TEXAS INSTRUMENTS **12500 TI Boulevard, MS 8640, Dallas, Texas 75243**

PCN# 20220817001.1
Qualification of new Fab site (FFAB) using qualified Process Technology, Die Revision, Datasheet update and additional Assembly site/BOM options for select devices
Change Notification / Sample Request

Date: August 18, 2022
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 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 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

20220817001.1
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
THS4130CDGK	null

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

PCN Number:	20220817001.1	**PCN Date:**	August 18, 2022
Title:	Qualification of new Fab site (FFAB) using qualified Process Technology, Die Revision, Datasheet update and additional Assembly site for select devices		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	Nov 18, 2022	**Sample requests accepted until:**	Sep 18, 2022*

***Sample requests received after September 18, 2022 will not be supported.**

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 & process technology (FFAB, BICOMHD) and additional Assembly site (HFTF) for selected devices as listed below in the product affected section.

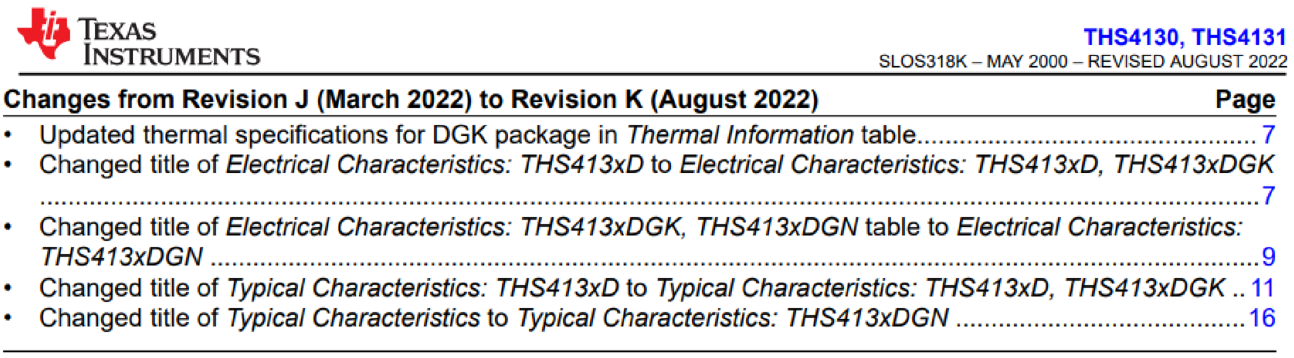
Current Fab Site			**Additional Fab Site**		
Current Fab Site	**Process**	**Wafer Diameter**	**Additional Fab Site**	**Process**	**Wafer Diameter**
DL-LIN	BICOM	150 mm	FFAB	BICOMHD	200 mm

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

Construction differences are noted below:

	HANA	**HFTF**
Mount compound	400154	A-18
Mold Compound	450179	R-30
Wire type	1.0 mil Au	1.0 mil Cu
Lead finish	Non-roughened NiPdAu	Roughened NiPdAu

The datasheet will be changing as a result of the above mentioned changes. The datasheet change details can be reviewed in the datasheet revision history. The link to the revised datasheet is available in the table below.



TEXAS INSTRUMENTS

THS4130, THS4131
SLOS318K – MAY 2000 – REVISED AUGUST 2022

Changes from Revision J (March 2022) to Revision K (August 2022) **Page**

- Updated thermal specifications for DGK package in *Thermal Information* table.. 7
- Changed title of *Electrical Characteristics: THS413xD* to *Electrical Characteristics: THS413xD, THS413xDGK* 7
- Changed title of *Electrical Characteristics: THS413xDGK, THS413xDGN* table to *Electrical Characteristics: THS413xDGN* 9
- Changed title of *Typical Characteristics: THS413xD* to *Typical Characteristics: THS413xD, THS413xDGK* .. 11
- Changed title of *Typical Characteristics* to *Typical Characteristics: THS413xDGN* 16

Product Family	**Current Datasheet Number**	**New Datasheet Number**	**Link to full datasheet**
THS413x	SLOS318J	SLOS318K	https://www.ti.com/product/THS4130

Tube versions of the devices are included in EOL notice PDN# 20220817002.3

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-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

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
FR-BIP-1	**TID**	**DEU**	**Freising**

Die Rev:

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

Assembly Site Information:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
Hana Semiconductor	HNT	THA	Ayutthaya
Hefei Tongfu Microelectronics Co. Ltd.	**HFT**	**CHN**	**Hefei**

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
(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

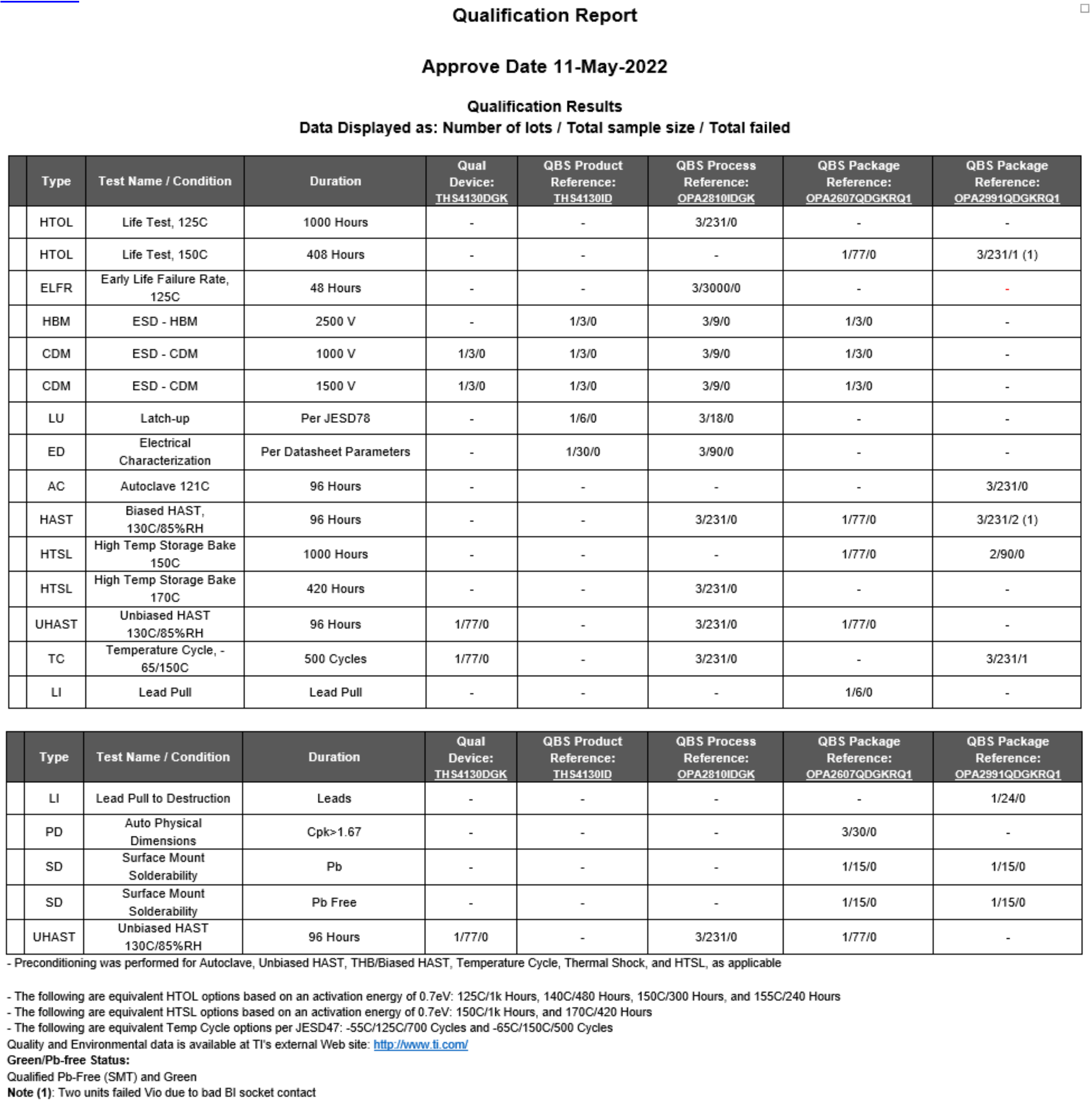
Product Affected:

Group 1 Device list (Wafer fab, die revision, Assembly site/BOM and Datasheet)

THS4130IDGKR	THS4131CDGKR	THS4131IDGKR

Group 2 Device list (Datasheet changes only)		
THS4130CDGK	THS4131CDGK	THS4131IDGK
THS4130IDGK	THS4131CDGKG4	THS4131IDGKG4

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



Qualification Report

Approve Date 11-May-2022

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

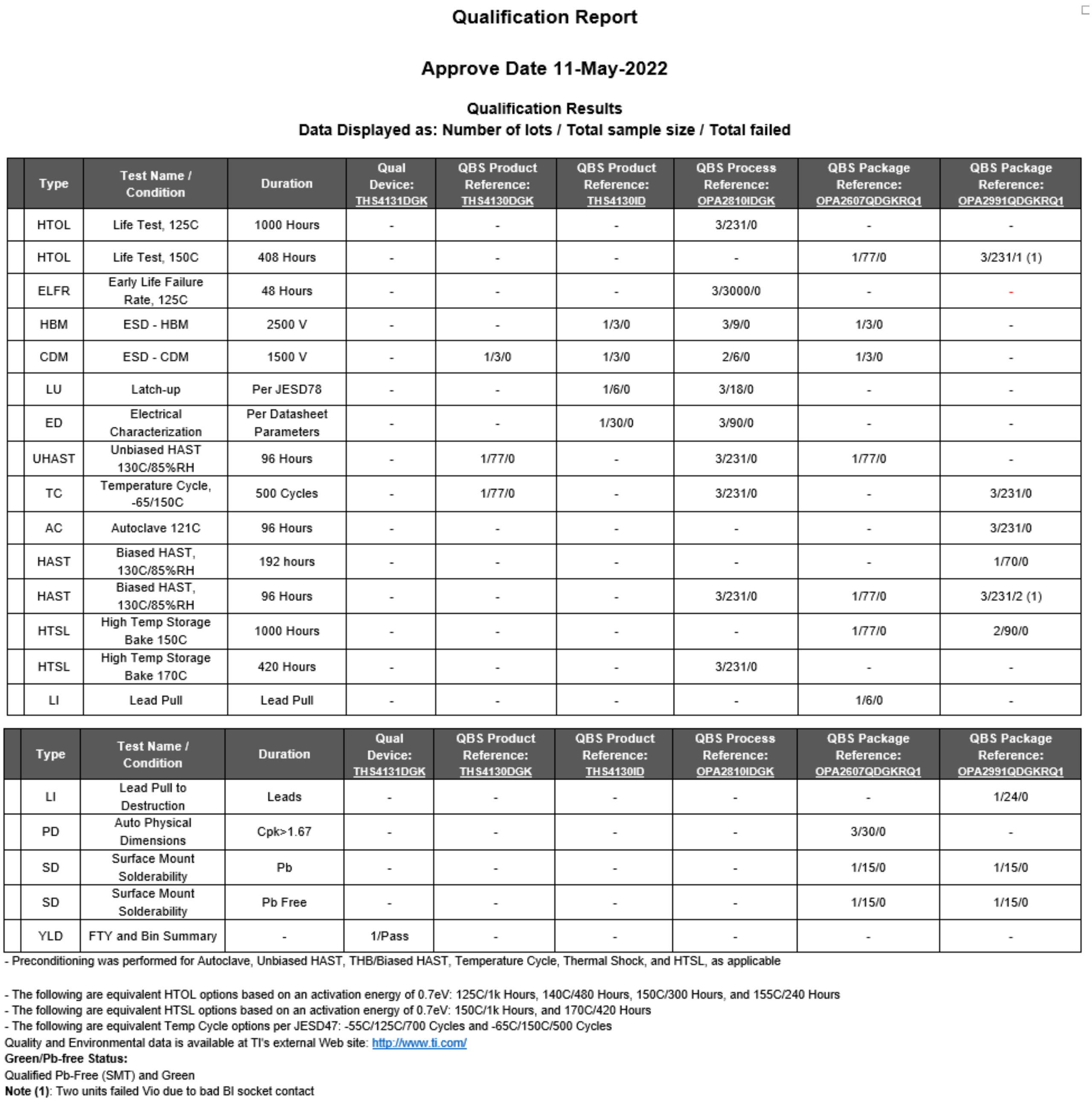
Type	Test Name / Condition	Duration	Qual Device: THS4130DGK	QBS Product Reference: THS4130ID	QBS Process Reference: OPA2810IDGK	QBS Package Reference: OPA2607QDGKRQ1	QBS Package Reference: OPA2991QDGKRQ1
HTOL	Life Test, 125C	1000 Hours	-	-	3/231/0	-	-
HTOL	Life Test, 150C	408 Hours	-	-	-	1/77/0	3/231/1 (1)
ELFR	Early Life Failure Rate, 125C	48 Hours	-	-	3/3000/0	-	-
HBM	ESD - HBM	2500 V	-	1/3/0	3/9/0	1/3/0	-
CDM	ESD - CDM	1000 V	1/3/0	1/3/0	3/9/0	1/3/0	-
CDM	ESD - CDM	1500 V	1/3/0	1/3/0	3/9/0	1/3/0	-
LU	Latch-up	Per JESD78	-	1/6/0	3/18/0	-	-
ED	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	3/90/0	-	-
AC	Autoclave 121C	96 Hours	-	-	-	-	3/231/0
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	3/231/0	1/77/0	3/231/2 (1)
HTSL	High Temp Storage Bake 150C	1000 Hours	-	-	-	1/77/0	2/90/0
HTSL	High Temp Storage Bake 170C	420 Hours	-	-	3/231/0	-	-
UHAST	Unbiased HAST 130C/85%RH	96 Hours	1/77/0	-	3/231/0	1/77/0	-
TC	Temperature Cycle, -65/150C	500 Cycles	1/77/0	-	3/231/0	-	3/231/1
LI	Lead Pull	Lead Pull	-	-	-	1/6/0	-

Type	Test Name / Condition	Duration	Qual Device: THS4130DGK	QBS Product Reference: THS4130ID	QBS Process Reference: OPA2810IDGK	QBS Package Reference: OPA2607QDGKRQ1	QBS Package Reference: OPA2991QDGKRQ1
LI	Lead Pull to Destruction	Leads	-	-	-	-	1/24/0
PD	Auto Physical Dimensions	Cpk>1.67	-	-	-	3/30/0	-
SD	Surface Mount Solderability	Pb	-	-	-	1/15/0	1/15/0
SD	Surface Mount Solderability	Pb Free	-	-	-	1/15/0	1/15/0
UHAST	Unbiased HAST 130C/85%RH	96 Hours	1/77/0	-	3/231/0	1/77/0	-

- 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
Note (1): Two units failed Vio due to bad BI socket contact



Qualification Report

Approve Date 11-May-2022

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

	Type	Test Name / Condition	Duration	Qual Device: THS4131DGK	QBS Product Reference: THS4130DGK	QBS Product Reference: THS4130ID	QBS Process Reference: OPA2810IDGK	QBS Package Reference: OPA2607QDGKRQ1	QBS Package Reference: OPA2991QDGKRQ1
	HTOL	Life Test, 125C	1000 Hours	-	-	-	3/231/0	-	-
	HTOL	Life Test, 150C	408 Hours	-	-	-	-	1/77/0	3/231/1 (1)
	ELFR	Early Life Failure Rate, 125C	48 Hours	-	-	-	3/3000/0	-	-
	HBM	ESD - HBM	2500 V	-	-	1/3/0	3/9/0	1/3/0	-
	CDM	ESD - CDM	1500 V	-	1/3/0	1/3/0	2/6/0	1/3/0	-
	LU	Latch-up	Per JESD78	-	-	1/6/0	3/18/0	-	-
	ED	Electrical Characterization	Per Datasheet Parameters	-	-	1/30/0	3/90/0	-	-
	UHAST	Unbiased HAST 130C/85%RH	96 Hours	-	1/77/0	-	3/231/0	1/77/0	-
	TC	Temperature Cycle, -65/150C	500 Cycles	-	1/77/0	-	3/231/0	-	3/231/0
	AC	Autoclave 121C	96 Hours	-	-	-	-	-	3/231/0
	HAST	Biased HAST, 130C/85%RH	192 hours	-	-	-	-	-	1/70/0
	HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	3/231/0	1/77/0	3/231/2 (1)
	HTSL	High Temp Storage Bake 150C	1000 Hours	-	-	-	-	1/77/0	2/90/0
	HTSL	High Temp Storage Bake 170C	420 Hours	-	-	-	3/231/0	-	-
	LI	Lead Pull	Lead Pull	-	-	-	-	1/6/0	-
	LI	Lead Pull to Destruction	Leads	-	-	-	-	-	1/24/0
	PD	Auto Physical Dimensions	Cpk>1.67	-	-	-	-	3/30/0	-
	SD	Surface Mount Solderability	Pb	-	-	-	-	1/15/0	1/15/0
	SD	Surface Mount Solderability	Pb Free	-	-	-	-	1/15/0	1/15/0
	YLD	FTY and Bin Summary	-	1/Pass	-	-	-	-	-

- Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable

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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
Note (1): Two units failed Vio due to bad BI socket contact

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

Location	**E-Mail**
WW Change Management Team	PCN_ww_admin_team@list.ti.com

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