12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20120820000
Qualification of MIHO8 as an Additional FAB Site Option for TPS92210/UCC28610 Select Devices in the LBC7 Process (includes design and datasheet revision) Change Notification / Sample Request

Date: 10/8/2012
To: MOUSER 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).

Sincerely,

PCN Team
SC Business Services
Phone: +1(214) 480-6037
Fax: +1(214) 480-6659

20120820000
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
TPS92210D	null
UCC28610D	null
UCC28610P	null

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

PCN Number:	PCN20120820000	PCN Date:	10/08/2012
Title:	Qualification of MIHO8 as an Additional FAB Site Option for TPS92210/UCC28610 Select Devices in the LBC7 Process (includes design and datasheet revision)		
Customer Contact:	PCN Manager	Phone: +1(214)480-6037	Dept: Quality Services
*Proposed 1st Ship Date:	01/08/2013	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

PCN Details

Description of Change:

Texas Instruments is pleased to announce the qualification of its MIHO8 fabrication facility as an additional FAB option for select devices (shown in the Product Affected section). This change also includes a design and datasheet revision.

Design Revision: From Rev A to Rev C
Silicon fix to improve VGG clamp performance at high temperature.

Datasheet Revision:

Device Family	Change From:	Change To:
TPS92210	SLUS989A	SLUS989**B**
UCC28610	SLUS888E	SLUS888**F**

Updated datasheet SLUS989B can be accessed by the following link:
http://www.ti.com/product/tps92210

REVISION HISTORY

Changes from Original (JANUARY 2010) to Revision A	Page
• Changed Corrected Pin 2 name	1
• Changed Corrected Pin 2 name	12
• Changed location of Zener diode in Figure 19.	14

Changes from Revision A (DECEMBER 2010) to Revision B	Page
• Added clarity to conditions in ELECTRICAL CHARACTERISTICS table	4
• Changed maximum PCL voltage specification from "1.05" to "1.1" in ELECTRICAL CHARACTERISTICS table	4
• Changed minimum I_{FM} range for low power mode(LPM) modulation from "50" to "45" in ELECTRICAL CHARACTERISTICS table	4
• Added clarity to conditions in ELECTRICAL CHARACTERISTICS table	5
• Changed minimum TZE low clamp voltage from "–200" to "–220" in ELECTRICAL CHARACTERISTICS table	5
• Added clarity to FUNCTIONAL BLOCK DIAGRAM	6
• Added clarity to "conditions" statement in TYPICAL CHARACTERISTICS	8
• Added clarity to Figure 23	18
• Added clarity to Figure 24	19

Updated datasheet SLUS888F can be accessed by the following link:
http://www.ti.com/product/ucc28610

Changes from Revision E (July, 2011) to Revision F	Page
• Changed updated typical application drawing on first page.	1
• Changed Recommended Operating Conditions Application drawing.	2
• Changed ESD Rating, Human Body Model from 2.0 kV to 1.5 kV.	3
• Added Thermal Information Section.	3
• Changed ELECTRICAL CHARACTERISTICS FB = 0 V to IFB = 10 µA.	4
• Changed Voltage of CL pin max value from 1.05 V to 1.10 V.	4
• Changed I_{FB} range for Green Mode (GM) modulation min value from 50 µA to 45 µA.	4
• Changed ZCD low clamp voltage min value from -200 mV to -220 mV.	5
• Changed ELECTRICAL CHARACTERISTICS FB = 0 V to IFB = 10 µA.	5
• Changed Figure 2.	6
• Changed Symplified Block Diagram	12
• Changed Basic Flyback Converter and Waveforms at Peak Load and Minimum V_{BULK} Voltage drawing.	14
• Changed Start-Up Currents for the Cascode Architecture drawing.	17
• Changed Feedback Function text.	19
• Changed FB Details drawing.	19
• Changed Modulation Control Blocks drawing.	20
• Changed Control Diagram with Operating Modes drawing.	20
• Changed Figure 34.	28
• Changed High Frequency Ringing Solutions, (a) ferrite chip, (b) CDRV and (c) RG-OFF drawing.	29

Fab Information

Currently Qualified Sites, process, wafer dia.	**Additional Site, process, wafer dia.**
DP1DM5, LBC7 Process, 200 mm	**MIHO8, LBC7 Process, 200mm**

The LBC7 process was qualified at MIHO on 2005. Details are provided in the Qual Data Section.

Reason for Change:

- Improve device performance
- Increase long-term reliability
- Continuity of Supply

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

None

Changes to product identification resulting from this PCN:

Die Rev designator and Wafer Fab Codes will change as shown in tables & sample label below:

Current	New
Die Rev [2P]	Die Rev [2P]
A	**C**

Wafer Fab Codes:

Current		
Chip Site	Chip site code (20L)	Chip country code (21L)
DP1DM5	DM5	USA
New		
Chip Site	Chip site code (20L)	Chip country code (21L)
MIHO8	**MH8**	**JPN**

Sample product shipping label to indicate die rev and wafer fab code location (**not actual product label**)

Product Affected:

HPA00933DR	SN0901026DR	SN1011010DR	UCC28610D
HPA01021DR	SN1002004D	TPS92210D	UCC28610DR
HPA01125DR	SN1002004DR	TPS92210DR	UCC28610P
SN0901026D			

Qualification Data: Approved 9/14/2012

This qualification has been developed for the validation of this change. The qualification data will validate that the proposed change meets the applicable released technical specifications.

Qual Vehicle 1: UCC28610

Wafer Fab Site:	TI-MIHO	Wafer Fab Process:	LBC7
Wafer Diameter:	200mm	Metallization:	Alu
Passivation:	Nitride		

Qualification: ☐ Plan ☒ Test Results				
Reliability Test	Conditions	Sample Size/Fail Lot#1	Lot#2	Lot#3
Electrical Char.	-	Pass	-	-
Latch-up	(per JESD78)	6/0	-	-
Manufacturability (Assembly)	(per mfg. Site specification)	PASS	-	-
Manufacturability (Test)	(per mfg. Site specification)	PASS	-	-
ESD CDM	500V	3/0	-	-
** Life Test	125C (168 Hrs)	79/0	-	-
ESD HBM	1000V	3/0	-	-
**Preconditioning sequence: MSL1-260C				

Reference Qualification (LBC7 Wafer Process in Miho8)

Qualification Data: (Approved 01/14/2005)			
This qualification has been specifically developed for the validation of this change. The qualification data validates that the proposed change meets the applicable released technical specifications.			
Qual Vehicle 1: TPS62110RSA			
Package Construction Details			
Wafer Fab Site:	Miho8	Wafer Fab Process:	LBC7
Wafer Diameter:	200mm	Metallization:	TiN/AlCu.5/TiN
Passivation:	Oxynitride 8000A		

Qualification: ☐ Plan ☒ Test Results				
Reliability Test	Conditions	Sample Size / Fails		
		Lot 1	Lot2	Lot 3
**Life Test	140C (480 Hrs)	130/0	130/0	130/0
**HAST	130C/85%RH (96 Hrs)	77/0	77/0	77/0
**Autoclave	121C (96 Hrs)	77/0	77/0	77/0
**Temp Cycle	-65C/150C (500 Cyc)	77/0	77/0	77/0
**Thermal Shock	-65C/150C (500 Cyc)	77/0	77/0	77/0
**High Temp. Storage Bake	170C (420 Hrs)	77/0	77/0	77/0
ESD HBM	1000V	3/0	3/0	3/0
ESD CDM	250V	3/0	3/0	3/0
Latch-up	JESD78	5/0	5/0	5/0
Wafer Level Reliability	Approved	Pass	Pass	Pass
EFR	140C, 48 Hrs	626/0	636/0	619/0
Manufacturability (Wafer Fab)	(per mfg. Site specification)	Pass	Pass	Pass
**Preconditioning sequence: MSL2-260C				

For questions regarding this notice, e-mails can be sent to the regional contacts shown below or to 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