12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20230629002.1A
Qualification of new Fab site (FFAB) using qualified Process Technology, Die Revision and additional Assembly BOM options for select devices
Change Notification / Sample Request

Date: July 05, 2023
To: TOKYO ELECTRON DEVICE (DSTR) PCN

Dear Customer:

is being issued to remove devices that were inadvertently included in the PCN but not listed in the product affected section. The devices being removed were listed on the customer's page 2 of the PCN only.

This is an announcement of a change to a device that is currently offered by Texas Instruments (TI). The details of this change are on the following pages, and are in alignment with our standard product change notification (PCN) process.

TI requires acknowledgement of receipt of this notification within 30 days of the date of this notice. Lack of acknowledgement of this notice within 30 days constitutes acceptance and approval of this change. If samples or additional data are required, requests must be received within 30 days of this notification, given that samples are not built ahead of the change.

The Proposed First Ship date in this PCN letter is the earliest possible date that customers could receive the changed material. It is our commitment that the changed device will not ship before that date. If samples are requested within the 30 day sample request window, customers will still have 30-days to complete their evaluation regardless of the proposed 1st ship date.

This particular PCN is related to TI's multiyear transition plan for our two remaining factories with 150-millimeter production (DFAB in Dallas, Texas, and SFAB in Sherman, Texas). DFAB will remain open, but will focus on 200-mm production, with a smaller set of technologies. SFAB will close no earlier than 2024 and no later than 2025. As referenced in the "reason for change" below, these changes are part of our multiyear plan to transition these products to newer, more efficient manufacturing processes and technologies, underscoring our commitment to product longevity and supply continuity.

For questions regarding this notice or to provide acknowledgement of this PCN, you may contact your local Field Sales Representative or the Change Management team. For sample requests or sample related questions, contact your local Field Sales Representative. As always, we thank you for your continued business.

Change Management Team
SC Business Services

20230629002.1A
Attachment: 1

Products Affected:

The devices listed on this page are a subset of the complete list of affected devices. According to our records, you have recently purchased these devices. The corresponding customer part number is also listed, if available.

DEVICE	CUSTOMER PART NUMBER
XTR115U	null
XTR115UA	null

Technical details of this Product Change follow on the next page(s).

PCN Number:	20230629002.1**A**	PCN Date:	July 05, 2023
Title:	Qualification of new Fab site (FFAB) using qualified Process Technology, Die Revision and additional Assembly BOM options for select devices		
Customer Contact:	Change Management team	Dept:	Quality Services
Proposed 1st Ship Date:	Sep 29, 2023	Estimated Sample Availability:	Jul 29, 2023

***Sample requests received after July 29, 2023 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 Materials
☒	Packing/Shipping/Labeling	☐	Test Process	☒	Wafer Fab Process

PCN Details

Description of Change:

Revision A is being issued to remove devices that were inadvertently included in the PCN but not listed in the product affected section. The devices being removed were listed on the customer's page 2 of the PCN only.

Texas Instruments is pleased to announce the qualification of a new fab & process technology (FFAB, BICOM3XHV) and assembly BOM options (MLA) for selected devices as listed below in the product affected section.

Current Fab Site			Additional Fab Site		
Current Fab Site	**Process**	**Wafer Diameter**	**Additional Fab Site**	**Process**	**Wafer Diameter**
SFAB	JIBB	150 mm	FFAB	BICOM3XHV	200 mm

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

Assembly BOM options are noted below:

	Current	Additional
Wire Type	1.15 mil Au	1.0 mil Cu
Mount compound	4205846	4147858
Mold compound	4209640	4226323

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
SH-BIP-1	SHE	USA	Sherman
FR-BIP-1	**TID**	**DEU**	**Freising**

Die Rev:

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

Sample product shipping label (not actual product label)

Product Affected:

XTR115U/2K5	XTR115UA/2K5	XTR116U/2K5	XTR116UA/2K5

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: XTR115U	QBS Process Reference: OPA1637DGKT	QBS Package Reference: INA849DR
HAST	A2	Biased HAST	130C	96 Hours	-	3/231/0	-
HAST	A2	Temperature Humidity Bias	85C/85%RH	1000 Hours	-	-	3/231/0
UHAST	A3	Unbiased HAST	130C	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	-65/150C	750 Cycles	-	3/231/0	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	3/231/0
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	3/231/0	3/231/0
HTOL	B1	Life Test	100C	300 Hours	-	-	1/77/0
HTOL	B1	Life Test	150C	300 Hours	-	3/231/0	-
ELFR	B2	Early Life Failure Rate	150C	24 Hours	-	3/2400/0	-
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
LU	E4	Latch-Up	Per JESD78	-	1/6/0	3/18/0	1/6/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	3/90/0	1/30/0

- QBS: Qual By Similarity

- Qual Device XTR115U 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/

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: XTR116UA	QBS Process Reference: OPA1637DGKT	QBS Product Reference: XTR115U	QBS Package Reference: INA849DR
HAST	A2	Biased HAST	130C	96 Hours	-	3/231/0	-	-
HAST	A2	Temperature Humidity Bias	85C/85%RH	1000 Hours	-	-	-	3/231/0
UHAST	A3	Unbiased HAST	130C	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	-65/150C	750 Cycles	-	3/231/0	-	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	3/231/0	-	3/231/0
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	3/231/0	-	3/231/0
HTOL	B1	Life Test	100C[A]	300 Hours	-	-	-	1/77/0
HTOL	B1	Life Test	150C	300 Hours	-	3/231/0	-	-
ELFR	B2	Early Life Failure Rate	150C	24 Hours	-	3/2400/0	-	-
ESD	E2	ESD CDM	-	250 Volts	-	3/9/0	1/3/0	1/3/0
ESD	E2	ESD HBM	-	1000 Volts	-	3/9/0	1/3/0	1/3/0
LU	E4	Latch-Up	Per JESD78	-	-	3/18/0	1/3/0	1/6/0
CHAR	E5	Electrical Characterization	Per datasheet specifications	-	1/30/0	3/90/0	1/30/0	1/30/0

- QBS: Qual By Similarity
- Qual Device XTR116UA 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

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Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

[A] Tj =150C

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: XTR115U Die rev AB	QBS Package Reference: INA848ID	QBS Process Reference: OPA1637DGKT	QBS Product Reference: XTR115U Die rev AA	QBS Package Reference: INA849DR
HAST	A2	Biased HAST	130C	96 Hours	-	-	3/231/0	-	-
HAST	A2	Temperature Humidity Bias	85C/85%RH	1000 Hours	-	3/231/0	-	-	3/231/0
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	3/231/0	3/231/0	-	3/231/0
TC	A4	Temperature Cycle	-65/150C	500 Cycles	-	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
HTOL	B1	Life Test	100C[1]	300 Hours	-	3/231/0	-	-	1/77/0
HTOL	B1	Life Test	150C	300 Hours	-	-	3/231/0	-	-
ELFR	B2	Early Life Failure Rate	150C	24 Hours	-	-	3/2400/0	-	-
ESD	E2	ESD CDM	-	250 Volts	-	1/3/0	3/9/0	1/3/0	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	-	-	1/6/0	3/18/0	1/6/0	1/6/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	2/60/0	3/90/0	-	1/30/0

- QBS: Qual By Similarity
- Qual Device XTR115U/2K5 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/

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

TI Qualification ID: R-CHG-2209-050

[1] Tj of device at 150C

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

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