bq2060SS-E207-EP (tubes) and bq2060SS-E207TR-EP (tape and reel).