

PCN Number:	20210611000.1A	PCN Date:	March 14, 2022
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:			
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process
<input checked="" type="checkbox"/>	Design	<input type="checkbox"/>	Electrical Specification
<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Packing/Shipping/Labeling
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Wafer Bump Material
<input checked="" type="checkbox"/>	Wafer Fab Site	<input checked="" type="checkbox"/>	Wafer Fab Materials
		<input type="checkbox"/>	Part number change
<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	Assembly Materials
		<input type="checkbox"/>	Mechanical Specification
		<input type="checkbox"/>	Test Process
		<input type="checkbox"/>	Wafer Bump Process
		<input checked="" type="checkbox"/>	Wafer Fab Process

PCN Details

Description of Change:

Revision A is to update the current bond wire information for the **LM393PE4** and replace the Anticipated impact on Material Declaration section with the Impact on Environmental Ratings section content. See below modifications in yellow highlight below.

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	J11	150 mm	CFAB	J13	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 or Au, 0.96 mil **	Cu, 0.8 mil

**** Only LM393PE4 currently has Au, 0.96 mil wire**

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
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)

TEXAS INSTRUMENTS
 MADE IN: Malaysia
 2DC: 20:
 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) 0033317
 (20L) CSO: SHE (21L) CCO: USA
 (22L) ASO: MLA (23L) ACO: MYS

G3 = Matte Sn
 G4 = NiPdAu

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

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