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

PCN# 20160412001
Qualification of AIZU as an additional Wafer Fab Site option for select devices
Change Notification / Sample Request

Date: 4/27/2016
To: AVNET PCN

Dear Customer:

This is an announcement of a change to a device that is currently offered by Texas Instruments. The details of this change are on the following pages.

We request you acknowledge 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 you require samples or additional data to support your evaluation, please request within 30 days.

The changes discussed within this PCN will not take effect any earlier than **90** days from the date of this notification, unless customer agreement has been reached on an earlier implementation of the change. This notification period is per TI's standard process.

This notice does not change the end-of-life status of any product. Should product affected be on a previously issued product withdrawal/discontinuance notice, this notification does not extend the life of that product or change the life time buy offering/discontinuance plan.

For questions regarding this notice, contact your local Field Sales Representative or the PCN Manager (PCN_ww_admin_team@list.ti.com).

PCN Team
SC Business Services

20160412001
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
TMS320F28232PGFA	null
TMS320F28234PGFA	null
TMS320F28335PGFA	null
INA231AIYFFR	null
TMS320F28235PGFA	null
TMS320F28234ZJZA	null
TMS320F28334ZJZA	null
INA231AIYFFT	null
TMS320F28235PTPS	null
TMS320F28334PGFA	null
TMS320F28335PTPS	null
TMS320F28335ZHHA	null
TMS320F28335ZJZA	null
TMS320F28335ZJZS	null
HPA02149AIYFFR	null
TMS320F28235ZJZS	null
TMS320F28234PTPS	null

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

PCN Number:	20160421001	**PCN Date:**	4/27/2016
Title:	Qualification of AIZU as an additional Wafer Fab Site option for select devices in F05 and HPA07 Technology		
Customer Contact:	PCN Manager	**Dept:**	Quality Services
Proposed 1st Ship Date:	7/27/2016	**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 its AIZU fabrication facility as an additional Wafer Fab source for the selected devices listed in “Product Affected” section.

Current Sites			**Additional Sites**		
Current Fab Site	**Process**	**Wafer Diameter**	**Additional Fab Site**	**Process**	**Wafer Diameter**
DP1DM5	F05	200mm	AIZU	F05	200mm
DP1DM5	HPA07	200mm	AIZU	HPA07	200mm

Qual details are provided in the Qual Data Section.

Reason for Change:

Continuity of Supply

Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):

None

Changes to product identification resulting from this PCN:

Current

Chip Site	Chip Site Origin (20L)	Chip Site Country Code (21L)	Chip Site City
DP1DM5	DM5	USA	Richardson

New Fab Site

Chip Site	Chip Site Origin (20L)	Chip Site Country Code (21L)	Chip Site City
AIZU	CU2	JPN	Aizuwakamatsu-shi

Sample product shipping label (not actual product label)

TEXAS INSTRUMENTS
MADE IN: Malaysia
2DC: 2Q:

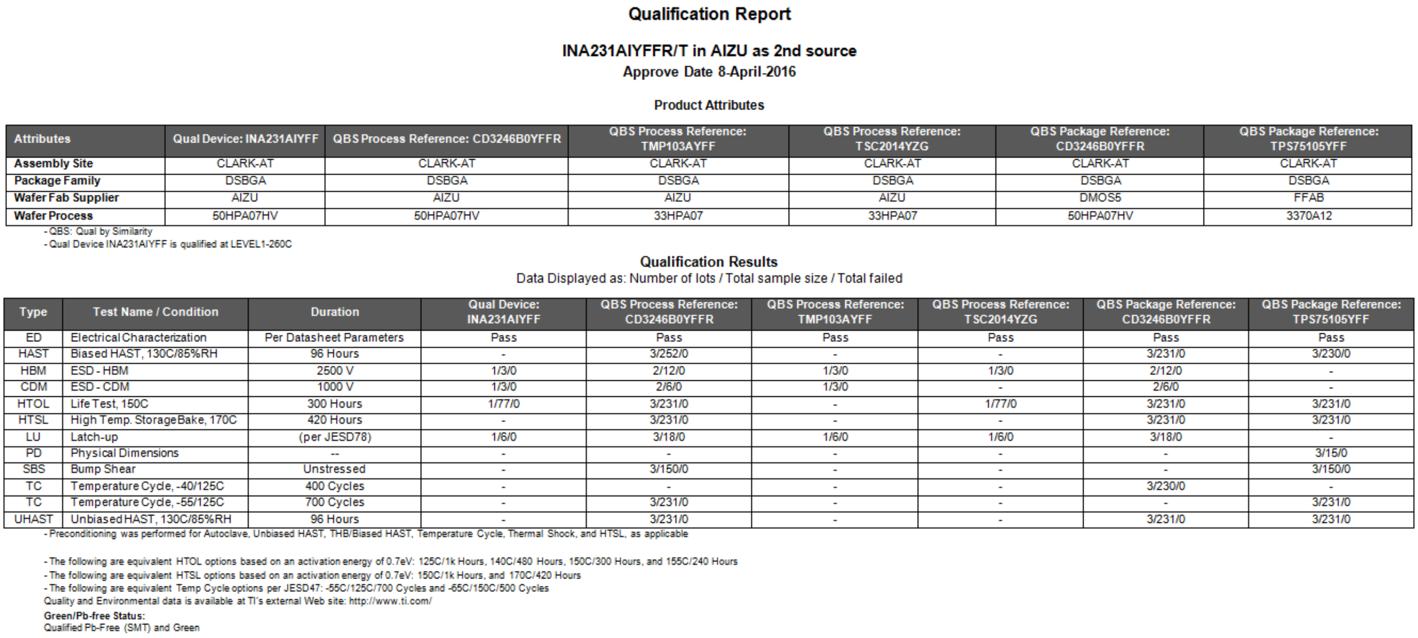
MSL 2 /260C/1 YEAR	SEAL DT
MSL 1 /235C/UNLIM	03/29/04

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:

- HPA02149AIYFFR
- INA231AIYFFR
- INA231AIYFFT
- PLCF28335PGFA
- SN2835PGFA
- TMS320F28232PGFA
- TMS320F28232PTPS
- TMS320F28232ZHHA
- TMS320F28232ZJZA
- TMS320F28232ZJZS
- TMS320F28234PGFA
- TMS320F28234PTPS
- TMS320F28234ZHHA
- TMS320F28234ZJZA
- TMS320F28234ZJZS
- TMS320F28235PGFA
- TMS320F28235PTPS
- TMS320F28235ZHHA
- TMS320F28235ZJZA
- TMS320F28235ZJZS
- TMS320F28332PGFA
- TMS320F28332PTPS
- TMS320F28332ZHHA
- TMS320F28332ZJZA
- TMS320F28332ZJZS
- TMS320F28334PGFA
- TMS320F28334PTPS
- TMS320F28334ZHHA
- TMS320F28334ZJZA
- TMS320F28334ZJZS
- TMS320F28335PGFA
- TMS320F28335PTPS
- TMS320F28335ZHHA
- TMS320F28335ZJZA
- TMS320F28335ZJZS



Qualification Report

INA231AIYFFR/T in AIZU as 2nd source

Approve Date 8-April-2016

Product Attributes

Attributes	Qual Device: INA231AIYFF	QBS Process Reference: CD3246B0YFFR	QBS Process Reference: TMP103AYFF	QBS Process Reference: TSC2014YZG	QBS Package Reference: CD3246B0YFFR	QBS Package Reference: TPS75105YFF
Assembly Site	CLARK-AT	CLARK-AT	CLARK-AT	CLARK-AT	CLARK-AT	CLARK-AT
Package Family	DSBGA	DSBGA	DSBGA	DSBGA	DSBGA	DSBGA
Wafer Fab Supplier	AIZU	AIZU	AIZU	AIZU	DMOS5	FFAB
Wafer Process	50HPA07HV	50HPA07HV	33HPA07	33HPA07	50HPA07HV	3370A12

- QBS: Qual by Similarity
- Qual Device INA231AIYFF is qualified at LEVEL1-260C

Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: INA231AIYFF	QBS Process Reference: CD3246B0YFFR	QBS Process Reference: TMP103AYFF	QBS Process Reference: TSC2014YZG	QBS Package Reference: CD3246B0YFFR	QBS Package Reference: TPS75105YFF
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	Pass	Pass	Pass	Pass
HAST	Biased HAST, 130C/85%RH	96 Hours	-	3/252/0	-	-	3/231/0	3/230/0
HBM	ESD - HBM	2500 V	1/3/0	2/12/0	1/3/0	1/3/0	2/12/0	-
CDM	ESD - CDM	1000 V	1/3/0	2/6/0	1/3/0	-	2/6/0	-
HTOL	Life Test, 150C	300 Hours	1/77/0	3/231/0	-	1/77/0	3/231/0	3/231/0
HTSL	High Temp. Storage Bake, 170C	420 Hours	-	3/231/0	-	-	3/231/0	3/231/0
LU	Latch-up	(per JESD78)	1/6/0	3/18/0	1/6/0	1/6/0	3/18/0	-
PD	Physical Dimensions	--	-	-	-	-	-	3/15/0
SBS	Bump Shear	Unstressed	-	3/150/0	-	-	-	3/150/0
TC	Temperature Cycle, -40/125C	400 Cycles	-	-	-	-	3/230/0	-
TC	Temperature Cycle, -55/125C	700 Cycles	-	3/231/0	-	-	-	3/231/0
UHAST	Unbiased HAST, 130C/85%RH	96 Hours	-	3/231/0	-	-	3/231/0	3/231/0

- 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

Qualification Data: Aizu F05 Qualification (Approved 4/14/2016)

This qualification has been specifically developed for the validation of this change. The qualification data validates that the proposed change meets the applicable released technical specifications.

Qualification Device Construction Details:

Qualification Vehicle: TMS320F2803XAPN

Wafer Fab Site:	AIZU	Wafer Process:	F05
Assembly Site:	TI Philippines	Wafer Size Dia.	200mm

Qualification: ☐ **Plan** ☒ **Test Results**

Reliability Test	Conditions	Sample Size (PASS/FAIL)
20K W/E	20K Write / Erase Cycles prior to HTSL, HTOL, RTSL	1800/0
HTOL (High Temperature Op Life)	125C - 1000 Hours	231/0
HTSL (High Temp Storage Life)*	150C Bake - 1000 Hours	231/0
RTSL (Room Temp Storage Life)	25C – 1000 Hours	231/0
Package Reliability		

Preconditioning	MSL3/260C	693/0
THB	85C/85RH	231/0
Temp Cycle	-65C/150C 500 Cycles	231/0
Autoclave	121C/96hrs	231/0
ESD-HBM	2000v	15/0
ESD-CDM	750v	6/0
Latchup	1.5Vdd +/-100mA 125C	6/0
Notes: * Test requires Moisture Preconditioning Qualification tests "pass" on zero fails for each test <optional> "QBS" stands for Qualification by Similarity		

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

Location	**E-Mail**
USA	PCNAmericasContact@list.ti.com
Europe	PCNEuropeContact@list.ti.com
Asia Pacific	PCNAsiaContact@list.ti.com
Japan	PCNJapanContact@list.ti.com