PCN Number:	20180308002-001	**PCN Date:**	Mar 26, 2018
Title:	Transfer of select VIP3 devices from GFAB to DFAB Wafer Fab site		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	Sep 26, 2018	**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 transfer of select VIP3 devices from GFAB to the DFAB (DL-LIN) Wafer Fab site for the selected devices listed in the "Product Affected" section.

Current Fab Site			New Fab Site		
Current Fab Site	**Process**	**Wafer Diameter**	**New Fab Site**	**Process**	**Wafer Diameter**
GFAB6	VIP3	150 mm	DL-LIN	VIP3	200 mm

Qual details are provided in the Qual Data Section.

Reason for Change:

Greenock, Scotland (GFAB) Wafer Fab site closure

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

None

Changes to product identification resulting from this PCN:

Current:

Current Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
GFAB6	GF6	GBR	Greenock

New Fab Site:

New Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
DL-LIN	**DLN**	**USA**	**Dallas**

Sample product shipping label (not actual product label)

Product Affected:

LM7321QMF/NOPB	LM7321QMFX/NOPB	LM7322QMA/NOPB	LM7322QMAX/NOPB
LM7321QMFE/NOPB			

Automotive New Product Qualification Summary

(As per AEC-Q100 and JEDEC Guidelines)

VIP3 Qualification at DFAB

Approved 06-Mar-2018

Product Attributes

Attributes	Qual Device: LM6172IM/NOPB
Operating Temp Range	-
Automotive Grade Level	-
Product Function	Feedback Amplifier
Wafer Fab Supplier	DFAB 200MM
Wafer Process	VIP3
Die Revision	C
Assembly Site	TIEMA
Package Type	SOIC
Package Designator	D
Ball/Lead Count	8

- Qual Devices qualified at LEVEL1-260CG: LM6172IM/NOPB

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: LM6172IM/NOPB
Test Group A – Accelerated Environment Stress Tests								
	HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST, 130C/85%RH	96 Hours	3/231/0
	AC	A3	JEDEC JESD22-A102	3	77	Autoclave 121C	96 Hours	3/231/0
	TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle, -65/150C	500 Cycles	3/231/0
	TC-BP	C2	MIL-STD883 Method 2011	1	30	Post Temp. Cycle Bond Pull	500 Cycles	3/15/0
	PTC	A5	JEDEC JESD22-A105	1	45	Power Temperature Cycle	1000 Cycles	N/A
	HTSL	A6	JEDEC JESD22-A103	1	45	High Temp Storage Bake 150C	1000 Hours	3/231/0
Test Group B – Accelerated Lifetime Simulation Tests								
	HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 125C	1000 Hours	3/231/0
	ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate, 125C	48 Hours	3/2400/0
	EDR	B3	AEC Q100-005	3	77	NVM Endurance, Data Retention, and Operational Life	--	N/A
Test Group C – Package Assembly Integrity Tests								
	WBS	C1	AEC Q100-001	1	30	Bond Shear (Cpk>1.67)	Wires	1/30/0
	WBP	C2	MIL-STD883 Method 2011	1	30	Bond Pull (Cpk>1.67)	Wires	1/30/0
	SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability >95% Lead Coverage	Pb & Pb-Free	1/30/0
	PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions (Cpk>1.67)	--	3/30/0
	SBS	C5	AEC Q100-010	3	50	Solder Ball Shear (Cpk>1.67)	Post HTSL/Bump	N/A
Test Group D – Die Fabrication Reliability Tests								
	EM	D1	JESD61	-	-	Electromigration	--	Completed Per Process Technology Requirements
	TDDB	D2	JESD35	-	-	Time Dependant Dielectric Breakdown	--	Completed Per Process Technology Requirements
	HCI	D3	JESD60 & 28	-	-	Hot Injection Carrier	--	Completed Per Process Technology Requirements
	NBTI	D4	-	-	-	Negative Bias Temperature Instability	--	Completed Per Process Technology Requirements
	SM	D5	-	-	-	Stress Migration	--	Completed Per Process Technology Requirements
Test Group E – Electrical Verification Tests								
	ED	E5	AEC Q100-009	3	30	Electrical Distributions	Cpk>1.67 Room, Hot, & Cold	3/90/0
Additional Tests								
	MQ			-	-	Manufacturability (Auto Assembly)	(per automotive requirements)	3/Pass
	MQ			-	-	Manufacturability (Wafer Fab)	(per mfg. Site specification)	3/Pass

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

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.

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