

PCN Number:	20180502000.1A		PCN Date:	Aug 08,2018						
Title:	Qualification of ASEN as an additional Assembly & Test site for select devices									
Customer Contact:	PCN Manager		Dept:	Quality Services						
Proposed 1st Ship Date:	Nov 08, 2018	Estimated Sample Availability:	Date provided at sample request.							
Change Type:										
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process	<input checked="" type="checkbox"/>	Assembly Materials					
<input type="checkbox"/>	Design	<input type="checkbox"/>	Electrical Specification	<input type="checkbox"/>	Mechanical Specification					
<input checked="" 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 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:										
<p>Revision A is to announce the <u>addition</u> of new devices that were not included on the original PCN notification. These new devices are under Group 2 of the Product affected section below. The expected first shipment date for these new devices will be 90 days from this notice for these newly added devices only.</p> <p>Texas Instruments is pleased to announce the qualification of an additional assembly/test (ASEN) site for the INA210BIRSWR. Construction differences are noted below:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td></td> <td style="text-align: center;">UTAC</td> <td style="text-align: center;">ASEN</td> </tr> <tr> <td>Mold compound</td> <td style="text-align: center;">SID#CZ0135</td> <td style="text-align: center;">SID#1801512111</td> </tr> </table> <p>Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ.</p>						UTAC	ASEN	Mold compound	SID#CZ0135	SID#1801512111
	UTAC	ASEN								
Mold compound	SID#CZ0135	SID#1801512111								
Reason for Change:										
Continuity of Supply										
Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):										
None										
Anticipated impact on Material Declaration										
<input type="checkbox"/>	No Impact to the Material Declaration	<input checked="" type="checkbox"/>	Material Declarations or Product Content reports are driven from production data and will be available following the production release. Upon production release the revised reports can be obtained from the TI ECO website .							
Changes to product identification resulting from this PCN:										
Assembly Site Information:										
Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (21L)	Assembly City							
UTAC	NS2	THA	Bangkok							
ASEN	ASN	CHN	Suzhou							
Sample product shipping label (not actual product label)										



MADE IN: Malaysia
2DC: 20:



(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

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

OPT:
ITEM: 39
LBL: 5A (L) TO: 1750

Group 1 Product Affected:

INA210BIRSW

Group 2 Product Affected:

INA199A2RSWR	INA211CIRSWR	INA213BIRSWT	INA215BIRSWR
INA199A2RSWT	INA211CIRSWT	INA213CIRSWR	INA215BIRSWT
INA199A3RSWR	INA212BIRSWR	INA213CIRSWT	INA215CIRSWR
INA199A3RSWT	INA212BIRSWT	INA214BIRSWR	INA215CIRSWT
INA210BIRSWT	INA212CIRSWR	INA214BIRSWT	
INA210CIRSWR	INA212CIRSWT	INA214CIRSWR	
INA210CIRSWT	INA213BIRSWR	INA214CIRSWT	

Group 1 Qualification Report



TI Information
Selective Disclosure

Qualification Report

INA210BIRSW - Cat2CF (AIZU/ASEN)
Approve Date 10-Apr-2018

Product Attributes

Attributes	Qual Device: INA210BIRSW	QBS Process Reference: INA215AQDCKRQ1
Assembly Site	ASEN	NFME
Package Family	UQFN	SOT
Flammability Rating	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	AIZU	AIZU
Wafer Process	50HPA07	50HPA07

- QBS: Qual By Similarity
- Qual Device INA210BIRSW 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: <u>INA210BIRSW</u>	QBS Process Reference: <u>INA215AQDCKRQ1</u>
HTOL	Life Test, 125C	1000 Hours	1/77/0	3/231/0
ELFR	Early Life Failure Rate, 125C	48 Hours	-	3/2400/0
HAST	Biased HAST, 130C/85%RH	96 Hours	3/231/0	-
UHAST	Unbiased HAST 130C/85%RH	96 Hours	3/231/0	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	-
HTSL	High Temp Storage Bake 170C	420 Hours	1/50/0	-
HBM	ESD - HBM	4000 V	2/6/0	-
CDM	ESD - CDM	1500 V	2/6/0	-
LU	Latch-up	(per JESD78)	2/12/0	-
ED	Electrical Characterization	Per Datasheet Parameters	1/30/0	-
PD	Physical Dimensions	-	3/30/0	-
SD	Solderability	Pb Free	3/30/0	-
WBP	Bond Pull	Wires	3/90/0	-
WBS	Ball Bond Shear	Wires	3/90/0	-

- 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

THIS INFORMATION RELATING TO QUALITY AND RELIABILITY IS PROVIDED "AS IS." Product information detailed in this report may not accurately reflect TI's current product materials, processes and testing used in the construction of the TI products. Customers are solely responsible to conduct sufficient engineering and additional qualification testing to determine whether a device is suitable for use in their applications. Using TI products outside limits stated in TI's datasheet may void TI's warranty. See TI's Terms of Sale at "<http://www.ti.com/lsds/ti/legal/termsofsale.page>"

Group 2 Qualification Report

INA21xXRSW A/T Offload to ASEN

Approve Date 31-Jul-2018

Product Attributes

Attributes	Qual Device: <u>INA210AIRSWR</u>	Qual Device: <u>INA212CIRSWR</u>	Qual Device: <u>INA213AIRSWR</u>	Qual Device: <u>INA213CIRSWR</u>
Assembly Site	ASEN	ASEN	ASEN	ASEN
Package Family	UQFN	UQFN	UQFN	UQFN
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0
Wafer Fab Supplier	AIZU	AIZU	AIZU	AIZU
Wafer Process	50HPA07	50HPA07	50HPA07	50HPA07

Attributes	QBS Product Reference: <u>INA210BIRSW</u>	QBS Product Reference: <u>INA213BIDCK</u>	QBS Product Reference: <u>INA212BIDCK</u>	QBS Process Reference: <u>INA215AQDCKRQ1</u>
Assembly Site	ASEN	NFME	NFME	NFME
Package Family	UQFN	SC70	SC70	SOT
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0

Attributes	QBS Product Reference: <u>INA210BIRSW</u>	QBS Product Reference: INA213BIDCK	QBS Product Reference: INA212BIDCK	QBS Process Reference: INA215AQDCKRQ1
Wafer Fab Supplier	AIZU	AIZU	AIZU	AIZU
Wafer Process	50HPA07	50HPA07	50HPA07	50HPA07

- QBS: Qual By Similarity
- Qual Device INA210AIRSWR is qualified at LEVEL1-260C
- Qual Device INA212CIRSWR is qualified at LEVEL1-260C
- Qual Device INA213AIRSWR is qualified at LEVEL1-260C
- Qual Device INA213CIRSWR 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: <u>INA210AIRSWR</u>	Qual Device: <u>INA212CIRSWR</u>	Qual Device: <u>INA213AIRSWR</u>	Qual Device: <u>INA213CIRSWR</u>
HTOL	Life Test, 125C	1000 Hours	-	-	-	-
ELFR	Early Life Failure Rate, 125C	48 Hours	-	-	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	-	-
UHAST	Unbiased HAST 130C/85%RH	96 Hours	-	-	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	-	-	-	-
HTSL	High Temp Storage Bake 170C	420 Hours	-	-	-	-
HBM	ESD - HBM	4000 V	-	-	-	-
CDM	ESD - CDM	1500 V	1/3/0	1/3/0	1/3/0	1/3/0
LU	Latch-up	(per JESD78)	-	-	-	-
ED	Electrical Characterization	Per Datasheet Parameters	-	-	-	-
PD	Physical Dimensions	-	-	-	-	-
SD	Solderability	Pb Free	-	-	-	-
WBP	Bond Pull	Wires	-	-	-	-
WBS	Ball Bond Shear	Wires	-	-	-	-

Type	Test Name / Condition	Duration	QBS Product Reference: <u>INA210BIRSW</u>	QBS Product Reference: INA213BIDCK	QBS Product Reference: INA212BIDCK	QBS Process Reference: INA215AQDCKRQ1
HTOL	Life Test, 125C	1000 Hours	1/77/0	-	-	3/231/0
ELFR	Early Life Failure Rate, 125C	48 Hours	-	-	-	3/2400/0
HAST	Biased HAST, 130C/85%RH	96 Hours	3/231/0	-	-	-
UHAST	Unbiased HAST 130C/85%RH	96 Hours	3/231/0	-	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0	-	-	-
HTSL	High Temp Storage Bake 170C	420 Hours	1/50/0	-	-	-
HBM	ESD - HBM	4000 V	2/6/0	1/3/0	1/3/0	-
CDM	ESD - CDM	1500 V	2/6/0	1/3/0	1/3/0	-
LU	Latch-up	(per JESD78)	2/12/0	1/6/0	1/6/0	-
ED	Electrical Characterization	Per Datasheet Parameters	1/30/0	-	-	-
PD	Physical Dimensions	-	3/30/0	-	-	-
SD	Solderability	Pb Free	3/30/0	-	-	-

Type	Test Name / Condition	Duration	QBS Product Reference: <u>INA210BIRSW</u>	QBS Product Reference: INA213BIDCK	QBS Product Reference: INA212BIDCK	QBS Process Reference: INA215AQDCKRQ1
WBP	Bond Pull	Wires	3/90/0	-	-	-
WBS	Ball Bond Shear	Wires	3/90/0	-	-	-

- 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

THIS INFORMATION RELATING TO QUALITY AND RELIABILITY IS PROVIDED "AS IS." Product information detailed in this report may not accurately reflect TI's current product materials, processes and testing used in the construction of the TI products. Customers are solely responsible to conduct sufficient engineering and additional qualification testing to determine whether a device is suitable for use in their applications. Using TI products outside limits stated in TI's datasheet may void TI's warranty. See TI's Terms of Sale at "<http://www.ti.com/lscds/ti/legal/termsofsale.page>"

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