12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20210611000.1
Qualification of new Fab site (CFAB) using qualified Process Technology, Die Revision and updated BOM options for select devices
Change Notification / Sample Request

Date: June 14, 2021
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 of the 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 previous announcement to close our two remaining factories with 150-millimeter production (DFAB in Dallas, Texas, and SFAB in Sherman, Texas). 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 PCN Team (PCN_ww_admin_team@list.ti.com). For sample requests or sample related questions, contact your local Field Sales Representative. As always, we thank you for your continued business.

PCN Team
SC Business Services

20210611000.1
Attachment: 1

Products Affected:

The devices listed on this page are a subset of the complete list of affected devices. According to our records, these are the devices that you have purchased within the past twenty-four (24) months. The corresponding customer part number is also listed, if available.

DEVICE	CUSTOMER PART NUMBER
LM2903P	null
LM293P	null
LM393P	null
LM393AP	null

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

PCN Number:	20210611000.1	**PCN Date:**	June 14, 2021
Title:	Qualification of new Fab site (CFAB) using qualified Process Technology, Die Revision and updated BOM options for select devices		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	Sep 14, 2021	**Estimated Sample Availability:**	Date provided at sample request.

Change Type:

☐	Assembly Site	☐	Assembly Process	☒	Assembly Materials
☒	Design	☐	Electrical Specification	☐	Mechanical Specification
☐	Test Site	☐	Packing/Shipping/Labeling	☐	Test Process
☐	Wafer Bump Site	☐	Wafer Bump Material	☐	Wafer Bump Process
☒	Wafer Fab Site	☒	Wafer Fab Materials	☒	Wafer Fab Process
		☐	Part number change		

PCN Details

Description of Change:

Texas Instruments is pleased to announce the qualification of a new fab using a qualified process technology (CFAB, JI3) and updated BOM options for select devices as listed below in the product affected section.

Current Fab Site			New Fab Site		
Current Fab Site	**Process**	**Wafer Diameter**	**New Fab Site**	**Process**	**Wafer Diameter**
SFAB	JI1	150 mm	CFAB	JI3	200 mm

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

Construction differences are noted below:

Current Bond wire, Diameter	Additional Bond wire, diameter
Cu, 0.96 mil	**Cu, 0.8 mil**

Reason for Change:

These changes are part of our multiyear plan to transition products from our 150-milimeter 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

Anticipated impact on Material Declaration

☐	No Impact to the Material Declaration	☒	Material Declarations or Product Content reports are driven from production data and will be available following the production release. Upon production release the revised reports can be obtained from the TI ECO website.

Changes to product identification resulting from this PCN:

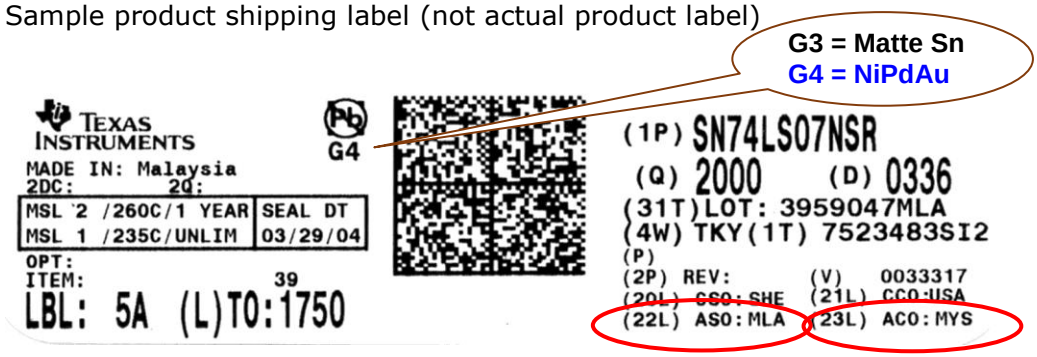
Fab Site Information:

Chip Site	Chip Site Origin Code (20L)	Chip Site Country Code (21L)	Chip Site City
SH-BIP-1	SHE	USA	Sherman
CFAB	**CU3**	**CHN**	**Chengdu**

Die Rev:

	Current	New
Product Family	Die Rev [2P]	**Die Rev [2P]**
LM2903, LM293, LM393P	B	**A**
LM393AP	A	**A**

Sample product shipping label (not actual product label)



Product Affected:

LM2903P	LM293PE4	LM393APE4	LM393PE4
LM293P	LM393AP	LM393P	

Qualification Report

Approve Date 29-Apr-2021

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: LM393AP	QBS Product Reference: LM2903AVQDRQ1	QBS Package Reference: NE5532P	QBS Package Reference: UCC37322P
AC	Autoclave 121C	96 Hours	1/77/0		-	3/231/0
HTOL	Life Test, 150C	300 Hours	-	3/231/0	3/231/0	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-		3/231/0	-
HTSL	High Temp. Storage Bake, 170C	420 Hours	-		-	3/231/0
TC	Temperature Cycle, -65/150C	500 Cycles	1/77/0		-	3/231/0
ED	Electrical Characterization	Per Datasheet Parameters	-	3/90/0	-	-
FLAM	Flammability (UL 94V-0)	-	-		-	3/15/0
LI	Lead Fatigue	Leads	-	-	3/66/0	3/45/0
LI	Lead Pull to Destruction	Leads	-		3/72/0	3/70/0
MQ	Manufacturability (Assembly)	(per mfg. Site specification)	Pass		Pass	Pass
PKG	Lead Finish Adhesion	Leads	-		3/45/0	3/45/0
SD	Solderability	8 Hours Steam Age	-		3/66/0	3/66/0

- QBS: Qual By Similarity
- Qual Device LM393AP is qualified at Not Classified Moisture Sensitivity Level

- 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

For questions regarding this notice, e-mails can be sent to the contacts shown below or your local Field Sales Representative.

Location	E-Mail
USA	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
WW PCN Team	PCN_ww_admin_team@list.ti.com

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