12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20140627001
Wafer Diameter Change for Select DEF-EP Niche Devices in LBC3S Process at DL-LIN
Change Notification / Sample Request

Date: 6/30/2014
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

20140627001
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
TPS79333DBVREP	null

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

PCN Number:	20140627001	**PCN Date:**	06/30/2014
Title:	Wafer Diameter Change for Select DEF-EP Niche Devices in LBC3S Process at DL-LIN		
Customer Contact:	PCN Manager	**Phone:** +1(214)480-6037	**Dept:** Quality Services
***Proposed 1st Ship Date:**	09/30/2014	**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:

This change notification is to announce a wafer diameter change for select DEF-EP Niche Devices in LBC3S Process at DL-LIN.

Current	New
Site/Process/Wafer Diameter	**Site/Process/Wafer Diameter**
DL-LIN/LBC3S Process/150mm	**DL-LIN/LBC3S Process/200mm**

The LBC3S process technology/200mm wafer was previously qualified at DL-LIN and has been running successfully since 2000.

Reason for Change:

Continuity of supply.

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

None

Changes to product identification resulting from this PCN:

Note: This is not a fab site change. No change to the Chip Site Location.

Current

Chip Site	Chip site code (20L)	Chip country code (21L)
DL-LIN	DLN	USA

Sample Product Shipping Label (not actual product label)

Product Affected:		
TPS79301DBVREP	TPS79333DBVREP	TPS793475DBVREP

Reference Qualification: LBC3s Process at DFAB

Qualification Data: (Approved: 2000)

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: SN104605PN

Wafer Fab Site:	DFAB	Wafer Diameter:	200mm
Wafer Fab Process:	LBC3s		

Qualification: Plan Test Results

Reliability Test	Conditions	Sample Size/Fails Lot#1	Lot#2	Lot#3
**Life Test	155C (240hrs)	116/0	116/0	116/0
**Biased HAST	130C/85%RH (96 Hrs)	77/0	77/0	77/0
**Thermal Shock	-65/+150C (1000 Cycles)	77/0	77/0	77/0
ESD HBM	2.5KV	3/0	3/0	3/0
Electrical Characterization	-	Pass	Pass	Pass
Bond Strength		76/0	76/0	76/0
Die Shear		5/0	5/0	5/0
Manufacturability (Wafer Fab)	Per site spec	Approved	-	-
Manufacturability (Assembly)	(per mfg. Site specification)	Approved	-	-
**Preconditioning: Level 3-235C				

Qual Vehicle 2: SN75976A2DL

Wafer Fab Site:	DFAB	Wafer Diameter:	200mm
Wafer Fab Process:	LBC3s		

Qualification: Plan Test Results

Reliability Test	Conditions	Sample Size/Fails Lot#1	Lot#2	Lot#3
**Life Test	155C (240hrs)	116/0	116/0	116/0
ESD HBM	2.5KV	3/0	3/0	3/0
ESD CDM	1.5KV	3/0	3/0	3/0
Electrical Characterization	-	Pass	Pass	Pass
Latch-Up		5/0	5/0	5/0
Manufacturability (Wafer Fab)	Per site spec	Approved	-	-
Manufacturability (Assembly)	(per mfg. Site specification)	Approved	-	-
**Preconditioning: Level 3-220C				

Qualification Results (2000 and 2002)

Automotive Product Qualification Summary
(As per AEC-Q100 and JEDEC Guidelines)

Supplier Name:	Texas Instruments Inc.	**Supplier Wafer Fabrication Site:**	Texas Instruments Dallas fab (DFAB)
Supplier Code:		**Supplier Die Revision:**	C
Supplier Part Number:	SN104605PN	**Supplier Assembly/Test Site:**	Texas Instruments, Taiwan
Customer Name:		**Supplier Package / Pin:**	PN/ 80
Customer Part Number:		**Pb-Free Lead Frame (Y/N):**	Y
Device Description:		**"Green" Mold Compound (Y/N):**	Y
MSL Rating:	Level1	**Operating Temp Range:**	-40C to +125C
Peak Solder Reflow Temp:	220C	**Automotive Grade Level (1):**	1

Test	#	Reference	Test Conditions	Min Lots (2)	SS / lot (2)	Min Total (2)	Results Lot/pass/fail	Comments: (N/A =Not Applicable)	Exceptions to AEC -Q100
TEST GROUP A – ACCELERATED ENVIRONMENT STRESS TESTS (3)									
PC	A1	JESD22-113 J-STD-020	Preconditioning: SMD only; Moisture Preconditioning for THB/HAST, AC/UHST, TC, HTSL, and HTOL	Performed on ALL SMD devices prior to THB/HAST, AC/UHST, TC and PTC					
THB or HAST	A2	JESD22-A101 JESD22-A110	Temperature Humidity Bias: 85°C/85%/1000 hours Highly Accelerated Stress Test: 130°C/85%/96 hours or 110°C/85%/264 hours	**3**	**77**	231	3/231/0		
AC or UHST	A3	JESD22-A102 JESD22-A118	Autoclave: 121°C/15 psig/96 hours Unbiased Highly Accelerated Stress Test: 130°C/85%/96 hours or 110°C/85%/264 hours	3	**77**	231	3/231/0	QBS to existing 80PN package data	
TC	A4	JESD22-A104	Temperature Cycle: -65°C/+150°C/500 cycles Post Temperature Cycle Bond Pull: 3 grams minimum	3 1	**77** **5**	231 5	3/231/0 1/5/0	QBS to existing 80PN package data	
TEST GROUP B – ACCELERATED LIFETIME SIMULATION TESTS (3)									
HTOL	B1	JESD22-A108	High Temp Operating Life: 125°C/1000 hours 150°C/408 hours	3	**77**	231	3/348/0		
ELFR	B2	AEC-Q100-008	Early Life Failure Rate:	3	800	2400	1/800/0	**QBS to MAX32431 PWG4DL**	One lot of ELFR.

TEST GROUP C – PACKAGE ASSEMBLY INTEGRITY TESTS (3)

WBS	C1	AEC-Q100-001	Wire Bond Shear Test: (Cpk > 1.67)	30 bonds	5 parts min.	30 bonds	Pass		
WBP	C2	Mil-Std-883 Method 2011	Wire Bond Pull: Each bonder used (Cpk > 1.67)	30 bonds	5 parts min.	30 bonds	Pass		
SD	C3	JESD22-B102	Solderability: (>95% coverage) 8 hr steam age (1 hour for Au-plated leads)	1	30	30	1/30/0	QBS to existing 80PN package data	
PD	C4	JESD22-B100 JESD22-B108	Physical Dimensions: (Cpk > 1.67)	3	10	30	3/10/0	QBS to existing 80PN package data	

TEST GROUP E- ELECTRICAL VERIFICATION

TEST	E1	User/Supplier Specification	Pre and Post Stress Electrical Test:	All	All	All	Pass		
HBM	E2	AEC-Q100-002	Electrostatic Discharge, Human Body Model: (2kV - H2 or better)	1	See Test Method			QBS to SN75976A2 DL	
MM	E2	AEC-Q100-003	Electrostatic Discharge, Machine Model: (200V – M3 or better)	1	See Test Method			QBS to SN75976A2 DL	
CDM	E3	AEC-Q100-101	Electrostatic Discharge, Charged Device Model: (750V corner leads, 500V for all other pins)	1	See Test Method		Pass	QBS to SN75976A2 DL	
LU	E4	AEC-Q100-004	Latch-Up:	1	6	6		QBS to SN75976A2 DL	
ED	E5	AEC-Q100-009	Electrical Distributions: (Cpk > 1.67)	1	30	30	Pass		

(1) Grade 0 (or A): -40°C to +150°C ambient operating temperature range
Grade 1 (or Q): -40°C to +125°C ambient operating temperature range
Grade 2 (or T): -40°C to +105°C ambient operating temperature range
Grade 3 (or I): -40°C to +85°C ambient operating temperature range
Grade 4 (or C): -0°C to +150°C ambient operating temperature range

(2) These are recommended minimum lot/sample sizes. Lot/sample size may be reduced depending on available data.

(3) Generic data may be used.

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