bq27505-J1 to bq27505-J2 Change List

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ABSTRACT

This document describes the change made from bq27505-J1 to bq27505-J2. The latest ordering information and data sheet are available on the TI Web site. Note that bq27505-J1 uses firmware version 2.07 and the bq27505-J2 uses firmware version 2.15.

1 Introduction

The bq27505-J2 firmware version 2.15 has been released to enable several feature additions. The orderable part numbers will be released to support this firmware-upgraded device. The latest version of the evaluation software is required to be able to read and write all the data flash configuration locations.

2 Change Details

Table 1. Change Details

CHANGE	bq27505-J2	bq27505-J1	COMMENTS
Add Final Voltage Feature	Add data flash parameter Final Voltage. When pack voltage reaches Final Voltage, RSOC is set to zero.	No Final Voltage selection. When pack voltage reaches Terminate Voltage, RSOC is set to zero.	
RSOC update before SOC_INT	Update RSOC before signaling SOC_INT when passing an SOC_DELTA point	RSOC is updated after signaling SOC_INT when passing an SOC_DELTA point	
Clock stretch fix	Remove long clock stretches on I2C™ bus	Long clock stretch exists	To improve critical path in data processing
SOH and SOC interaction	Re-initialize SOC calculation after SOH calculation	No SOC re-initialization. SOH routine causes SOC jump due to input parameter changed during SOH calculation	To fix SOC jumps caused by SOH calculation routine
Disable Qmax filter until Qmax update	Qmax filtering (limiting maximum Qmax change) is disabled until a first-learned Qmax is acquired.	Qmax filtering (limiting maximum Qmax change) is not disabled.	To learn capacity of aged battery more quickly and to reach accurate SOH more quickly
Disable resistance learning until Qmax update	Resistance update is disabled until first-learned Qmax is acquired	Resistance update is not disabled before first Qmax update	To eliminate large resistance error due to learning resistance with wrong Qmax
Resistance update filtering	Resistance updates are filtered to limit the maximum amount of change.	No resistance update filtering	To avoid large jumps in RSOC when an aged battery is presented to a gauge for the first time
Qmax based profile selection	Perform profile selection based on Qmax instead of resistance.	Profile selection based on resistance.	

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Table 1. Change Details (continued)

CHANGE	bq27505-J2	bq27505-J1	COMMENTS
SOC_INT pulled low during flash write	SOC_INT signal is pulled low at a programmable time before a flash erase, and stays low throughout the flash erase and subsequent flash write; then it returns to high to allow system to communicate with gauge without the clock stretching due to flash write.	SOC_INT is not be pulled low during flash write.	

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