PCN Number:	20241217007.1	**PCN Date:**	December 18, 2024
Title:	Qualification of FFAB using qualified Process Technology, Die Revision, Assembly site (FMX & MLA), alternate BOM qualification & Datasheet changes 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 qualification of its FFAB fabrication facility as an additional Wafer Fab option for the devices listed below as well as new assembly site (FMX & MLA) and BOM options:

Current Fab Site			Additional Fab Site		
Fab Site	**Process**	**Wafer Diameter**	**Fab Site**	**Process**	**Wafer Diameter**
DL-LIN	BICOM	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:

Group 1 BOM Table (FFAB/Process migration, die change plus FMX as new Assembly site & BOM update):

	TAI	**FMX**
Bond wire composition, diameter	Au, 0.96 mil	**Cu, 0.8 mil**
Device Marking	Pin one stripe, TI Logo	**Pin one dot, TI letters**

Group 2 BOM Table (FFAB/Process migration, die change plus MLA as new Assembly site & BOM update):

	ASESH	HNA	**MLA**
Bond wire composition, diameter	Cu, 1.0 mil	Au, 1.0 mil	**Cu, 0.8 mil**
Mold Compound	SID#EN2000515	SID#450179	**4211880**
Mount Compound	SID#EY1000063	SID#400180	**4224795**
Device Markint	Pin one dot	Pin one dot	**Pin one embossed**

Datasheet updates are included below:

Changes from Revision H (September 2009) to Revision I (December 2024) **Page**

- Updated the numbering format for tables, figures, and cross-references throughout the document..... 1
- Added the *Pin Configuration and Functions*, *Specifications*, *ESD Ratings*, *Recommended Operating Conditions*, *Thermal Information*, *Detailed Description*, *Overview*, *Functional Block Diagram*, *Device Functional Modes*, *Application and Implementation*, *Typical Applications*, *Power Supply Recommendations*, *Layout*, *Layout Guidelines*, *Thermal Considerations*, *Device and Documentation Support*, and *Mechanical, Packaging, and Orderable Information* sections..... 1
- Updated table note 1 on *Absolute Maximum Ratings* to add additional clarification..... 4
- Deleted THS3001HV from *Absolute Maximum Ratings*..... 4
- Deleted THS3001HV from *Recommended Operating Conditions* 4
- Updated *Recommended Operating Conditions* with nominal values..... 4
- Changed Vss to Vcc in *Recommended Operating Conditions* to maintain consistency with *Absolute Maximum Ratings* 4
- Moved *Operating Characteristics* to be included in *Electrical Characteristics* 5
- Changed bandwidth for 0.1dB flatness in *Electrical Characteristics* from 85MHz (5V) and 115MHz (15V) to 65MHz (5V) and 55MHz (15V)..... 5
- Deleted differential gain and phase from *Electrical Characteristics* 5
- Deleted power supply operating range from from *Electrical Characteristics*..... 5
- Deleted *Slew Rate vs Supply Voltage* from *Typical Characteristics* 7
- Deleted *Differential Gain and Phase Loading* from *Typical Characteristics* 7

The datasheet number will be changing.

Device Family	Change From:	Change To:
THS3001	SLOS217H	**SLOS217I**

These changes may be reviewed at the datasheet links provided.
http://www.ti.com/product/THS3001

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]**
A	**A**

Assembly Site Information:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
TI Taiwan	TAI	TWN	Chung Ho, New Taipei City
ASESH	ASH	CHN	Shanghai
HNA	HNT	THA	Ayutthaya
TI Mexico	**MEX**	**MEX**	**Aguascalientes**
MLA	**MLA**	**MYS**	**Kuala Lumpur**

Sample product shipping label (not actual product label):

Product Affected:

Group 1 Device List (FFAB/Process migration, die change plus FMX as new Assembly site & BOM update

THS3001IDR

Group 2 Device List (FFAB/Process migration, die change plus MLA as new Assembly site & BOM update

THS3001IDGNR

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: THS3001IDR	QBS Process Reference: THS3491IDDAR	QBS Package Reference: LM393BIDR	QBS Package Reference: UCC28061DR	QBS Package Reference: TCAN1043DQ1	QBS Package Reference: MC33063ADR	QBS Process Reference: THS3095DDAR	QBS Process Reference: THS2630SDR
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	3/231/0	3/231/0	-	3/231/0	3/231/0	3/230/0	-
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	-	-	3/227/0	3/231/0	-	-	-
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	3/231/0	3/231/0	-	-	3/231/0	3/231/0	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	3/231/0	3/231/0	3/227/0	3/231/0	3/231/0	3/231/0	-
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	3/231/0	-	3/231/0	-	3/231/0	3/231/0	-
HTSL	A6	High Temperature Storage Life	175C	500 Hours	-	-	3/231/0	-	3/135/0	-	-	-
HTOL	B1	Life Test	125C	1000 Hours	-	-	3/231/0	-	3/231/0	1/77/0	-	-
HTOL	B1	Life Test	140C	480 Hours	-	-	-	-	-	-	-	1/77/0
HTOL	B1	Life Test	70C Vcc Max (self heating brings Tj up to 150C)	300 Hours	-	3/231/0	-	-	-	-	-	-

Type	#	Test Name	Condition	Duration	Qual Device: THS3001IDR	QBS Process Reference: THS3491IDDAR	QBS Package Reference: LM393BIDR	QBS Package Reference: UCC28061DR	QBS Package Reference: TCAN1043DQ1	QBS Package Reference: MC33063ADR	QBS Process Reference: THS3095DDAR	QBS Process Reference: THS2630SDR
ELFR	B2	Early Life Failure Rate	70C (self heating brings Tj up to 150C)	24 Hours	-	3/3000/0	-	-	-	-	-	-
ESD	E2	ESD CDM	-	1500 Volts	-	-	-	-	1/3/0	-	-	-
ESD	E2	ESD CDM	-	250 Volts	1/3/0	3/9/0	2/6/0	-	-	-	1/3/0	1/3/0
ESD	E2	ESD HBM	-	1000 Volts	1/3/0	3/9/0	2/6/0	-	-	-	1/3/0	1/3/0
ESD	E2	ESD HBM	-	4000 Volts	-	-	-	-	1/3/0	-	-	-
LU	E4	Latch-Up	Per JESD78	-	1/3/0	3/18/0	2/6/0	-	1/6/0	-	1/3/0	1/3/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	3/90/0	3/90/0	-	3/90/0	1/30/0	1/30/0	1/30/0
FTY	E6	Final Test Yield	-	-	-	-	1/Pass	-	-	-	-	1/Pass

- QBS: Qual By Similarity, also known as Generic Data
- Qual Device THS3001IDR is qualified at MSL1 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-2401-156

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: THS3001IDGNR	QBS Product Reference: THS3001IDR	QBS Package Reference: OPA2828IDGNR	QBS Process Reference: THS3095DDAR	QBS Package Reference: THS3091IDGNR	QBS Process Reference: THS2630SDR
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	-	3/230/0	-	-
HAST	A2	Temperature Humidity Bias	85C/85%RH	1000 Hours	-	-	3/230/0	-	-	-
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	-	3/231/0	3/231/0	1/77/0	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	3/231/0	3/231/0	1/77/0	-
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	3/231/0	-	-	-
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	-	-	3/231/0	-	-
HTOL	B1	Life Test	115C[1]	300 Hours	-	-	1/76/0	-	-	-
HTOL	B1	Life Test	140C	480 Hours	-	-	-	-	-	1/77/0

Type	#	Test Name	Condition	Duration	Qual Device: THS3001IDGNR	QBS Product Reference: THS3001IDR	QBS Package Reference: OPA2828IDGNR	QBS Process Reference: THS3095DDAR	QBS Package Reference: THS3091IDGNR	QBS Process Reference: THS2630SDR
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes); PB-Free Solder;	-	-	-	1/22/0	-	-	-
PD	C4	Physical Dimensions	(per mechanical drawing)	-	-	-	3/15/0	-	-	-
ESD	E2	ESD CDM	-	250 Volts	1/3/0	1/3/0	1/3/0	1/3/0	1/3/0	1/3/0
ESD	E2	ESD HBM	-	1000 Volts	-	1/3/0	1/3/0	1/3/0	1/3/0	1/3/0
LU	E4	Latch-Up	Per JESD78	-	-	1/3/0	1/3/0	1/3/0	1/3/0	1/3/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	1/30/0	1/30/0	1/30/0	1/30/0	1/30/0

- QBS: Qual By Similarity, also known as Generic Data
- Qual Device THS3001IDGNR 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-2402-005

[1] Tj=150C

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

IMPORTANT NOTICE AND DISCLAIMER

TI PROVIDES TECHNICAL AND RELIABILITY DATA (INCLUDING DATASHEETS), DESIGN RESOURCES (INCLUDING REFERENCE DESIGNS), APPLICATION OR OTHER DESIGN ADVICE, WEB TOOLS, SAFETY INFORMATION, AND OTHER RESOURCES “AS IS” AND WITH ALL FAULTS, AND DISCLAIMS ALL WARRANTIES, EXPRESS AND IMPLIED, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF THIRD PARTY INTELLECTUAL PROPERTY RIGHTS.

These resources are intended for skilled developers designing with TI products. You are solely responsible for (1) selecting the appropriate TI products for your application, (2) designing, validating and testing your application, and (3) ensuring your application meets applicable standards, and any other safety, security, or other requirements. These resources are subject to change without notice. TI grants you permission to use these resources only for development of an application that uses the TI products described in the resource. Other reproduction and display of these resources is prohibited. No license is granted to any other TI intellectual property right or to any third party intellectual property right. TI disclaims responsibility for, and you will fully indemnify TI and its representatives against, any claims, damages, costs, losses, and liabilities arising out of your use of these resources.

TI’s products are provided subject to TI’s Terms of Sale (www.ti.com/legal/termsofsale.html) or other applicable terms available either on ti.com or provided in conjunction with such TI products. TI’s provision of these resources does not expand or otherwise alter TI’s applicable warranties or warranty disclaimers for TI products.