PCN Number:	20241217001.1	PCN Date:	December 18, 2024
Title:	Qualification of FFAB using qualified Process Technology, Die Revision, Assembly site (TI Mexico) BOM options & Datasheet updates for select devices		
Customer Contact:	Change Management Team	Dept:	Quality Services
Proposed 1st Ship Date:	March 18, 2025	Sample requests accepted until:	January 17, 2025*

***Sample requests received after January 17, 2025 will not be supported.**

Change Type:

☒	Assembly Site	☒	Design	☐	Wafer Bump Material
☐	Assembly Process	☒	Data Sheet	☐	Wafer Bump Process
☒	Assembly Materials	☐	Part number change	☒	Wafer Fab Site
☐	Mechanical Specification	☐	Test Site	☒	Wafer Fab Material
☒	Packing/Shipping/Labeling	☐	Test Process	☒	Wafer Fab Process

PCN Details

Description of Change:

Texas Instruments is pleased to announce the addition of FFAB using the BICOMHD qualified process technology and additional Assembly Site (TI Mexico) & BOM options for the devices listed below.

Current Fab Site			Additional Fab Site		
Current Fab Site	Process	Wafer Diameter	Additional Fab Site	Process	Wafer Diameter
DL-LIN	VIP3	150 mm	FR-BIP-1	BICOMHD	200 mm

The die was also changed as a result of the process change.

Construction differences are as follows:

	TI Melaka	TI Mexico
Lead Finish	Matte Sn	NiPdAu
Mount compound	8075531	4147858
Mold compound	8095179	4211880
Pin one designator	notch	dimple

Datasheet changes are as follows:

Changes from Revision D (March 2013) to Revision E (December 2024) **Page**

- Updated the numbering format for tables, figures, and cross-references throughout the document..... 1
- Added *Package Information* table and *Pin Configuration and Functions*, *Specifications*, *ESD Ratings*, *Recommended Operating Conditions*, *Thermal Information*, *Detailed Description*, *Overview*, *Functional Block Diagram*, *Feature Description*, *Device Functional Modes*, *Application and Implementation*, *Typical Applications*, *Power Supply Recommendations*, *Layout*, *Layout Guidelines*, *Layout Example*, *Device and Documentation Support*, and *Mechanical, Packaging, and Orderable Information* sections.....1
- Changed pin names and updated pinout diagram to reflect new naming convention.....3
- Updated *Thermal Information* for the D (SOIC-8) and P (PDIP-8) packages.....4
- Moved *DC and AC Electrical Characteristics* into one table for both ±15V and ±5V specifications.....5
- Changed output short-circuit current for D package.....5
- Updated unity-gain bandwidth from 100MHz to 80MHz for D package.....5
- Updated second harmonic distortion for D package.....5
- Updated third harmonic distortion for D package.....5
- Changed output short-circuit current for D package.....7
- Updated –3dB frequency for D package.....7
- Updated phase margin for D package.....7
- Updated second harmonic distortion for D package.....7
- Updated third harmonic distortion for D package.....7
- Deleted *Maximum Power Dissipation vs Ambient Temperature* 16
- Changed thermal values in *Power Dissipation* to match *Thermal Information* table.....27

The datasheet number will be changing.

Device Family	Change From:	Change To:
LM6172	SNOS792D	**SNOS792E**

These changes may be reviewed at the datasheet links provided.
http://www.ti.com/product/LM6172

Qual details are provided in the Qual Data Section.

Reason for Change:

These changes are part of our multiyear plan to transition products from our 150-millimeter factories to newer, more efficient manufacturing processes and technologies, underscoring our commitment to product longevity and supply continuity.

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

None

Impact on Environmental Ratings:

Checked boxes indicate the status of environmental ratings following implementation of this change. If below boxes are checked, there are no changes to the associated environmental ratings.

RoHS	REACH	Green Status	IEC 62474
☒ No Change	☒ No Change	☒ No Change	☒ No Change

Changes to product identification resulting from this PCN:

Fab Site Information:

Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
DL-LIN	DLN	USA	Dallas
FR-BIP-1	**TID**	**DEU**	**Freising**

Die Rev:

Current	**New**
Die Rev [2P]	**Die Rev [2P]**
C	**A**

Assembly Site Information:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
TI Melaka	CU6	MYS	Melaka
TI Mexico	**MEX**	**MEX**	**Aguascalientes**

Sample product shipping label (not actual product label):

Product Affected:

LM6172IMX/NOPB

For alternate parts with similar or improved performance, please visit the product page on TI.com

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: LM6172IMX/NOPB	QBS Process Reference: THS3491IDDAR	QBS Reference: TCAN1042HVDRQ1	QBS Reference: TCAN1043DQ1	QBS Reference: OPA207ID	QBS Reference: OPA891DR
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	3/231/0	3/231/0	3/231/0	3/231/0	-
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	-	3/231/0	3/231/0	-	-
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	3/231/0	-	-	3/231/0	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	3/231/0	3/231/0	3/231/0	3/231/0	-
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	3/135/0	-	-	-
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	3/231/0	-	-	3/231/0	-
HTSL	A6	High Temperature Storage Life	175C	500 Hours	-	-	-	3/135/0	-	-
HTOL	B1	Life Test	125C	1000 Hours	-	-	-	3/231/0	-	-

Type	#	Test Name	Condition	Duration	Qual Device: LM6172IMX/NOPB	QBS Process Reference: THS3491IDDAR	QBS Reference: TCAN1042HVDRQ1	QBS Reference: TCAN1043DQ1	QBS Reference: OPA207ID	QBS Reference: OPA891DR
HTOL	B1	Life Test	150C	300 Hours	-	-	3/231/0	-	3/231/0	1/77/0
HTOL	B1	Life Test	70C Vcc Max (self heating brings Tj up to 150C)	300 Hours	-	3/231/0	-	-	-	-
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	3/2400/0	-	-	-
ELFR	B2	Early Life Failure Rate	70C (self heating brings Tj up to 150C)	24 Hours	-	3/3000/0	-	-	-	-
SD	C3	PB Solderability	8 hour Steam Aging	-	-	-	1/15/0	-	-	-
SD	C3	PB-Free Solderability	8 hour Steam Aging	-	-	-	1/15/0	-	-	-
PD	C4	Physical Dimensions	Cpk>1.67	-	-	-	3/30/0	-	-	-
ESD	E2	ESD CDM	-	1500 Volts	-	-	-	1/3/0	-	-
ESD	E2	ESD CDM	-	250 Volts	1/3/0	3/9/0	-	-	1/3/0	-
ESD	E2	ESD HBM	-	1000 Volts	1/3/0	3/9/0	-	1/3/0	1/3/0	-
LU	E4	Latch-Up	Per JESD78	-	1/3/0	3/18/0	-	1/6/0	1/3/0	-
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	3/90/0	-	3/90/0	1/30/0	1/30/0

- QBS: Qual By Similarity
- Qual Device LM6172IMX/NOPB is qualified at MSL2 260C

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable
- The following are equivalent HTOL options based on an activation energy of 0.7eV : 125C/1k Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours

- The following are equivalent HTSL options based on an activation energy of 0.7eV : 150C/1k Hours, and 170C/420 Hours
- The following are equivalent Temp Cycle options per JESD47 : -55C/125C/700 Cycles and -65C/150C/500 Cycles

Quality and Environmental data is available at TI's external Web site: http://www.ti.com/

TI Qualification ID: R-NPD-2311-179

For questions regarding this notice, e-mails can be sent to the Change Management team or your local Field Sales Representative.