



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20160907001
BQ25120YFPx and BQ25121YFPx Design Change and Datasheet Updates
Change Notification / Sample Request

Date: 9/16/2016
To: PREMIER FARNELL PCN

Dear Customer:

This is an announcement of a change to a device that is currently offered by Texas Instruments. The details of this change are on the following pages.

We request you acknowledge receipt of this notification within **30** days of the date of this notice. Lack of acknowledgement of this notice within 30 days constitutes acceptance of the change. If you require samples or additional data to support your evaluation, please request within 30 days.

The changes discussed within this PCN will not take effect any earlier than **90** days from the date of this notification, unless customer agreement has been reached on an earlier implementation of the change. This notification period is per TI's standard process.

This notice does not change the end-of-life status of any product. Should product affected be on a previously issued product withdrawal/discontinuance notice, this notification does not extend the life of that product or change the life time buy offering/discontinuance plan.

For questions regarding this notice, contact your local Field Sales Representative or the PCN Manager (PCN_ww_admin_team@list.ti.com).

PCN Team
SC Business Services

20160907001
Attachment: 1

Products Affected:

The devices listed on this page are a subset of the complete list of affected devices. According to our records, these are the devices that you have purchased within the past twenty-four (24) months. The corresponding customer part number is also listed, if available.

DEVICE	CUSTOMER PART NUMBER
BQ25120YFPT	null
BQ25121YFPT	null

Technical details of this Product Change follow on the next page(s).

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 checked="" type="checkbox"/>	Design	<input checked="" type="checkbox"/>	Electrical Specification
<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Packing/Shipping/Labeling
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Wafer Bump Material
<input type="checkbox"/>	Wafer Fab Site	<input type="checkbox"/>	Wafer Fab Materials
<input type="checkbox"/>		<input type="checkbox"/>	Part number change
<input type="checkbox"/>		<input type="checkbox"/>	Assembly Materials
<input type="checkbox"/>		<input type="checkbox"/>	Mechanical Specification
<input type="checkbox"/>		<input type="checkbox"/>	Test Process
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Bump Process
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Process

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:



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.

Location	E-Mail
USA	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
Japan	PCNJapanContact@list.ti.com