

PCN Number:	20161007000	PCN Date:	Oct 10, 2016
Title:	Qualification of an additional Fab site (RFAB), additional AT site (TI Taiwan) and improved Design & Datasheet Change for the TPS23861PW		
Customer Contact:	PCN Manager	Dept:	Quality Services
Proposed 1st Ship Date:	Jan 10, 2017	Estimated Sample Availability:	Date provided at sample request.
Change Type:			
☒ Assembly Site	☒ Assembly Process	☒ Assembly Materials	
☒ Design	☒ Electrical Specification	☐ Mechanical Specification	
☒ Test Site	☐ Packing/Shipping/Labeling	☐ Test Process	
☐ Wafer Bump Site	☐ Wafer Bump Material	☐ Wafer Bump Process	
☒ Wafer Fab Site	☐ Wafer Fab Materials	☐ Wafer Fab Process	
	☐ Part number change		

PCN Details

Description of Change:

Texas Instruments is pleased to announce the qualification of an additional fab (RFAB), additional Assembly/Test (TI Taiwan), improved design, and datasheet update for the TPS23861PW.

Current Fab Site			Additional Fab Site		
Current Fab Site	Process	Wafer Diameter	Additional Fab Site	Process	Wafer Diameter
DP1DM5	LBC8	200 mm	RFAB	LBC8	300 mm

Device construction differences are noted below:

Current Assembly Site			Additional Assembly Site		
Current	Mount Compound	Mold Compound	Additional Assembly Site	Mount Compound	Mold Compound
MLA	4042500	4209640	TAI	4147858	4211471

Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ. Qual details are provided in the Qual Data Section.

Design improvements were made to address the following:

- TPS23861 has a voltage droop at the end of second classification in Semi-Auto Mode
- This voltage droop is lower than IEEE 802.3at Vmark_min (6.9V)
- This droop will occur in systems which utilize the TPS23861:
 - in semiauto mode,
 - need type 2 power *and*
 - rely upon the TPS23861 *physical* layer, 2-event, classification
 - All other operating modes/combinations are safe.

Datasheet Change:



TPS23861

SLUSBX9G – MARCH 2014 – REVISED OCTOBER 2016

www.ti.com

Changes from Revision F (July 2016) to Revision G

Page

- Deleted the MAX value of 150 mA from I_{GO} in the [Electrical Characteristics](#) 8

Device Family	Change From	Change To:
TPS23861	SLUSBX9F	SLUSBX9G

These changes may be reviewed at the datasheet link provided:

<http://www.ti.com/lit/ds/symlink/tps23861.pdf>

Reason for Change:			
Capacity increase			
Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):			
☐	No Impact to the Material Declaration	☒	Material Declarations or Product Content reports are driven from production data and will be available following the production release. Upon production release the revised reports can be obtained at the site link below http://www.ti.com/quality/docs/materialcontentsearch.tsp
Changes to product identification resulting from this PCN:			
Fab Site:			
Current Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
DP1DM5	DM5	USA	Dallas
New Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
RFAB	RFB	USA	Richardson
Assembly Site:			
Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (21L)	Assembly City
TI Malaysia	MLA	MYS	Kuala Lumpur
TI Taiwan	TAI	TWN	Chung Ho, New Taipei City
Sample product shipping label (not actual product label)			
			
ASSEMBLY SITE CODES: MLA =K, TAI = T			
Product Affected:			
TPS23861PW	TPS23861PWR		

Qualification Report
TPS23861PW Natasha (RFAB/LBC8)
 Approve Date 29-Sep-2016

Product Attributes

Attributes	Qual Device: TPS23861PWR	QBS Product Reference: TPS23861PWR	QBS Package Reference: TPS23861PWR	QBS Product Reference: TPS23861PW	QBS Process Reference: SN96019PFP	QBS Package Reference: SN20070804SDAR	QBS Package Reference: SN65MLVD129DGG	QBS Package Reference: TPIC1353DBTRG4
Assembly Site	TAI	TAI	TAI	MLA	TUPI	TAI	TAI	TAI
Package Family	TSSOP	TSSOP	TSSOP	TSSOP	HTQFP	TSSOP	TSSOP	TSSOP
Die Revision	C	A	A	C	B0	B	-	AB
Wafer Fab Supplier	RFAB	RFAB	RFAB	DMOS5	RFAB	DMOS5	FFAB	MIH08
Wafer Process	LBC8	LBC8	LBC8	LBC8	LBC8	LBC5X3	RF_BICMOS1	LBC7

- QBS: Qual B; Similarity
 - Qual Device TPS23861PWR is qualified at LEVEL2-260CG

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: TPS23861PWR	QBS Product Reference: TPS23861PWR	QBS Package Reference: TPS23861PWR	QBS Product Reference: TPS23861PW	QBS Process Reference: SN96019PFP	QBS Package Reference: SN20070804SDAR	QBS Package Reference: SN65MLVD129DGG	QBS Package Reference: TPIC1353DBTRG4
AC	Autoclave 121C	96 Hours	-	1/77/0	-	-	3/231/0	3/231/0	1/77/0	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	-	Pass	Pass	-	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	3/231/0	-	3/231/0	-	-	3/231/0
HBM	ESD - HBM	4000 V	1/3/0	-	-	-	-	-	-	-
CDM	ESD - CDM	1500 V	1/3/0	-	-	-	3/9/0	-	-	-
HTOL	Life Test, 145C	400 Hours	-	-	-	1/77/0	-	-	-	-
HTOL	Life Test, 125C	1000	-	-	-	-	3/231/0	-	-	-
HTOL	Life Test, 140C	480 Hours	-	-	-	-	-	-	-	3/231/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	1/77/0	-	-	3/231/0	-	-	3/231/0
LU	Latch-up	(per JESD78)	1/6/0	1/6/0	-	-	1/6/0	-	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	-	1/77/0	-	-	3/231/0	3/231/0	1/77/0	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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