12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN#20260617001.2
Qualification of RFAB as an additional Fab site, Die Revision and CDAT as additional Assembly/Test site option for select devices
Change Notification / Sample Request

Date: June 18, 2026
To: MOUSER 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.

Texas Instruments requires acknowledgement of receipt of this notification within 60 days of the date of this notice. Lack of acknowledgement of this notice within 60 days constitutes acceptance and approval of this change. If samples or additional data are required, requests must be received within 60 days of this notification.

The changes discussed within this PCN will not take effect any earlier than the proposed first ship date on Page 3 of this notification, unless customer agreement has been reached on an earlier implementation of the change.

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 or to provide acknowledgement of this PCN, you may contact your local Field Sales Representative or the change management team.

For sample requests or sample related questions, contact your local Field Sales Representative.

TI values customer engagement and feedback related to TI changes. Customers should contact TI if there are questions or concerns regarding a change notification.

Sincerely,

Change Management Team
SC Business Services

20260617001.2
Attachment: 1

Products Affected:

The devices listed on this page are a subset of the complete list of affected devices. According to our records, you have recently purchased these devices. The corresponding customer part number is also listed, if available.

DEVICE	CUSTOMER PART NUMBER
INA199C2QDCKRQ1	INA199C2QDCKRQ1
INA199B2QDCKRQ1	INA199B2QDCKRQ1
INA199B1QDCKRQ1	INA199B1QDCKRQ1
INA199C3QDCKRQ1	INA199C3QDCKRQ1
INA199C1QDCKRQ1	INA199C1QDCKRQ1

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

PCN Number:	20260617001.2	**PCN Date:**	June 18, 2026
Title:	Qualification of RFAB as an additional Fab site, Die Revision and CDAT as additional Assembly/Test site option for select devices		
Customer Contact:	Change Management Team	**Dept:**	Quality Services
Proposed 1st Ship Date:	December 15, 2026	**Sample requests accepted until:**	August 17, 2026*

*Sample requests received after August 17, 2026 will not be supported.

Change Type:

☒	Assembly Site	☒	Design	☐	Wafer Bump Material
☒	Assembly Process	☐	Data Sheet	☐	Wafer Bump Process
☒	Assembly Materials	☐	Part number change	☒	Wafer Fab Site
☐	Mechanical Specification	☒	Test Site	☒	Wafer Fab Material
☒	Packing/Shipping/Labeling	☐	Test Process	☒	Wafer Fab Process

PCN Details

Description of Change:

Texas Instruments is pleased to announce the qualification of RFAB as an additional Fab site and CDAT as additional Assembly/Test site option for the devices listed below.

Current Fab Site			Additional Fab site		
Current Fab Site	**Process**	**Wafer Diameter**	**Additional Fab site**	**Process**	**Wafer Diameter**
AIZU	50HPA07	200mm	RFAB	LBC9	300mm

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

Construction differences as follows:

	Current Site	Additional Site
Assembly/Test site	TFME	CDAT
Wafer thickness	7.5mils	6mils
Die scribe or separation	Mechanical saw	Plasma Laser saw
Mount compound	SID#A-09	4207123
Mold compound	SID# R-07	4222198
Wire diam/type	1.0mil Au	0.8mil Cu
Lead finish	NiPdAu	Matte Sn

Qual details are provided in the Qual Data Section.

Reason for Change:

Supply Continuity

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

Review the SDP for full evaluation of the change based on the customer use case.

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
AIZU	CU2	JPN	Aizuwakamatsu-shi
RFAB	**RFB**	**USA**	**Richardson**

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
TFME	NFM	CHN	Chongchuan
TI Chengdu	**CDA**	**CHN**	**Chengdu**

Sample product shipping label (not actual product label):

Product Affected:

INA199A1QDCKRQ1	INA199B1QDCKRQ1	INA199C1QDCKRQ1
INA199A2QDCKRQ1	INA199B2QDCKRQ1	INA199C2QDCKRQ1
INA199A3QDCKRQ1	INA199B3QDCKRQ1	INA199C3QDCKRQ1

Qualification Report

Automotive Qualification Summary

(As per AEC-Q100 Rev. J and JEDEC Guidelines)

Approve Date 25-March-2026

Product Attributes

Attributes	Qual Device: INA199A1QDCKRQ1	Qual Device: INA199A2QDCKRQ1	Qual Device: INA199A3QDCKRQ1	QBS Process Reference: OPA2991QDGKRQ1	QBS Package Reference: DRV5013ADEDBZRQ1	QBS Package Reference: TPS3808EG01DBVRQ1	QBS Package Reference: TPS3840PH30DBVRQ1	QBS Product Reference: OPA992QDBVRQ1	QBS Package Reference: TXS0101QDCKRQ1	QBS Package Reference: OPA992QDBVRQ1	QBS Package Reference: TLV3511QDCKRQ1	QBS Package Reference: SN74LVC1G16DCKRQ1
Automotive Grade Level	Grade 1	Grade 1	Grade 1	Grade 1	Grade 0	Grade 1	Grade 1	Grade 1	Grade 1	Grade 1	Grade 1	Grade 1
Operating Temp Range (C)	-40 to 125	-40 to 125	-40 to 125	-40 to 125	-40 to 150	-40 to 125	-40 to 125	-40 to 125	-40 to 125	-40 to 150	-40 to 125	-40 to 125
Product Function	Signal Chain	Signal Chain	Signal Chain	Signal Chain	Signal Chain	Power Management	Power Management	Signal Chain	Logic	Signal Chain	Signal Chain	Logic
Wafer Fab Supplier	RFAB	RFAB	RFAB	RFAB	RFAB	RFAB	RFAB	RFAB	RFAB	RFAB	RFAB	RFAB
Assembly Site	CDAT	CDAT	CDAT	HFTFAT	CDAT	CDAT	CDAT	CDAT	CDAT	CDAT	CDAT	CDAT
Package Group	SOT	SOT	SOT	VSSOP	SOT	SOT	SOT	SOT	SOT	SOT	SOT	SOT
Package Designator	DCK	DCK	DCK	DGK	DBZ	DBV	DBV	DBV	DCK	DBV	DCK	DCK
Pin Count	6	6	6	8	3	6	5	5	6	5	5	5

QBS: Qual By Similarity, also known as Generic Data

Qual Device INA199A1QDCKRQ1 is qualified at MSL1 260C

Qual Device INA199A2QDCKRQ1 is qualified at MSL1 260C

Qual Device INA199A3QDCKRQ1 is qualified at MSL1 260C

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: INA199A1QDCKRQ1	Qual Device: INA199A2QDCKRQ1	Qual Device: INA199A3QDCKRQ1	QBS Process Reference: OPA2991QDGKRQ1	QBS Package Reference: DRV5013ADEDBZRQ1	QBS Package Reference: TPS3808EG01DBVRQ1	QBS Package Reference: TPS3840PH30DBVRQ1	QBS Product Reference: OPA992QDBVRQ1	QBS Package Reference: TXS0101QDCKRQ1	QBS Package Reference: OPA992QDBVRQ1	QBS Package Reference: TLV3511QDCKRQ1	QBS Package Reference: SN74LVC1G16DCKRQ1
Test Group A - Accelerated Environment Stress Tests																			
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL1 260C	-	3/231/0	-	-	3/231/0	3/231/0	1/77/0	3/231/0	1/77/0	3/231/0	3/231/0	1/308/0	1/0/0
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST	110C/85%RH	264 Hours	-	-	-	-	-	-	-	1/77/0	-	-	-	-
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST	130C/85%RH	96 Hours	1/77/0	-	-	3/231/0	3/231/0	1/77/0	3/231/0	1/77/1[1]	3/231/0	-	1/77/0	1/77/0
AC/UHAST	A3	JEDEC JESD22-A102/JEDEC JESD22-A118	3	77	Unbiased HAST	110C/85%RH	264 Hours	-	-	-	-	-	-	-	1/77/0	-	-	-	-
AC/UHAST	A3	JEDEC JESD22-A102/JEDEC JESD22-A118	3	77	Unbiased HAST	130C/85%RH	96 Hours	1/77/0	-	-	3/231/0	3/231/0	1/77/0	3/231/0	-	3/231/0	3/231/0	1/77/0	1/77/0
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-55C/150C	1500 Cycles	-	-	-	-	3/231/0	-	-	-	-	-	-	-
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	500 Cycles	-	-	-	3/231/0	-	1/77/0	3/231/0	1/77/1[2]	3/231/0	3/231/0	1/77/0	1/77/0
TC-BP	A4	MIL-STD883 Method 2011	1	5	Post Temp Cycle Bond Pull	-	-	1/5/0	-	-	-	1/5/0	1/5/0	1/5/0	1/5/0	1/5/0	-	1/5/0	1/5/0
TC-SAM	A4	-	3	3	Post TC SAM	<50% delamination	-	-	-	-	-	-	-	-	-	-	-	-	1/12/0
HTSL	A6	JEDEC JESD22-A103	1	45	High Temperature Storage Life	150C	1000 Hours	1/45/0	-	-	-	-	1/45/0	3/135/0	1/45/0	3/135/0	-	-	1/45/0
HTSL	A6	JEDEC JESD22-A103	1	45	High Temperature Storage Life	150C	2000 Hours	-	-	-	-	3/135/0	-	-	-	-	-	-	-
HTSL	A6	JEDEC JESD22-A103	1	45	High Temperature Storage Life	150C	630 Hours	-	-	-	3/135/0	-	-	-	-	-	-	-	-
HTSL	A6	JEDEC JESD22-A103	1	45	High Temperature Storage Life	175C	500 Hours	-	-	-	-	-	-	-	-	-	-	1/77/0	-
Test Group B - Accelerated Lifetime Simulation Tests																			
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	125C	1000 Hours	1/77/0	-	-	-	-	-	3/231/0	-	3/231/0	-	-	-
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	150C	1000 Hours	-	-	-	-	1/77/0	-	-	-	-	-	-	-
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	150C	300 Hours	-	-	-	-	-	-	-	1/77/0	-	-	1/77/0	1/77/0
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	150C	408 Hours	-	-	-	3/231/0	-	-	-	-	-	-	-	-
ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate	125C	48 Hours	-	-	-	3/2400/0	-	-	-	-	-	-	-	-
Test Group C - Package Assembly Integrity Tests																			
WBS	C1	AEC Q100-001	1	30	Wire Bond Shear	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	1/30/0	-	-	3/90/0	3/90/0	1/30/0	3/90/0	1/30/0	3/90/0	-	1/30/0	1/30/0
WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	1/30/0	-	-	3/90/0	3/90/0	1/30/0	3/90/0	1/30/0	3/90/0	-	1/30/0	1/30/0
SD	C3	JEDEC J-STD-002	1	15	PB Solderability	>95% Lead Coverage	-	-	-	-	1/15/0	1/15/0	-	1/15/0	-	-	-	-	-
SD	C3	JEDEC J-STD-002	1	15	PB-Free Solderability	>95% Lead Coverage	-	-	-	-	1/15/0	1/15/0	-	1/15/0	-	1/15/0	-	1/15/0	-
PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions	Cpk>1.67	-	1/10/0	-	-	3/30/0	3/30/0	1/10/0	3/30/0	1/10/0	3/30/0	-	1/10/0	1/10/0
Test Group D - Die Fabrication Reliability Tests																			
EM	D1	JESD61	-	-	Electromigration	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
TDDB	D2	JESD35	-	-	Time Dependent Dielectric Breakdown	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
HCI	D3	JESD60 & 28	-	-	Hot Carrier Injection	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
BTI	D4	-	-	-	Bias Temperature Instability	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
SM	D5	-	-	-	Stress Migration	-	-	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements	Completed Per Process Technology Requirements
Test Group E - Electrical Verification Tests																			
ESD	E2	AEC Q100-002	1	3	ESD HBM	-	2000 Volts	-	-	-	1/3/0	1/3/0	1/3/0	-	1/3/0	1/3/0	-	1/3/0	1/3/0
ESD	E2	AEC Q100-002	1	3	ESD HBM	-	3500 Volts	1/3/0	-	-	-	-	-	-	-	-	-	-	-
ESD	E3	AEC Q100-011	1	3	ESD CDM	-	500 Volts	1/3/0	-	-	1/3/0	1/3/0	1/3/0	-	1/3/0	1/3/0	-	1/3/0	1/3/0

Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: INA199A1QDCKRQ1	Qual Device: INA199A2QDCKRQ1	Qual Device: INA199A3QDCKRQ1	QBS Process Reference: OPA2991QDGKRQ1	QBS Package Reference: DRV5013ADEDBZRQ1	QBS Package Reference: TPS3808EG01DBVRQ1	QBS Package Reference: TPS3840PH30DBVRQ1	QBS Product Reference: OPA992QDBVRQ1	QBS Package Reference: TXS0101QDCKRQ1	QBS Package Reference: OPA992QDBVRQ1	QBS Package Reference: TLV3511QDCKRQ1	QBS Package Reference: SN74LVC1G16DCKRQ1
ESD	E3	AEC Q100-011	1	3	ESD CDM	Corner pins	750 Volts	1/3/0	-	-	-	-	-	-	-	-	-	-	-
LU	E4	AEC Q100-004	1	3	Latch-Up	Per AEC Q100-004	-	1/3/0	-	-	1/3/0	1/6/0	1/6/0	-	1/6/0	1/6/0	-	1/3/0	1/3/0
ED	E5	AEC Q100-009	3	30	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	1/30/0	1/30/0	1/30/0	3/90/0	2/60/0	1/30/0	3/90/0	1/30/0	3/90/0	-	3/90/0	1/30/0

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
Ambient Operating Temperature by Automotive Grade Level:
Grade 0 (or E): -40C to +150C
Grade 1 (or Q): -40C to +125C
Grade 2 (or T): -40C to +105C
Grade 3 (or I) : -40C to +85C
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
Quality and Environmental data is available at TI's external Web site: http://www.ti.com/
TI Qualification ID: R-CHG-2411-032
[1]-EIPD induced during handling. See 8D Report.
[2]-EIPD induced during handling. See 8D Report.

Qualification Report

Automotive Qualification Summary
(As per AEC and JEDEC Guidelines)

Q006 SOT at CDAT

Approve Date 25-March-2026

Product Attributes

Attributes	Qual Device: INA199A1QDCKRQ1	Qual Device: INA199A2QDCKRQ1	Qual Device: INA199A3QDCKRQ1	QBS Package Reference: DRV5013ADEDBZRQ1	QBS Package Reference: TPS3808EG01DBVRQ1	QBS Package Reference: TPS3840PH30DBVRQ1	QBS Package Reference: TXS0101QDCKRQ1	QBS Package Reference: OPA992QDBVRQ1	QBS Package Reference: TLV3511QDCKRQ1	QBS Package Reference: SN74LVC1G16DCKRQ1
Automotive Grade Level	Grade 1	Grade 1	Grade 1	Grade 0	Grade 1	Grade 1	Grade 1	Grade 1	Grade 1	Grade 1
Operating Temp Range (C)	-40 to 125	-40 to 125	-40 to 125	-40 to 150	-40 to 125	-40 to 125	-40 to 125	-40 to 150	-40 to 125	-40 to 125
Product Function	Signal Chain	Signal Chain	Signal Chain	Signal Chain	Power Management	Power Management	Logic	Signal Chain	Signal Chain	Logic
Wafer Fab Supplier	RFAB	RFAB	RFAB	RFAB	RFAB	RFAB	RFAB	RFAB	RFAB	RFAB
Assembly Site	CDAT	CDAT	CDAT	CDAT	CDAT	CDAT	CDAT	CDAT	CDAT	CDAT
Package Group	SOT	SOT	SOT	SOT	SOT	SOT	SOT	SOT	SOT	SOT
Package Designator	DCK	DCK	DCK	DBZ	DBV	DBV	DCK	DBV	DCK	DCK
Pin Count	6	6	6	3	6	5	6	5	5	5

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: INA199A1QDCKRQ1	Qual Device: INA199A2QDCKRQ1	Qual Device: INA199A3QDCKRQ1	QBS Reference: DRV5013ADEDBZRQ1	QBS Reference: TPS3808EG01DBVRQ1	QBS Reference: TPS3840PH30DBVRQ1	QBS Reference: TXS0101QDCKRQ1	QBS Reference: OPA992QDBVRQ1	QBS Reference: TLV3511QDCKRQ1	QBS Reference: SN74LVC1G16DCKRQ1
Test Group A - Accelerated Environment Stress Tests																	
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL1 260C	-	3/231/0	-	-	3/231/0	1/77/0	3/231/0	3/231/0	3/231/0	-	-
PC	A1.1	-	3	22	SAM Precon Pre	Review for delamination	-	3/66/0	-	-	3/66/0	1/22/0	3/66/0	3/66/0	3/66/0	-	-
PC	A1.2	-	3	22	SAM Precon Post	Review for delamination	-	3/66/0	-	-	3/66/0	1/22/0	3/66/0	3/66/0	3/66/0	-	-
HAST	A2.1	JEDEC JESD22-A110	3	77	Biased HAST	130C/85%RH	96 Hours	-	-	-	3/231/0	1/77/0	3/231/0	3/231/0	-	-	-
HAST	A2.1.2	-	3	1	Cross Section, post bHAST, 1X	Post stress cross section	Completed	-	-	-	3/3/0	1/1/0	3/3/0	3/3/0	-	-	-
HAST	A2.1.3	-	3	3	Wire Bond Shear, post bHAST, 1X	Post stress	-	-	-	-	3/9/0	1/3/0	3/9/0	3/9/0	-	-	-
HAST	A2.1.4	-	3	3	Bond Pull over Stitch, post bHAST, 1X	Post stress	-	-	-	-	3/9/0	1/3/0	3/9/0	3/9/0	-	-	-
HAST	A2.1.5	-	3	3	Bond Pull over Ball, post bHAST, 1X	Post stress	-	-	-	-	3/9/0	1/3/0	3/9/0	3/9/0	-	-	-
HAST	A2.2	JEDEC JESD22-A110	3	70	Biased HAST	130C/85%RH	192 Hours	-	-	-	3/231/0	1/77/0	3/231/0	3/231/0	-	-	-
HAST	A2.2.1	-	3	22	SAM Analysis, post bHAST 2X	Review for delamination	Completed	-	-	-	3/66/0	1/22/0	3/66/0	3/66/0	-	-	-
HAST	A2.2.2	-	3	1	Cross Section, post bHAST, 2X	Post stress cross section	Completed	-	-	-	3/3/0	1/1/0	3/3/0	3/3/0	-	-	-
HAST	A2.2.3	-	3	3	Wire Bond Shear, post bHAST, 2X	Post stress	-	-	-	-	3/9/0	1/3/0	3/9/0	3/9/0	-	-	-
HAST	A2.2.4	-	3	3	Bond Pull over Stitch, post bHAST, 2X	Post stress	-	-	-	-	3/9/0	1/3/0	3/9/0	3/9/0	-	-	-
HAST	A2.2.5	-	3	3	Bond Pull over Ball, post bHAST, 2X	Post stress	-	-	-	-	3/9/0	1/3/0	3/9/0	3/9/0	-	-	-
TC	A4.1	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-55C/150C	1500 Cycles	-	-	-	3/231/0	-	-	-	-	-	-
TC	A4.1	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	500 Cycles	-	-	-	-	1/77/0	3/231/0	3/231/0	3/231/0	-	-
TC	A4.1.1	-	3	22	SAM Analysis, post TC 1X	Review for delamination	Completed	3/66/0	-	-	-	1/22/0	3/66/0	3/66/0	3/66/0	-	-

TC	A4.1.2	-	3	1	Cross Section, post TC, 1X	Post stress cross section	Completed	3/3/0	-	-	-	1/1/0	3/3/0	3/3/0	-	-	-
TC	A4.1.3	-	3	3	Wire Bond Shear, post TC, 1X	Post stress	-	3/9/0	-	-	-	1/3/0	3/9/0	3/9/0	-	-	-
TC	A4.1.4	-	3	3	Bond Pull over Stitch, post TC, 1X	Post stress	-	3/9/0	-	-	-	1/3/0	3/9/0	3/9/0	3/9/0	-	-
TC	A4.1.5	-	3	3	Bond Pull over Ball, post TC, 1X	Post stress	-	3/9/0	-	-	-	1/3/0	3/9/0	3/9/0	-	-	-
TC	A4.2	JEDEC JESD22-A104 and Appendix 3	3	70	Temperature Cycle	-55C/150C	3000 Cycles	-	-	-	3/231/0	-	-	-	-	-	-
TC	A4.2	JEDEC JESD22-A104 and Appendix 3	3	70	Temperature Cycle	-65C/150C	1000 Cycles	-	-	-	-	1/77/0	3/231/0	3/231/0	3/231/0	-	-
TC	A4.2	JEDEC JESD22-A104 and Appendix 3	3	70	Temperature Cycle	-65C/150C	500 Cycles	3/231/0	-	-	-	-	-	-	-	-	-
TC	A4.2.1	-	3	22	SAM Analysis, post TC, 2X	Review for delamination	Completed	-	-	-	3/66/0	1/22/0	3/66/0	3/66/0	3/66/0	-	-
TC	A4.2.2	-	3	1	Cross Section, post TC, 2X	Post stress cross section	Completed	-	-	-	3/3/0	1/1/0	3/3/0	3/3/0	-	-	-
TC	A4.2.3	-	3	3	Wire Bond Shear, post TC, 2X	Post stress	-	-	-	-	3/9/0	1/3/0	3/9/0	3/9/0	-	-	-
TC	A4.2.4	-	3	3	Bond Pull over Stitch, post TC, 2X	Post stress	-	-	-	-	3/9/0	1/3/0	3/9/0	3/9/0	3/9/0	-	-
TC	A4.2.5	-	3	3	Bond Pull over Ball, post TC, 2X	Post stress	-	-	-	-	3/9/0	1/3/0	3/9/0	3/9/0	-	-	-
HTSL	A6.1	JEDEC JESD22-A103	3	45	High Temperature Storage Life	150C	1000 Hours	-	-	-	-	1/45/0	3/135/0	3/135/0	-	-	-
HTSL	A6.1	JEDEC JESD22-A103	3	45	High Temperature Storage Life	150C	2000 Hours	-	-	-	3/135/0	-	-	-	-	-	-
HTSL	A6.1	JEDEC JESD22-A103	3	45	High Temperature Storage Life	150C	630 Hours	-	-	-	-	-	-	-	-	-	-
HTSL	A6.1.1	-	3	1	Cross Section, post HTSL, 1X	Post stress cross section	Completed	-	-	-	-	1/1/0	3/3/0	3/3/0	3/3/0	-	-
HTSL	A6.2	JEDEC JESD22-A103	3	44	High Temperature Storage Life	150C	1000 Hours	-	-	-	-	-	-	-	3/135/0	-	-
HTSL	A6.2	JEDEC JESD22-A103	3	44	High Temperature Storage Life	150C	2000 Hours	-	-	-	-	1/45/0	3/135/0	3/135/0	-	-	-
HTSL	A6.2	JEDEC JESD22-A103	3	44	High Temperature Storage Life	150C	4000 Hours	-	-	-	3/135/0	-	-	-	-	-	-
HTSL	A6.2.1	-	3	1	Cross Section, post HTSL, 2X	Post stress cross section	Completed	-	-	-	3/3/0	1/1/0	3/3/0	3/3/0	-	-	-
Test Group C - Package Assembly Integrity Tests																	
WBS	C1	AEC Q100-001	1	30	Wire Bond Shear	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	1/30/0	-	-	3/90/0	1/30/0	3/90/0	3/90/0	-	1/30/0	1/30/0
WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	1/30/0	-	-	3/90/0	1/30/0	3/90/0	3/90/0	-	1/30/0	1/30/0

QBS: Qual By Similarity, also known as Generic Data
Qual Device INA199A1QDCKRQ1 is qualified at MSL1 260C
Qual Device INA199A2QDCKRQ1 is qualified at MSL1 260C
Qual Device INA199A3QDCKRQ1 is qualified at MSL1 260C
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
Ambient Operating Temperature by Automotive Grade Level:
Grade 0 (or E): -40C to +150C
Grade 1 (or Q): -40C to +125C
Grade 2 (or T): -40C to +105C
Grade 3 (or I) : -40C to +85C
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
Quality and Environmental data is available at TI's external Web site: http://www.ti.com/
TI Qualification ID: R-CHG-2411-032

In performing change qualifications, Texas Instruments follows integrated circuit industry standards in performing defect mechanism analysis and failure mechanism-based accelerated environmental testing to ensure wafer fab process, assembly process and product quality and reliability. As encouraged by these standards, TI uses both product-specific and generic (family) data in qualifying its changes. For devices to be categorized as a ‘product qualification family’ for generic data purposes, they must share similar product, wafer fab process and assembly process elements. The applicability of generic data (also known at TI as Qualification by Similarity (QBS)) is determined by the Reliability Engineering function following these industry standards. Generic data is shown in the qualification report in columns titled “QBS Process” (for wafer fab process), “QBS Package” (for assembly process) and “QBS Product” (for product family).

ZVEI ID: SEM-DE-03 SEM-DE-02 SEM-DE-01 SEM-PW-09 SEM-PW-02 SEM-PW-13 SEM-PW-03 SEM-PA-18 SEM-PA-08 SEM-PA-05 SEM-PA-11 SEM-PA-07 SEM-PA-19 SEM-TF-01

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

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