

<b>PCN Number:</b>	20170922000	<b>PCN Date:</b>	Oct. 2, 2017
<b>Title:</b>	Qualification of MAINEFAB for select ABCD150XV2 devices		
<b>Customer Contact:</b>	<a href="#">PCN Manager</a>	<b>Dept:</b>	Quality Services
<b>Proposed 1<sup>st</sup> Ship Date:</b>	Jan. 2, 2018	<b>Estimated Sample Availability:</b>	Date provided at sample request.
<b>Change Type:</b>			
<input type="checkbox"/>	<a href="#">Assembly Site</a>	<input type="checkbox"/>	<a href="#">Assembly Process</a>
<input type="checkbox"/>	<a href="#">Design</a>	<input type="checkbox"/>	<a href="#">Electrical Specification</a>
<input type="checkbox"/>	<a href="#">Test Site</a>	<input type="checkbox"/>	<a href="#">Packing/Shipping/Labeling</a>
<input type="checkbox"/>	<a href="#">Wafer Bump Site</a>	<input type="checkbox"/>	<a href="#">Wafer Bump Material</a>
<input checked="" type="checkbox"/>	<a href="#">Wafer Fab Site</a>	<input checked="" type="checkbox"/>	<a href="#">Wafer Fab Materials</a>
	<input type="checkbox"/>	<a href="#">Part number change</a>	
<b>PCN Details</b>			
<b>Description of Change:</b>			
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.			
<b>Current</b>			
<b>Chip Site</b>	<b>Process</b>	<b>Wafer Diameter</b>	<b>Interlayer Dielectric</b>
GFAB6	ABCD150XV2	150mm	TEOS Base ILD TEOS SOG/ SOG etchback
GFAB8	ABCD150XV2	200mm	TEOS Base ILD TEOS SOG/ SOG etchback
<b>New</b>			
<b>Chip Site</b>	<b>Process</b>	<b>Wafer Diameter</b>	<b>Interlayer Dielectric</b>
MAINEFAB	ABCD150XV2*	200mm	Oxide CMP
*Interlayer Dielectric (ILD) and Contact plug processes will be upgraded to MaineFab's standardized Chemical-Mechanical Planarization (CMP) ILD and Tungsten (W) Contact plug processes.			
Qual details are provided in the Qual Data Section.			
<b>Reason for Change:</b>			
GFAB closure			
<b>Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):</b>			
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
<b>MAINEFAB</b>	<b>CUA</b>	<b>USA</b>	<b>South Portland</b>

Sample product shipping label (not actual product label)

**Product Affected:**

LM25101AM/NOPB	LM25101BMAX/NOPB	LM25101CSDX/NOPB	SM72485SDX/NOPB
LM25101AMR/NOPB	LM25101BSD/NOPB	LM5116HJD	SM74104MA/NOPB
LM25101AMRX/NOPB	LM25101BSDX/NOPB	SM72295MA/NOPB	SM74104MAE/NOPB
LM25101AMX/NOPB	LM25101CMA/NOPB	SM72295MAX/NOPB	SM74104MAX/NOPB
LM25101ASD-1/NOPB	LM25101CMAX/NOPB	SM72485MM/NOPB	SM74104SD/NOPB
LM25101ASD/NOPB	LM25101CMY/NOPB	SM72485MME/NOPB	SM74104SDE/NOPB
LM25101ASDX-1/NOPB	LM25101CMYE/NOPB	SM72485MMX/NOPB	SM74104SDX/NOPB
LM25101ASDX/NOPB	LM25101CMYX/NOPB	SM72485SD/NOPB	SN5109ADR
LM25101BMA/NOPB	LM25101CSD/NOPB	SM72485SDE/NOPB	

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

**MAINEFAB ABCD150XV2 technology qualification/Automotive Grade 1  
Approved 13-Sep-2017**

**Product Attributes**

Attributes	Qual Device: LM5100AM/NOPB	QBS Package Reference: LM5576Q0MH/NOPB
Automotive Grade Level	Grade 1	Grade 0
Operating Temp Range	-40 to +125 C	-40 to +150 C
Product Function	Power Management	Power Management
Wafer Fab Site	MAINEFAB	MAINEFAB
Wafer Diameter	200mm	200mm
Assembly Site	TIEMA	TIEMA
Package Type	SOIC	HTSSOP

- QBS: Qual By Similarity

- Qual Device LM5100AM/NOPB\_QL is qualified at LEVEL1-260CG

**Qualification Results**

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

Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: LM5100AM/NOPB	QBS Package Reference: LM5576Q0MH/NOPB
<b>Test Group A – Accelerated Environment Stress Tests</b>								
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Automotive Preconditioning Level 1	Level 1, 260C	3/239/0	3/720/0
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST, 130C/85%RH	96 Hours	3/231/0	3/231/0
AC	A3	JEDEC JESD22-A102	3	77	Autoclave 121C	96HRS	-	3/231/0
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle, -55/150C	2000CYC	-	3/231/0
TC-BP	A4	MIL-STD883 Method 2011	1	30	Post Temp. Cycle Bond Pull	Wires		1/30/0

<b>Test Group B – Accelerated Lifetime Simulation Tests</b>								
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 125C	1000 Hours	3/231/0	-
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 150C	1000 Hours	-	3/231/0
ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate, 125C	48 Hours	3/2400/0	-
ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate, 150C	48 Hours	-	3/2400/0
<b>Test Group C – Package Assembly Integrity Tests</b>								
WBS	C1	AEC Q100-001	1	30	Wire Bond Shear (Cpk>1.67)	Wires	3/60/0	-
WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull (Cpk>1.67)	Wires	3/60/0	-
<b>Test Group E – Electrical Verification Tests</b>								
HBM	E2	AEC Q100-002	1	3	ESD - HBM	2000 V (Note1)	3/9/0	-
CDM	E3	AEC Q100-011	1	3	ESD - CDM	1250 V	3/9/0	-
LU	E4	AEC Q100-004	1	6	Latch-up	(Per AEC-Q100-004)	3/18/0	-
ED	E4	AEC Q100-009	3	30	Electrical Distributions	Cpk>1.67	3/90/0	-

**A1 (PC): Preconditioning:**

Performed for THB, Biased HAST, AC, uHAST & TC samples, as applicable.

Note 1: 2000V for all pins except pin 2, pin 3, and pin 4 which are rated at 1000V for HBM

**Ambient Operating Temperature by Automotive Grade Level:**

Grade 0 (or E): -40°C to +150°C

Grade 1 (or Q): -40°C to +125°C

Grade 2 (or T): -40°C to +105°C

Grade 3 (or I): -40°C to +85°C

**E1 (TEST): Electrical test temperatures of Qual samples (High temperature according to Grade level):**

Room/Hot/Cold: HTOL, ED

Room/Hot: THB/HAST, TC / PTC, HTSL, ELFR, ESD & LU

Room: AC/uHAST

**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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