12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN#20240327000.1
Qualification of RFAB using qualified Process Technology, Die Revision, and additional Assembly site options
Change Notification / Sample Request

Date: March 28, 2024
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 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

20240327000.1
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
TPS3813I50DBVR	NULL
TPS3813I50DBVT	NULL
TPS3813J25DBVR	NULL
TPS3813J25DBVT	NULL
TPS3813K33DBVR	NULL
TPS3813K33DBVT	NULL
TPS3813L30DBVR	NULL
TPS3813L30DBVT	NULL

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

PCN Number:	20240327000.1	**PCN Date:**	March 28, 2024
Title:	Qualification of RFAB using qualified Process Technology, Die Revision, and additional Assembly site options		
Customer Contact:	Change Management team	**Dept:**	Quality Services
Proposed 1st Ship Date:	June 26, 2024	**Estimated Sample Availability:**	April 27, 2024*

***Sample requests received after April 27, 2024 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:

Texas Instruments is pleased to announce the addition of RFAB using the LBC9 qualified process technology and additional Assembly site (CDAT, TIPI) options for the device listed below.

Current Fab Site			Additional Fab Site		
Current Fab Site	**Process**	**Wafer Diameter**	**Additional Fab Site**	**Process**	**Wafer Diameter**
DL-LIN	LBC3S	150 mm	RFAB	LBC9	300 mm

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

Additionally, there will be a BOM options introduced for these devices:

	TFME	UTL2	**TIPI**	**CDAT**
Bond wire Composition, diameter	1.0mil Au	Cu, 1.0	**1.0 mil Cu**	0.8mil Cu
Mount Compound	SID# A-03	SID#PZ0001	4207123	4207123
Mold Compound	SID#R-13	SID#CZ0096	**4222656**	4222656
Pin 1 Marking	Stripe	Stripe	**Dot**	Dot
Lead finish	NiPdAu	NiPdAu	**NiPdAu or Matte Sn**	Matte Sn

NOTE: For TPS3813J25DBVR and TPS3813J25DBVT, TFME is the only current site. The remaining devices are at both TFME and UTL2

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
RFAB	**RFB**	**USA**	**Richardson**

Die Rev:

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

Assembly/Test Site Information:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
TFME	NFM	CHN	Economic Development Zone
UTL2	NS2	THA	Bangpakong, Chachoengsao
TIPI	**PHI**	**PHL**	**Baguio City**
CDAT	**CDA**	**CHN**	**Chengdu**

Sample product shipping label (not actual product label)

Product Affected:

TPS3813I50DBVR	TPS3813J25DBVR	TPS3813K33DBVR	TPS3813L30DBVR
TPS3813I50DBVT	TPS3813J25DBVT	TPS3813K33DBVT	TPS3813L30DBVT

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

Qualification Report

TPS3813 Commercial Qualification LBC9-RFAB, DBV6-PHI
Approve Date 04-March-2024

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: TPS3813K33DBVR	QBS Reference: TPS3813K33QDBVRQ1
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	1/77/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	1/77/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	1/77/0
PD	C4	Physical Dimensions	Cpk>1.67	-	-	1/10/0
ESD	E2	ESD CDM	-	500 Volts	-	1/3/0
ESD	E2	ESD HBM	-	2000 Volts	-	1/3/0
LU	E4	Latch-Up	Per JESD78	-	-	1/6/0
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	3/90/0
FTY	E6	Final Test Yield	-	-	1/1/0	1/1/0

- QBS: Qual By Similarity
- Qual Device TPS3813K33DBVR 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-2301-021

Qualification Report

TPS3813 Commercial Qualification LBC9-RFAB, DBV6-CDAT
Approve Date 04-March-2024

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: TPS3813K33DBVR	QBS Reference: BQ79600PWRQ1	QBS Reference: TPS3840PH30DBVRQ1	QBS Reference: TPS3813K33QDBVRQ1
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	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	-	-	-	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	-	3/135/0	3/135/0	1/77/0
HTOL	B1	Life Test	125C	1000 Hours	-	3/231/0	3/231/0	-
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	3/2400/0	-	-
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	1/10/0

Type	#	Test Name	Condition	Duration	Qual Device: TPS3813K33DBVR	QBS Reference: BQ79600PWRQ1	QBS Reference: TPS3840PH30DBVRQ1	QBS Reference: TPS3813K33QDBVRQ1
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	2/60/0	3/90/0	-
FTY	E6	Final Test Yield	-	-	1/1/0	-	-	1/1/0

- QBS: Qual By Similarity
- Qual Device TPS3813K33DBVR 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
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Quality and Environmental data is available at TI's external Web site: http://www.ti.com/

TI Qualification ID: R-NPD-2301-022

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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