



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20250430001.1

**Qualification of FFAB using qualified Process Technology, Die Revision, Datasheet
and additional Assembly Site & BOM options for select devices
Change Notification / Sample Request**

Date: May 01, 2025

To: MOUSER PCN

Dear Customer:

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 60 days of the date of this notice. Lack of acknowledgement of this notice within 60 days constitutes acceptance and approval of this change. If samples or additional data are required, requests must be received within 60 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 60 day sample request window, customers will still have 30-days to complete their evaluation regardless of the proposed 1st ship date.

Changes outlined in this notification underscore our commitment to product longevity and supply continuity, as well as our continued efforts to transition to newer, more efficient manufacturing processes and technologies. Specifically, this particular notification is related to TI's multiyear transition plan for our two remaining 150-millimeter production lines (DFAB in Dallas, Texas, and SFAB in Sherman, Texas). SFAB closure activities are expected to begin by the end of 2025. DFAB will remain open with a smaller set of 200mm technologies and GaN.

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.

TI values customer engagement and feedback related to TI changes. Customers should contact TI if there are questions or concerns regarding a change notification.

Change Management Team
SC Business Services

20250430001.1
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
OPA237NA/3K	NULL
OPA237UA/2K5	NULL
OPA2237UA/2K5	NULL
OPA2237EA/2K5	NULL

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

PCN Number:	20250430001.1	PCN Date:	May 01, 2025																		
Title:	Qualification of FFAB using qualified Process Technology, Die Revision, Datasheet and additional Assembly Site & BOM options for select devices																				
Customer Contact:	Change Management Team	Dept:	Quality Services																		
Proposed 1st Ship Date:	July 30, 2025	Sample requests accepted until:	June 30, 2025*																		
*Sample requests received after June 30, 2025 will not be supported.																					
Change Type:																					
<input checked="" type="checkbox"/>	Assembly Site	<input checked="" type="checkbox"/>	Design																		
<input checked="" type="checkbox"/>	Assembly Process	<input checked="" type="checkbox"/>	Data Sheet																		
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change																		
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Test Site																		
<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process																		
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Bump Material																		
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Bump Process																		
<input type="checkbox"/>		<input checked="" type="checkbox"/>	Wafer Fab Site																		
<input type="checkbox"/>		<input checked="" type="checkbox"/>	Wafer Fab Material																		
<input type="checkbox"/>		<input checked="" type="checkbox"/>	Wafer Fab Process																		
PCN Details																					
Description of Change:																					
Texas Instruments is pleased to announce the addition of FFAB using the BICOM3XHV qualified process technology and additional Assembly Sites (MLA & CDAT) and BOM options for the devices listed below.																					
<table border="1"> <thead> <tr> <th colspan="3">Current Fab Site</th> <th colspan="3">Additional Fab Site</th> </tr> <tr> <th>Current Fab Site</th> <th>Process</th> <th>Wafer Diameter</th> <th>Additional Fab Site</th> <th>Process</th> <th>Wafer Diameter</th> </tr> </thead> <tbody> <tr> <td>SFAB</td> <td>JIBB</td> <td>150 mm</td> <td>FFAB</td> <td>BICOM3XHV</td> <td>200 mm</td> </tr> </tbody> </table>			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	
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.																					
Construction differences are as follows:																					
Group 1 device:																					
	Current	Proposed																			
Assembly site	MLA	MLA																			
Wire diam/type	1.15mil, 1.3mil Au	0.8mil Cu																			
Mount compound	4205846	4147858																			
Mold compound	4209640	4211880																			
Topside marking	BB letters	TI letters																			
Group 2 device:																					
	ASESH	MLA																			
Wire diam/type	1.0mil Cu	0.8mil Cu																			
Lead finish	NiPdAuAg	NiPdAu																			
Mount compound	SID#EY1000063	4147858																			
Mold compound	SID#EN2000631	4211880																			
Topside marking	No logo	TI letters																			
Group 3 device:																					
	TFME	CDAT																			
Wire diam/type	1.0mil Au	0.8mil Cu																			
Lead finish	NiPdAu	MatteSn																			
Mount compound	SID# A-03	4207123																			
Mold compound	SID#R-13	4222198																			
Pin 1 ID marking	Stripe	Dot																			
Upon expiry of this PCN, TI will combine lead finish solutions in a single standard part number. For example, a customer order for 7500 units of a specific TI part number with 2500 units SPQ (Standard Pack Quantity per reel) may be fulfilled in the following ways:																					

- 3 reels of NiPdAu finish.
- 3 reels of Matte Sn finish
- 2 reels of Matte Sn and 1 reel of NiPdAu finish
- 2 reels of NiPdAu and 1 reel of Matte Sn finish

The datasheets will be changing as a result of the above mentioned changes. The datasheet change details can be reviewed in the datasheet revision history. The links to the revised datasheets are available in the table below.



OPA237, OPA2237

SBOS057B – OCTOBER 1996 – REVISED APRIL 2025

Changes from Revision A (February 2007) to Revision B (April 2025)	Page
• Updated the numbering format for tables, figures, and cross-references throughout the document.....	1
• Changed quiescent current unit from μV to μA in <i>Features</i>	1
• Updated <i>Pin Configurations and Functions</i> to latest standards and added <i>Pin Functions</i> tables.....	3
• Added input current to <i>Absolute Maximum Ratings</i>	4
• Added <i>Recommended Operating Conditions</i>	4
• Added <i>Thermal Information</i>	4
• Updated junction-to-ambient thermal resistance for OPA237 packages.....	4
• Updated junction-to-ambient thermal resistance for OPA2237 packages.....	4
• Updated all <i>Electrical Characteristics</i> tables to latest format.....	5
• Added test condition $V_O = V_S/2$	5
• Changed maximum input offset voltage from $\pm 750\mu\text{V}$ to $\pm 950\mu\text{V}$	5
• Deleted table note "Specified by wafer-level test to 95% confidence".....	5
• Changed maximum input offset voltage drift from $5\mu\text{V}/^\circ\text{C}$ to $7.5\mu\text{V}/^\circ\text{C}$	5
• Updated table note 1.....	5
• Updated V_{CM} range format to refer to rails.....	5
• Changed minimum common-mode rejection ratio from 75dB to 71dB.....	5
• Changed differential input impedance from $5 \cdot 10^6\Omega$ to $5\text{M}\Omega$	5
• Changed common-mode input impedance from $5 \cdot 10^9\Omega$ to $5\text{T}\Omega$	5
• Changed minimum open-loop voltage gain from 80dB to 75dB.....	5

• Changed test condition for open-loop voltage gain from 0.5V to 0.55V.....	5
• Changed typical slew rate from 0.5V/μs to 0.45V/μs.....	5
• Added V– to negative rail rows and moved positive and negative labels to test conditons for voltage output...	5
• Changed test condition of voltage output for $R_L = 100k\Omega$ from "Ground" to V–.....	5
• Changed maximum voltage output for $R_L = 100k\Omega$ from negative rail from 0.01V to (V–) + 0.05V.....	5
• Updated short circuit current to show separated rows for source and sink.....	5
• Changed short-circuit sourcing current from 3.5mA to 7mA.....	5
• Changed short-circuit sinking current from –5mA to –10mA.....	5
• Changed typical quiescent current from 160μA to 150μA.....	5
• Added test condition $V_O = V_S/2$	6
• Deleted table note "Specified by wafer-level test to 95% confidence".....	6
• Changed channel separation from 0.5μV/V to 1μV/V.....	6
• Updated table note 1.....	6
• Updated V_{CM} range format to refer to rails.....	6
• Changed minimum common-mode rejection ratio for from 78dB to 76dB.....	6
• Changed differential input impedance from $5 \cdot 10^6\Omega$ to $5M\Omega$	6
• Changed common-mode input impedance from $5 \cdot 10^9\Omega$ to $5T\Omega$	6
• Changed typical slew rate from 0.5V/μs to 0.45V/μs.....	6
• Added V– to negative rail rows and moved positive and negative labels to test conditions for voltage output..	6
• Changed test condition of voltage output for $R_L = 100k\Omega$ from "Ground" to V–.....	6
• Changed minimum voltage output from positive rail from (V+) – 1V to (V+) – 1.5V.....	6
• Changed maximum voltage output from negative rail from (V–) + 0.01V to (V–) + 0.1V.....	6
• Changed minimum voltage output from positive rail from (V+) – 1V to (V+) – 1.5V.....	6
• Changed maximum voltage output from negative rail from (V–) + 0.5V to (V–) + 0.6V.....	6
• Updated short circuit current to show separated rows for source and sink.....	6
• Changed short-circuit sourcing current from 4mA to 8mA.....	6
• Added test condition $V_O = V_S/2$	7
• Changed test condition for input offset voltage from $V_{CM} = 0V$ to $V_{CM} = V_S/2$	7
• Deleted table note "Specified by wafer-level test to 95% confidence".....	7
• Changed channel separation from 0.5μV/V to 1μV/V.....	7
• Updated table note 1.....	7
• Changed test condition for input bias current from $V_{CM} = 0V$ to $V_{CM} = V_S/2$	7
• Changed test condition for input offset current from $V_{CM} = 0V$ to $V_{CM} = V_S/2$	7
• Changed input current noise density from $60fA/\sqrt{Hz}$ to $80fA/\sqrt{Hz}$	7
• Updated V_{CM} range format to refer to rails.....	7
• Changed differential input impedance from $5 \cdot 10^6\Omega$ to $5M\Omega$	7
• Changed common-mode input impedance from $5 \cdot 10^9\Omega$ to $5T\Omega$	7
• Changed slew rate from 0.5V/μs to 0.44V/μs.....	7
• Changed settling time in 0.1% from 18μs to 20μs.....	7
• Changed settling time in 0.01% from 21μs to 24μs.....	7
• Added V– to negative rail rows and moved positive and negative labels to test conditons for voltage output...	7
• Updated short circuit current to show separated rows for source and sink.....	7
• Changed short-circuit sourcing current from 4.5mA to 9.5mA.....	7
• Changed short-circuit sinking current from –8mA to –10mA.....	7
• Deleted ± sign from quiescent current spec.....	7

Product Folder	Current Datasheet Number	New Datasheet Number	Link to full datasheet
OPAx237	SBOS057A	SBOS057B	http://www.ti.com/product/OPA237

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
<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> 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, C	A

Assembly Site Information:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
ASESH	ASH	CHN	Shanghai
TFME	NFM	CHN	Economic Development Zone
CDAT	CDA	CHN	Chengdu
MLA	MLA	MYS	KUALA LUMPUR

Sample product shipping label (not actual product label):



Group 1 Product Affected:

OPA2237UA/2K5	OPA237UA/2K5
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Group 2 Product Affected:

OPA2237EA/2K5

Group 3 Product Affected:

OPA237NA/3K*

*G4 part numbers are available and will remain on NiPdAu flows. This PCN does not apply to existing G4 materials. Please visit TI's [labeling and symbolization](#) page for more information on material designators.

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: OPA237UA/2K5	Qual Device: OPA237NA/3K	Qual Device: OPA237UA/2K5	Qual Device: OPA2237EA/2K5	QBS Process Reference: QPS202QD	QBS Process Reference: OPA1662ADGGRQ1	QBS Reference: SN/4LV244A00GSRQ1	QBS Reference: SN/4LV541A00GSRQ1	QBS Reference: MC-3383ADR	QBS Reference: TFS2001EDGKR	QBS Reference: TLV101200GGRQ1	QBS Reference: SN/4AUP1G08DRVR	QBS Reference: OPA99200BYRQ1
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	-	-	3/2310	-	1/770	1/770	3/2310	1/770	1/770	3/2310	-
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	-	-	-	-	-	1/770	1/770	-	1/770	-	-	-
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	-	-	-	3/2310	-	-	-	3/2310	-	1/770	3/2310	3/2310
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	-	-	3/2310	-	1/770	1/770	3/2310	1/770	1/770	3/2310	3/2310
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	-	-	3/2310	-	1/450	1/450	-	1/770	-	-	-
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	-	-	-	-	-	-	-	3/2310	-	-	-	-
HTSL	A6	High Temperature Storage Life	175C	500 Hours	-	-	-	-	-	-	-	-	-	-	1/770	-	-
HTOL	B1	Life Test	125C	1000 Hours	-	-	-	-	-	-	1/770	-	2/1540	-	-	-	-
HTOL	B1	Life Test	150C	300 Hours	-	-	-	-	3/2310	-	-	-	-	-	1/770	-	-
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	-	-	-	3/24000	-	-	1/6000	-	-	-	-
SD	C3	PB Solderability	Precondition w/155C Dry Bake (4 hrs w/ 15 minutes)	-	-	-	-	-	-	-	1/150	-	-	-	1/150	-	-
SD	C3	PB-Free Solderability	Precondition w/155C Dry Bake (4 hrs w/ 15 minutes)	-	-	-	-	-	-	-	1/150	-	-	1/220	1/150	1/220	-
PD	C4	Physical Dimensions	Cpk=1.67	-	-	-	-	-	-	-	1/100	1/100	-	-	1/100	-	-
ESD	E2	ESD CDM	-	250 Volts	1/30	1/30	1/30	1/30	3/90	-	-	-	1/30	1/30	-	-	-
ESD	E2	ESD CDM	-	500 Volts	-	-	-	-	-	-	1/30	1/30	-	-	1/30	-	-
ESD	E2	ESD HBM	-	1000 Volts	1/30	-	1/30	-	3/90	-	-	-	1/30	1/30	-	-	-
ESD	E2	ESD HBM	-	2000 Volts	-	-	-	-	-	-	1/30	1/30	-	-	1/30	-	-
LU	E4	Latch-Up	Per JESD78	-	1/30	-	1/30	-	1/30	-	1/60	1/60	1/30	1/30	1/60	-	-
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30	-	1/300	-	3/900	-	1/300	1/300	1/300	-	1/300	-	-

- QBS: Qual By Similarity
- Qual Device OPA237UA/2K5 is qualified at MSL1 260C
- Qual Device OPA237NA/3K is qualified at MSL1 260C
- Qual Device OPA2237UA/2K5 is qualified at MSL1 260C
- Qual Device OPA2237EA/2K5 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-CHG-2401-022

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: OPA2237UA	QBS Product Reference: OPA237UA	QBS Product Reference: OPA237NA	QBS Product Reference: OPA2237UA	QBS Product Reference: OPA2237EA	Qual Device: OPA2237UA
ESD	E2	ESD CDM	-	250 Volts	-	-	1/3/0	1/3/0	1/3/0	1/3/0
ESD	E2	ESD HBM	-	1000 Volts	-	-	1/3/0	-	1/3/0	-
LU	E4	Latch-Up	Per JESD78	-	-	-	1/3/0	-	1/3/0	-
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	-	-	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 OPA237UA/2K5 is qualified at MSL1 260C
- Qual Device OPA2237UA/2K5 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

In performing change qualifications, Texas Instruments follows integrated circuit industry standards in performing defect mechanism analysis and failure mechanism-based accelerated environmental testing to ensure wafer fab process, assembly process and product quality and reliability. As encouraged by these standards, TI uses both product-specific and generic (family) data in qualifying its changes. For devices to be categorized as a 'product qualification family' for generic data purposes, they must share similar product, wafer fab process and assembly process elements. The applicability of generic data (also known at TI as Qualification by Similarity (QBS)) is determined by the Reliability Engineering function following these industry standards. Generic data is shown in the qualification report in columns titled "QBS Process" (for wafer fab process), "QBS Package" (for assembly process) and "QBS Product" (for product family).

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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