

PCN Number:	20160907001		PCN Date:	Sept 16, 2016	
Title:	BQ25120YFPx and BQ25121YFPx Design Change and Datasheet Updates				
Customer Contact:	PCN Manager	Dept:	Quality Services		
Proposed 1st Ship Date:	Dec 16, 2016	Estimated Sample Availability:	Date provided at sample request.		
Change Type:					
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Assembly Materials
<input checked="" type="checkbox"/>	Design	<input checked="" type="checkbox"/>	Electrical Specification	<input type="checkbox"/>	Mechanical Specification
<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Wafer Bump Material	<input type="checkbox"/>	Wafer Bump Process
<input type="checkbox"/>	Wafer Fab Site	<input type="checkbox"/>	Wafer Fab Materials	<input type="checkbox"/>	Wafer Fab Process
		<input type="checkbox"/>	Part number change		

PCN Details

Description of Change:

This notification is to inform of a minor design change to select devices. Affected devices are listed in the Product Affected section of this document. The design change is summarized as follows:

The design change is to prevent devices from potentially staying in resistor detect mode and not starting up properly.

The datasheet numbers will also be changing:

	Current	New
Part Numbers	Datasheet Number	Datasheet Number
BQ25120, BQ25121	SLUSBZ9B	SLUSBZ9C

The product datasheet is updated as seen in the change revision history below:



BQ25120, BQ25121

SLUSBZ9C –AUGUST 2015–REVISED SEPTEMBER 2016

bq2512x 700-nA Low I_Q Highly Integrated Battery Charge Management Solution for Wearables and IoT

4 Revision History

NOTE: Page numbers for previous revisions may differ from page numbers in the current version.

Changes from Revision B (May 2016) to Revision C	Page
• Changed or expanded descriptive text in the <i>Pin Functions</i> table for several pin names.	5
• Deleted sentence: "For proper operation of the device....." from the BAT pin Description in the Pin Functions table.	6
• Changed term From: V _(OCP) To: V _(OVP) in Conditions statement of <i>Electrical Characteristics</i>	9
• Deleted I _(O) spec.	10
• Added T _J = –40°C to 60°C to Conditions for I _{IN} spec. and deleted 0 from TYP column.	12
• Changed Conditions statement for <i>Typical Start-Up Timing and Operation</i> timing diagram.	14
• Changed Conditions statement for <i>Battery Operation and Sleep Mode</i> timing diagram.	15
• Changed Q3, Q4, and Q5 symbols in the <i>Functional Block Diagram</i> to PFET devices.	18
• Changed text in <i>Ship Mode</i> section for clarity.	19
• Changed text in <i>Active Battery Only Connected</i> for clarity.	19
• Subscripted V _{BATUVLO} signal name in <i>Active Battery Only Connected</i> section.	19
• Changed the description for <i>Input Overvoltage Protection and Undervoltage Status Indication</i> section for clarification.	21
• Changed text in <i>Battery Charging Process and Charge Profile</i> section for clarity.	21
• Changed I_PRETERM and IPRE_TERM names to IPRETERM in <i>Termination and Pre-Charge Current Programming by External Components (IPRETERM)</i> section for clarification.	22
• Changed terms in <i>Equation 5</i> for clarification.	26
• Changed and added text in <i>Status Indicators (PG and INT)</i> section for clarification.	26
• Changed text in <i>Buck (PWM) Output</i> section.	27
• Deleted "(TO BE TESTED)" from the COMMENT column of <i>Table 8</i>	28
• Changed first sentence of <i>Manual Reset Timer and Reset Output (MR and RESET)</i> description.	29
• Changed text in <i>Manual Reset Timer and Reset Output (MR and RESET)</i> section for clarification.	29
• Changed text in <i>Modes and Functions</i> for clarification.	30
• Changed text in <i>Fault and Status Condition Responses</i> for clarification.	31
• Changed text in <i>Table 12</i>	35
• Added text in <i>Fast Charge Control Register</i> description.	38
• Added Receiving Notification of Documentation Updates section.	63

These changes may be reviewed at the datasheet link provided:

<http://www.ti.com/lit/ds/symlink/bq25120.pdf>

Reason for Change:

Improved product performance

Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):

None

Changes to product identification resulting from this PCN:

None

Product Affected:

BQ25120YFPR	BQ25121YFPR
BQ25120YFPT	BQ25121YFPT

Qualification Report**Qualification of BQ25120YFP and test spins using A4 die, in RFAB LBC7 and Clark WCSP BOPCOA**

Approve Date 09-Aug-2016

Updated 08/09/2016-Added QBS Data

Product Attributes

Attributes	Qual Device: BQ25120YFP	QBS Product Reference: BQ25120F2YFP	QBS Process Reference: TPS65830YFF (JET)	QBS Package Reference: TPS63010YFF
Assembly Site	CLARK AT	CLARK AT	CLARK-AT	TI-Clark
Package Family	WCSP	WCSP	DSBGA	DSBGA
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	RFAB	RFAB	RFAB	MIHO8
Wafer Process	LBC7	LBC7	LBC7	LBC7

- QBS: Qual By Similarity
- Qual Device BQ25120YFP is qualified at LEVEL1-260C

Qualification Results

Data Displayed as: Number of lots / Total sample size / Total failed

Type	Test Name / Condition	Duration	Qual Device: BQ25120YFP	QBS Product Reference: BQ25120F2YFP	QBS Process Reference: TPS65830YFF (JET)	QBS Package Reference: TPS63010YFF
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	-	Pass
HAST	Biased HAST, 130C, 85%RH	96 Hours	-	-	-	3/231/0
HBM	ESD - HBM	2500 V	1/3/0	1/3/0	-	2/3/0
CDM	ESD - CDM	1000 V	1/3/0	1/3/0	-	-
HTOL	Life Test, 150C	300 Hours	-	-	3/231/0	3/231/0
HTSL	High Temp Storage Bake, 170C	420 Hours	-	-	-	3/231/0
LU	Latch-up	(per JESD78)	1/6/0	1/6/0	3/18/0	-
PD	Physical Dimensions	--	-	-	-	3/15/0
SBS	Solder Ball Shear	--	-	-	-	3/150/0
TC	Temperature Cycle, -55/125C	700 Cycles	-	-	3/231/0	3/231/0
UHAST	Unbiased HAST, 130C/85%RH	96 Hours	-	-	3/231/0	3/231/0

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable

- The following are equivalent HTOL options based on an activation energy of 0.7eV: 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours
- The following are equivalent HTSL options based on an activation energy of 0.7eV: 150C/1k Hours, and 170C/420 Hours
- The following are equivalent Temp Cycle options per JESD47: -55C/125C/700 Cycles and -65C/150C/500 Cycles
Quality and Environmental data is available at TI's external Web site: <http://www.ti.com/>

Green/Pb-free Status:
Qualified Pb-free(SMT) and Green

For questions regarding this notice, e-mails can be sent to the regional contacts shown below, or you can contact your local Field Sales Representative.

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