

PCN Number:	20200203005.2		PCN Date:	Feb 4, 2020
Title:	Qualification of AIZU as an additional Fab Site option for select CMOS7 devices			
Customer Contact:	PCN Manager	Dept:	Quality Services	
Proposed 1st Ship Date:	Aug 4, 2020	Estimated Sample Availability:	Date provided at sample request.	
Change Type:				
<input type="checkbox"/> Assembly Site	<input type="checkbox"/> Assembly Process	<input type="checkbox"/> Assembly Materials		
<input type="checkbox"/> Design	<input type="checkbox"/> Electrical Specification	<input type="checkbox"/> Mechanical Specification		
<input type="checkbox"/> Test Site	<input type="checkbox"/> Packing/Shipping/Labeling	<input type="checkbox"/> Test Process		
<input type="checkbox"/> Wafer Bump Site	<input type="checkbox"/> Wafer Bump Material	<input type="checkbox"/> Wafer Bump Process		
<input checked="" type="checkbox"/> Wafer Fab Site	<input type="checkbox"/> Wafer Fab Materials	<input type="checkbox"/> Wafer Fab Process		
	<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
MAINEFAB	CMOS7	200mm	AIZU	CMOS7	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
MAINEFAB	CUA	USA	South Portland

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: 20:

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

OPT:
ITEM:

LBL: 5A (L)T0:1750



(1P) SN74LS07NSR
(Q) 2000 (D) 0336
(31T) LOT: 3959047MLA
(4W) TKY (1T) 7523483S12
(P)
(2P) REV: (V) 0033317
(20L) CS0: SHE (21L) CCO: USA
(22L) AS0: MLA (23L) ACO: MYS

Product Affected Group:

LM3668QDNTRQ1

Automotive New Product Qualification Summary
(As per AEC-Q100 and JEDEC Guidelines)

CMOS7: MFAB to AIZU Offload Phase 4 - LM3668QDNTRQ1
Approved 24-Jan-2020

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

Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: <u>LM3668QDNTRQ1</u>
Test Group A – Accelerated Environment Stress Tests							
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Automotive Preconditioning Level 1	Level 1 260C	3/800/0
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST, 130C/85%RH	96 Hours	3/231/0
UHAST	A3	JEDEC JESD22-A118	3	77	Unbiased HAST 130C/85%RH	96 Hours	3/231/0
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle, -65/150C	500 Cycles	3/231/0
TC-BP	A4	MIL-STD883 Method 2011	1	4	Post TC Bond Pull	Wires	3/90/0
PTC	A5	JEDEC JESD22-A105	1	45	Power Temperature Cycle	1000 Cycles	N/A
HTSL	A6	JEDEC JESD22-A103	1	45	High Temp Storage Bake 150C	1000 Hours	1/77/0
Test Group B – Accelerated Lifetime Simulation Tests							
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test, 125C	1000 Hours	3/231/0
ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate, 125C	48 Hours	3/2400/0
EDR	B3	AEC Q100-005	3	77	NVM Endurance, Data Retention, and Operational Life	-	N/A
Test Group C – Package Assembly Integrity Tests							
WBS	C1	AEC Q100-001	1	30	Wire Bond Shear (Cpk>1.67)	Wires	3/90/0
WBP	C2	MIL-STD883 Method 2011	1	30	Bond Pull (Cpk>1.67)	Wires	3/90/0
Test Group D – Die Fabrication Reliability Tests							
SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability >95% Lead Coverage	Pb Free	1/15/0
SD	C3	JEDEC JESD22-B102	1	15	Surface Mount Solderability >95% Lead Coverage	Pb	1/15/0
PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions (Cpk>1.67)	-	3/90/0
LI	C6	JEDEC JESD22-B105	1	50	Lead Integrity	-	-
Test Group E – Electrical Verification Tests							
HBM	E2	AEC Q100-002	1	3	ESD - HBM - Q100	2500 V	3/9/0
CDM	E3	AEC Q100-011	1	3	ESD - CDM - Q100	1250 V	3/9/0
LU	E4	AEC Q100-004	1	6	Latch-up	(Per AEC-Q100-004)	3/18/0
ED	E5	-	3	30	Electrical Distributions	Cpk>1.67	3/90/0

- QBS: Qual By Similarity

- Qual Device LM3668QDNTRQ1 is qualified at LEVEL1-260CG

A1 (PC): Preconditioning:

Performed for THB, Biased HAST, AC, uHAST, TC & PTC samples, as applicable.

Ambient Operating Temperature by Automotive Grade Level:

Grade 0 (or E): -40°C to +150°C

Grade 1 (or Q): -40°C to +125°C

Grade 2 (or T): -40°C to +105°C

Grade 3 (or I): -40°C to +85°C

E1 (TEST): Electrical test temperatures of Qual samples (High temperature according to Grade level):

Room/Hot/Cold: HTOL, ED

Room/Hot: THB/HAST, TC / PTC, HTSL, ELFR, ESD & LU

Room: AC/uHAST

Green/Pb-free Status:

Qualified Pb-Free (SMT) and Green

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