

PCN Number:	20240613004.1	PCN Date:	June 13, 2024
Title:	Qualification of 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:	September 11, 2024	Sample requests accepted until:	July 13, 2024*
*Sample requests received after July 13, 2024 will not be supported.			
Change Type:			
<input type="checkbox"/>	Assembly Site	<input checked="" type="checkbox"/>	Design
<input checked="" type="checkbox"/>	Assembly Process	<input 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 checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	Wafer Fab Site
<input type="checkbox"/>		<input checked="" type="checkbox"/>	Wafer Fab Material
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	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 in addition to Assembly BOM options for the devices listed below.			
Current Fab Site		Additional Fab Site	
Current Fab Site	Process	Wafer Diameter	Additional Fab Site
SFAB	JIBB	150 mm	FFAB
			Process
			BICOM3XHV
			Wafer Diameter
			200 mm
The die was also changed as a result of the process change.			
Construction differences are as follows:			
	Current	Proposed	
Wire diam/type	1.2mil Au	1.0mil Cu	
Mount compound	4205846	4147858	
Mold compound	4209640	4211880	
Die coat	4221706	N/A	
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]
D	C

Sample product shipping label (not actual product label):

TEXAS INSTRUMENTS
 MADE IN: Malaysia
 2DC: 2Q:
 MSL 2 / 260C/1 YEAR SEAL DT
 MSL 1 / 235C/UNLIM 03/29/04
 OPT:
 ITEM: 39
LBL: 5A (L)T0:1750

(1P) SN74LS07NSR
 (Q) 2000 (D) 0336
 (31T) LOT: 3959047MLA
 (4W) TKY (1T) 7523483SI2
 (P)
 (2P) REV: (V) 0053317
 (20L) CSO: SHE (21L) CCO:USA
 (22L) ASO: MLA (23L) ACO: MYS

Product Affected:

OPA4132UA	OPA4132UA/2K5
-----------	---------------

For alternate parts with similar or improved performance, please visit the product page on [TI.com](https://www.ti.com)

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: OPA4132UA	QBS Product Reference: OPA4140AID	QBS Process Reference: OPA2206ADGKR	QBS Package Reference: TCAN1043D01	QBS Process Reference: TPS7A4701QRGWR01	QBS Package Reference: OPA4388ID	QBS Product Reference: OPA4140AID
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	1/77/0	2/154/0	-	-	2/154/0
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	1/77/0	-	-	3/231/0	3/231/0	-
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	-	1/77/0	2/154/0	-	-	2/154/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	1/77/0	1/77/0	2/154/0	3/231/0	3/231/0	2/154/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	-	-	-	1/45/0	-
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	-	1/77/0	2/154/0	-	-	-
HTSL	A6	High Temperature Storage Life	175C	500 Hours	-	-	-	-	1/45/0	-	-
HTOL	B1	Life Test	125C	1000 Hours	-	-	-	-	1/77/0	3/231/0	-
HTOL	B1	Life Test	150C	300 Hours	-	-	1/77/0	2/154/0	-	-	-

Type	#	Test Name	Condition	Duration	Qual Device: OPA4132UA	QBS Product Reference: OPA4140AID	QBS Process Reference: OPA2206ADGKR	QBS Package Reference: TCAN1043DQ1	QBS Process Reference: TPS7A4701QRGWRQ1	QBS Package Reference: OPA4388ID	QBS Product Reference: OPA4140AID
ELFR	B2	Early Life Failure Rate	150C	24 Hours	-	-	1/800/0	2/2400/0	-	-	-
SD	C3	PB Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	-	-	-	1/15/0	1/15/0	-
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	-	-	-	1/15/0	1/15/0	-
PD	C4	Physical Dimensions	Cpk>1.67	-	-	-	-	-	3/30/0	3/30/0	-
ESD	E2	ESD CDM	-	250 Volts	1/3/0	-	1/3/0	2/6/0	-	-	-
ESD	E2	ESD CDM	-	750 Volts	-	-	-	-	-	1/3/0	-
ESD	E2	ESD HBM	-	1000 Volts	-	-	1/3/0	2/6/0	-	-	-
ESD	E2	ESD HBM	-	2000 Volts	-	1/3/0	-	-	-	1/3/0	-
ESD	E2	ESD HBM	-	4500 Volts	-	-	-	-	-	-	1/3/0
LU	E4	Latch-Up	Per JESD78	-	1/3/0	1/6/0	1/6/0	1/6/0	-	1/6/0	1/3/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	1/30/0	1/30/0	2/60/0	1/30/0	3/90/0	1/30/0

- QBS: Qual By Similarity
- Qual Device OPA4132UA 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-CHG-2403-086

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.