12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20230713002.1
Qualification of new Fab site (RFAB) using qualified Process Technology, Die Revision and additional Assembly site/BOM options for select devices
Change Notification / Sample Request

Date: July 14, 2023
To: TOKYO ELECTRON DEVICE (DSTR) 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

20230713002.1
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
TPS54310PWPR	null
TPS54610PWPR	null
TPS54312PWPR	null
TPS54314PWPR	null
TPS54316PWPR	null
TPS54616PWPR	null
TPS54313PWPR	null
TPS54612PWPR	null

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

PCN Number:	20230713002.1	**PCN Date:**	July 14, 2023
Title:	Qualification of new Fab site (RFAB) using qualified Process Technology, Die Revision and additional Assembly site/BOM options for select devices		
Customer Contact:	Change Management team	**Dept:**	Quality Services
Proposed 1st Ship Date:	Oct 13, 2023	**Estimated Sample Availability:**	August 13, 2023*

***Sample requests received after August 13, 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:

Texas Instruments is pleased to announce the qualification of a new fab & process technology (RFAB, LBC7) and additional Assembly site (MLA) for selected devices 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**
DL-LIN	LBC4X	200 mm	RFAB	LBC7	300mm

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

Construction differences are as follows:

Group 1 Devices (RFAB as additional Fab site & MLA BOM update):

	Current	**Proposed**
Mount compound	4042504	4208458
Mold compound	4205443	4211649

Group 2 Devices (RFAB as additional Fab site, MLA as additional Assembly site):

	TITL	**MLA**
Mount compound	4042504	4208458
Mold compound	4205443	4211649

Tube versions of the devices are included in EOL notice PDN# 20230713003.3.

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**

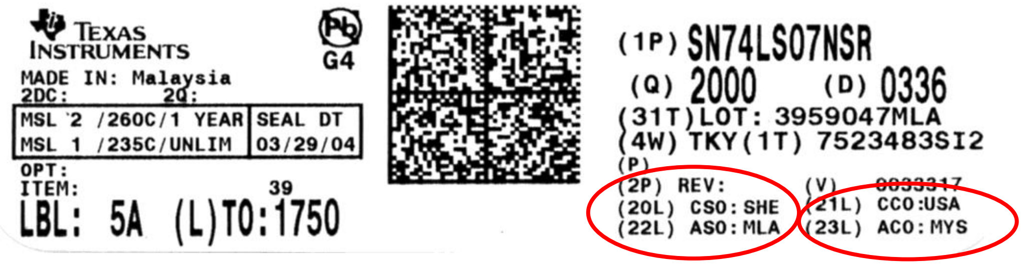
Die Rev:

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

Assembly Site Information:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
TAI	TAI	TWN	Chung Ho, New Taipei City
MLA	**MLA**	**MYS**	**Kuala Lumpur**

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)TO:1750

G4

(1P) SN74LS07NSR
(Q) 2000 (D) 0336
(31T)LOT: 3959047MLA
(4W) TKY(1T) 7523483SI2
(P)
(2P) REV: (V) 0033317
(20L) CSO: SHE (21L) CCO:USA
(22L) ASO: MLA (23L) ACO: MYS

Product Affected:

Group 1 Devices (RFAB as additional Fab site & MLA BOM update):

TPS54610PWPR	TPS54613PWPR	TPS54615PWPR
TPS54612PWPR	TPS54614PWPR	TPS54616PWPR

Group 2 Devices (RFAB as additional Fab site, MLA as additional Assembly site):

TPS54310PWPR	TPS54313PWPR	TPS54315PWPR
TPS54312PWPR	TPS54314PWPR	TPS54316PWPR

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: TPS54610PWPR	QBS Reference: TAS6424RQDKQRQ1	QBS Reference: TPS54618RTER
HAST	A2	Biased HAST	130C/85%RH	96 Hours	QBS	3/231/0	
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	QBS	3/231/0	
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	QBS	3/231/0	
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	QBS	3/135/0	
HTOL	B1	Life Test	125C	1000 Hours	QBS	-	3/231
ESD	E2	ESD CDM	-	1500 Volts	1/3/0	-	
ESD	E2	ESD HBM	-	2000 Volts	1/3/0	-	
LU	E4	Latch-Up	Per JESD78	-	1/3/0	-	

- Applies to TPS54610/2/3/4/5/6PWPR orderable part numbers
- QBS: Qual By Similarity
- TPS5461xPWPR family 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-2210-117

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: TPS54310PWPR	QBS Reference: TAS6424RQDKQRQ1	QBS Reference: TPS54618RTER
HAST	A2	Biased HAST	130C/85%RH	96 Hours	QBS	3/231/0	
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	QBS	3/231/0	
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	QBS	3/231/0	
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	QBS	3/135/0	
HTOL	B1	Life Test	125C	1000 Hours	QBS	-	3/231
ESD	E2	ESD CDM	-	1500 Volts	1/3/0	-	
ESD	E2	ESD HBM	-	2000 Volts	1/3/0	-	
LU	E4	Latch-Up	Per JESD78	-	1/3/0	-	

- QBS: Qual By Similarity
- Qual Device TPS5431xPWPR 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-NPD-2204-036

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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