PCN Number:	20150916000	**PCN Date:**	09/23/2015
Title:	Qualification of GFAB as an additional Wafer Fab site option for select devices in ABCD05/ABCD5HV Technology		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	03/23/2016	**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 the addition of GFAB as an additional Wafer Fab site option for the products listed in the product affected section of this document.

Current Wafer Fab Site	Process	Wafer Diameter
MAINEFAB	ABCD05/ABCD5HV	200mm

Additional Fab Site	Process	Wafer Diameter
GFAB8	ABCD05/ABCD5HV	200mm

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

New

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

Sample product shipping label (not actual product label)

Product Affected:

EMB1428QSQ/NOPB	LM22673QMR-5.0/NOPB	LM22676QTJ-ADJ/NOPB	LM25117QPSQ/NOPB
EMB1428QSQE/NOPB	LM22673QMR-ADJ/NOPB	LM22676QTJE-5.0/NOPB	LM25117QPSQE/NOPB
EMB1428QSQX/NOPB	LM22673QMRE-5.0/NOPB	LM22676QTJE-ADJ/NOPB	LM25117QPSQX/NOPB
EMB1499QMH/NOPB	LM22673QMRE-ADJ/NOPB	LM22677QTJ-ADJ/NOPB	LM25119QPSQ/NOPB
EMB1499QMHE/NOPB	LM22673QMRX-5.0/NOPB	LM22677QTJE-5.0/NOPB	LM25119QPSQX/NOPB
EMB1499QMHX/NOPB	LM22673QMRX-ADJ/NOPB	LM22677QTJE-ADJ/NOPB	LM2840XQMK/NOPB
LM22670QMR-5.0/NOPB	LM22673QTJ-5.0/NOPB	LM22678QTJ-5.0/NOPB	LM2840YQMK/NOPB
LM22670QMR-ADJ/NOPB	LM22673QTJ-ADJ/NOPB	LM22678QTJ-ADJ/NOPB	LM2840YQMKX/NOPB
LM22670QMRE-5.0/NOPB	LM22673QTJE-5.0/NOPB	LM22678QTJE-5.0/NOPB	LM2841XQMK/NOPB
LM22670QMRE-ADJ/NOPB	LM22673QTJE-ADJ/NOPB	LM22678QTJE-ADJ/NOPB	LM2841YQMK/NOPB
LM22670QMRX-5.0/NOPB	LM22674QMR-5.0/NOPB	LM22679QTJ-5.0/NOPB	LM2841YQMKX/NOPB
LM22670QTJ-5.0/NOPB	LM22674QMR-ADJ/NOPB	LM22679QTJ-ADJ/NOPB	LM2842XQMK/NOPB
LM22670QTJ-ADJ/NOPB	LM22674QMRE-5.0/NOPB	LM22679QTJE-5.0/NOPB	LM2842XQMKX/NOPB
LM22670QTJE-5.0/NOPB	LM22674QMRE-ADJ/NOPB	LM22679QTJE-ADJ/NOPB	LM2842YQMK/NOPB
LM22670QTJE-ADJ/NOPB	LM22675QMR-5.0/NOPB	LM22680QMR-ADJ/NOPB	LM2842YQMKX/NOPB
LM22671QMR-ADJ/NOPB	LM22675QMR-ADJ/NOPB	LM22680QMRE-ADJ/NOPB	LM3492AHCQMH/NOPB
LM22671QMRE-5.0/NOPB	LM22675QMRE-5.0/NOPB	LM22680QMRX-ADJ/NOPB	LM3492AHCQMHX/NOPB
LM22671QMRE-ADJ/NOPB	LM22675QMRE-ADJ/NOPB	LM22680QMRX-ADJ/S7002842	LM3492HCQMH/NOPB
LM22671QMRX-ADJ/NOPB	LM22675QMRX-ADJ/NOPB	LM25011AQ1MY/NOPB	LM3492HCQMHX/NOPB
LM22672QMR-5.0/NOPB	LM22676QMR-5.0/NOPB	LM25011AQ1MYX/NOPB	LM3492QMH/NOPB
LM22672QMR-ADJ/NOPB	LM22676QMR-ADJ/NOPB	LM25011Q1MY/NOPB	LM3492QMHX/NOPB
LM22672QMRE-5.0/NOPB	LM22676QMRE-5.0/NOPB	LM25011Q1MYX/NOPB	LM34937QPMH/NOPB
LM22672QMRE-ADJ/NOPB	LM22676QMRE-ADJ/NOPB	LM25117QPMH/NOPB	LM34937QPMHX/NOPB
LM22672QMRX-ADJ/E7002859	LM22676QMRX-5.0/NOPB	LM25117QPMHE/NOPB	LM34937QPSQ/NOPB
LM22672QMRX-ADJ/E7002930	LM22676QMRX-ADJ/NOPB	LM25117QPMHX/NOPB	LM34937QPSQX/NOPB
LM22672QMRX-ADJ/NOPB	LM22676QTJ-5.0/NOPB		

Qualification of ABCD5HV Process in GFAB Scotland

Automotive Grade 1 (As per AEC-Q100 and JEDEC Guidelines)

Approved 08/29/2014

Product Attributes

	Qual Device: LM5006MMNOPB
Automotive Grade Level	Grade 1
Operating Temp Range	-40C to 125C
Wafer Fab Supplier	GFAB 200MM
Die Revision	A
Assembly Site	TIEM-AT
Package Type	VSSOP
Package Designator	DGS
Ball/Lead Count	10

- Qual Device LM5006MMNOPB is qualified at LEVEL1-260C

Qualification Results

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

Type	#	Test Spec	Test Name / Condition	Duration	Qual Device: LM5006MMNOPB
Test Group A - Accelerated Environment Stress Test					
PC	A1	JESD22-113	Automotive Preconditioning Level 1	Level 1-260C	3/743/2 (Note 1)
HAST	A2	JESD22-A110	Biased HAST, 130C/85%RH	96 Hours	3/231/1 (Note 1)
AC	A3	JESD22-A102	Autoclave 121C	96 Hours	3/231/0
TC	A4	JESD22-A104	Temperature Cycle, -65/150C	500 Cycles	3/231/0
TC-BP	A4	per MIL-STD 883 Method 2011	Auto Post TC Bond Pull	-	Pass
HTSL	A6	JESD22-A103	High Temp Storage Bake 150C	1000 Hours	1/50/0
Test Group B - Accelerated Lifetime Simulation Test					
HTOL	B1	JESD22-A108	Life Test, 125C	1000 Hours	3/231/0
ELFR	B2	AEC-Q100-008	Early Life Failure Rate, 125C	48 Hours	3/2400/0
Test Group C - Package Assembly Integrity Tests					
WBS	C1	AEC-Q100-001	Auto Wire Bond Shear	Cpk>1.33, Ppk>1.67	Pass
WBP	C2	MIL-STD883 Method 2011	Auto Wire Bond Pull	Cpk>1.33, Ppk>1.67	Pass
Test Group E - Electrical Verification					
HBM	E2	AEC-Q100-002	ESD - HBM	2000 V	3/9/0
CDM	E3	AEC-Q100-011	ESD - CDM	750 V	3/9/0
LU	E4	AEC-Q100-004	Latch-up	LUPS 25C	3/18/0
LU	E4	AEC-Q100-004	Latch-up	LUPS 125C	3/18/0
Additional Tests					
MQ		Per site Specification	Manufacturability (Wafer Fab)	-	Pass
WLR		Per site Specification	Wafer level Reliability	-	Pass

Note 1: EOS, Invalid failures not related to the ABCD5HV technology or stress

A1 (PC): Preconditioning:
Performed for Biased HAST, AC, & TC samples, as applicable.

Junction Operating Temperature by Automotive Grade Level:
Grade 0 (or E): -40Â°C to +150Â°C
Grade 1 (or Q): -40Â°C to +125Â°C
Grade 2 (or T): -40Â°C to +105Â°C
Grade 3 (or I) : -40Â°C to +85Â°C
Grade 4 (or C): -40Â°C to +70Â°C

E1 (TEST): Electrical test temperatures of Qual samples (High temperature according to Grade level):
Room/Hot/Cold : HTOL
Room/Hot : HAST, TC , HTSL, ELFR, ESD & LU
Room : AC

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.

Location	E-Mail
USA	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
Japan	PCNJapanContact@list.ti.com