

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:	<u>PCN Manager</u>	Dept:	Quality Services
Proposed 1st Ship Date:	7/27/2016	Estimated Sample Availability:	Date provided at sample request.
Change Type:			
<input type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process
<input type="checkbox"/>	Design	<input type="checkbox"/>	Assembly Materials
<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Electrical Specification
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Mechanical Specification
<input checked="" type="checkbox"/>	Wafer Fab Site	<input type="checkbox"/>	Packing/Shipping/Labeling
<input type="checkbox"/>		<input type="checkbox"/>	Test Process
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Bump Material
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Bump Process
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Materials
<input type="checkbox"/>		<input type="checkbox"/>	Wafer Fab Process
<input type="checkbox"/>		<input type="checkbox"/>	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)



MADE IN: Malaysia
2DC: 2G:

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) 7523483S12
(P)
(2P) REV: (V) 0033317
(20L) CSO: SHE (21L) CCO: USA
(22L) ASO: MLA (23L) ACO: MYS

Product Affected Group:

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

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: TMP183AYFF	QBS Process Reference: TSC2014YZG	QBS Package Reference: CD3246B0YFFR	QBS Package Reference: TP57105YFF
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	DMOSS	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: TMP183AYFF	QBS Process Reference: TSC2014YZG	QBS Package Reference: CD3246B0YFFR	QBS Package Reference: TP57105YFF
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	2/6/0	-
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
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