

PCN Number:	20160629002A	PCN Date:	Dec. 9, 2016
Title:	Qualification of MAINEFAB for select ABCD150 devices		
Customer Contact:	PCN Manager	Dept:	Quality Services
Proposed 1st Ship Date:	Feb. 24, 2017	Estimated Sample Availability:	Date provided at sample request.
Change Type:			
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process
<input type="checkbox"/>	Design	<input type="checkbox"/>	Assembly Materials
<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Electrical Specification
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Mechanical Specification
<input checked="" type="checkbox"/>	Wafer Fab Site	<input checked="" type="checkbox"/>	Packing/Shipping/Labeling
<input type="checkbox"/>		<input type="checkbox"/>	Test Process
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Bump Material
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Bump Process
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	Wafer Fab Materials
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	Wafer Fab Process
<input type="checkbox"/>		<input type="checkbox"/>	Part number change

PCN Details

Description of Change:

The purpose of this Rev A PCN is to update the description of change, add additional background and Qual data to support the offload.

Texas Instruments is pleased to announce the qualification of its MAINEFAB fabrication facility as a wafer Fab source for the devices listed in "Product Affected" section of this document.

Current				New			
Chip Site	Process	Wafer Diameter	Interlayer Dielectric	Chip Site	Process	Wafer Diameter	Interlayer Dielectric
GFAB6	ABCD150	150mm	TEOS Base ILD TEOS SOG/ SOG etchback	MAINEFAB*	ABCD150	200mm	Oxide CMP
GFAB8	ABCD150	200mm	TEOS Base ILD TEOS SOG/ SOG etchback	MAINEFAB*	ABCD150	200mm	Oxide CMP

***Current Interlayer Dielectric (ILD) process will be upgraded to MaineFab's standardized Interlayer Dielectric process which uses a Chemical-Mechanical Planarization (CMP) process rather than Spin on Glass (SOG).**

The ABCD150 process was first qualified at National Semiconductor's 200mm Maine facility (MAINEFAB) in calendar year 2006, and was communicated in PCN#s 20061402, 20071410, 20074901, 20100101, 20103501 and 20112102. MAINEFAB has been supplying products on this process since that time.

The affected products in this current PCN are additional products that were not previously transferred to Maine.

Qual details are provided in the Qual Data Section.

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:

Current

Chip Sites	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
GFAB6	GF6	GBR	Greenock
GFAB8	GF8	GBR	Greenock

New

Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
MAINEFAB	CUA	USA	South Portland

Sample product shipping label (not actual product label)



MADE IN: Malaysia
2DC: 20:

MSL 2 /260C/1 YEAR	SEAL DT
MSL 1 /235C/UNLIM	03/29/04

OPT: 39
ITEM: 39
LBL: 5A (L)T0:1750



(1P) SN74LS07NSR
(Q) 2000 (D) 0336
(31T) LOT: 3959047MLA
(4W) TKY (1T) 7523483S12
(P)
(2P) REV. (V) 0033317
(20L) CSO: SHE (21L) CCO:USA
(22L) ASO: MLA (23L) ACO: MYS

Product Affected:

LM25088QMH-1/NOPB	LM26003AQPWPT	LM3478QMMX/E7002548	LM5088QMH-1/NOPB
LM25088QMH-2/NOPB	LM2743Q1MTCX/S7002689	LM3478QMMX/E7002663	LM5088QMH-2/NOPB
LM25088QMHX-1/NOPB	LM3102QMH/NOPB	LM3478QMMX/S7002552	LM5088QMHX-1/NOPB
LM25088QMHX-2/NOPB	LM3102QMHX/NOPB	LM5001IDQ1	LM5088QMHX-2/NOPB
LM25118Q1MH/NOPB	LM3406HVQMHQ1	LM5001IDRQ1	SN386901NGGRQ1
LM25118Q1MHE/NOPB	LM3406HVQMHXQ1	LM5021-1QDGKRQ1	SN386918NGGRQ1
LM25118Q1MHX/NOPB	LM3476QMM/NOPB	LM5022QDGSRQ1	TPS92690Q1PWP/NOPB
LM26001QMXAX/J7002755	LM3476QMMX/NOPB	LM5022QDGSTQ1	TPS92690Q1PWPR/NOPB
LM26003AQPWPR			

**Automotive Qualification Report
(As per AEC-Q100 and JEDEC Guidelines)
ABCD150 Fab Process Qualification in Maine Fab
Approve Date: 7-December-2010**

Product Attributes

Attributes	Qual Device #1: LP38691QSD-ADJ/NOPB	Qual Device #2: LM27313XQMF/NOPB
Automotive Grade Level:	1	1
Operating Temp Range:	-40°C to +125°C	-40°C to +125°C
Product Function:	LDO Regulator	Switching Regulator
Die Attributes		
Wafer Fab Supplier:	Maine Fab	Maine Fab
Wafer Diameter (mm):	200mm	200mm
Wafer Process Technology:	ABCD150	ABCD150
Wafer Process ID:	POWER BICMOS	POWER BICMOS
Die Size (X,Y):	69 x 48 mils	38 x 56 mils
Die Revision:	A	A
Package Attributes		
Assembly Site:	TIEMA	TIEMA
Package Type:	WSON	SOT
Package Designator:	NGG	DBV
Lead Count:	6	5
Package Dimensions (mils):	118.1 x 118.1 mils	63 x 115 mils
Body Thickness (mils):	31.5	40
Ball/Lead Pitch (mils):	37.4	37.4
Flammability Rating:	UL 94 V-0	UL 94 V-0
Wire Bond Material:	Au	Au
Wire Bond Diameter (mils):	1.3	1.3
Lead Frame Material:	Cu	Cu
Lead Frame Plating Composition:	Matte Sn	Matte Sn

- MSL Level 1 @260

Qualification Results

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

Test/Methods	Conditions	Measurement	ATE	Qual Device #1: LP38691QSD-ADJ/NOPB	Qual Device #2: LM27313XQMF/NOPB
ELFR AECQ100-008	125°C	48hrs	25°C	3/2397/0	-
			125°C	3/2397/0	-
OPL JESD22-A108	125°C	1000hrs	25°C	3/231/0	1/77/0
			125°C	3/231/0	1/77/0
			-40°C	3/231/0	1/77/0
TMCL JESD22-A104	-65°C to 150°C	500cyc	25°C	-	1/77/0*
			125°C	-	1/77/0*
ACLV JESD22-A102	121°C, 100%, 14.7PSI	96hrs	25°C	-	1/77/0
HAST JESD22-A101	130°C, 85%, 33.3PSI	96hrs	25°C	-	1/77/0
			125°C	-	1/77/0
ESDH	1.5 kOhms, 100pF, Room Temp	2000V	25°C	1/3/0	1/3/0
			125°C	1/3/0	1/3/0
ESDC	Peak current pulse based on package parasitic impedance	750V	25°C	1/3/0	1/3/0
			125°C	1/3/0	1/3/0
LUPS	Current and Over Voltage test at Max Ambient Operating Temp	25°C	25°C	1/6/0	1/6/0
		125°C	125°C	1/6/0	1/6/0
WBP MIL-STD883 Method 2011	Cpk>1.67	500cyc	-	-	Pass

- Preconditioning was performed for ACLV, TMCL, HAST as per JESD22-A113

* Passed wirebond pull test after TMCL 500cyc

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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