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

PCN Number:	20260609002.2A	**PCN Date:**	July 02, 2026
Title:	Qualification of AIZU/RFAB as an additional Fab site and TI Chengdu as additional Assembly/Test site options for select devices		
Customer Contact:	Change Management Team	**Dept:**	Quality Services
Proposed 1st Ship Date:	December 12, 2026	**Sample requests accepted until:**	August 14, 2026*

*Sample requests received after August 14, 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:

Revision A is to update the wafer diameter size for AIZU fab site & Assembly site information. We apologize for any inconvenience this may have caused.

Texas Instruments is pleased to announce the qualification of AIZU/RFAB as an additional Fab site option, & TI Chengdu as additional Assembly/Test site options for the devices listed below.

Current Fab Site			Additional Fab site		
Current Fab Site	**Process**	**Wafer Diameter**	**Additional Fab site**	**Process**	**Wafer Diameter**
DMOS5	50HPA07	200mm	RFAB/AIZU	50HPA07	300mm/200mm

Construction differences are as follows:

	HNA	TFME	CDAT
Wire bond Diam/type	1.0mil Au	1.0mil Au	0.8mil Cu
Mount compound	SID# A-09	SID#A-09	4226215
Mold compound	SID#450179	SID#R-07	4222198

Qual details are provided in the Qual Data Section.
Test coverage, insertions, conditions will remain consistent with current testing.

Reason for Change:

Continuity of supply

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

These devices include new die based on existing schematics in a larger diameter wafer fab with or without a die shrink. These devices include new die based on a new schematic in a new process flow. Review the Standard Data Packet for more details on the changes.

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
DMOS5	DM5	USA	Dallas
AIZU	**CU2**	**JPN**	**Aizuwakamatsu-shi**
RFAB	**RFB**	**USA**	**Richardson**

Assembly Site Information:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
HNA	HNT	THA	Ayutthaya
TFME	NFM	CHN	Chongchuan
TI Chengdu	**CDA**	**CHN**	**Chengdu**

Sample product shipping label (not actual product label):

Product Affected:

INA212AQDCKRQ1	INA213AQDCKRQ1	INA214AQDCKRQ1

Automotive Qualification Summary
(As per AEC-Q100 Rev. H and JEDEC Guidelines)

Approve Date 28-April-2025

Product Attributes

Attributes	Qual Device: INA214AQDCKRQ1	QBS Process, Product Reference: INA210BQDCKRQ1	QBS Process Reference: INA215AQDCKRQ1	QBS Package Reference: TPS3840PH30DBVRQ1	QBS Package Reference: LM74703QDDFRQ1	QBS Package Reference: TXS0101QDCKRQ1	QBS Package, Product Reference: INA210BQDCKRTL
Automotive Grade Level	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 125	-40 to 125	-40 to 125
Product Function	Signal Chain	Signal Chain	Signal Chain	Power Management	Power Management	Logic	Signal Chain
Wafer Fab Supplier	AIZU	AIZU	AIZU	PFAB	PFAB	PFAB	AIZU
Assembly Site	CDAT	TFME	TFME	CDAT	CDAT	CDAT	CDAT
Package Group	SOT	SOT	SOT	SOT	SOT	SOT	SOT
Package Designator	DCK	DCK	DCK	DBV	DDF	DCK	DCK
Pin Count	6	6	6	5	8	6	6

QBS: Qual By Similarity, also known as Generic Data
Qual Device INA214AQDCKRQ1 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: INA214AQDCKRQ1	QBS Process, Product Reference: INA210BQDCKRQ1	QBS Process Reference: INA215AQDCKRQ1	QBS Package Reference: TPS3840PH30DBVRQ1	QBS Package Reference: LM74703QDDFRQ1	QBS Package Reference: TXS0101QDCKRQ1	QBS Package, Product Reference: INA210BQDCKRTL
Test Group A - Accelerated Environment Stress Tests														
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL1 260C	-	-	-	-	3/0/0	3/364/0	3/0/0	1/0/0
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL2 260C	-	-	-	3/0/0	-	-	-	-
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST	130C/85%RH	96 Hours	-	-	3/231/0	3/231/0	3/231/0	3/231/0	-
AC/UHAST	A3	JEDEC JESD22-A102/JEDEC JESD22-A118	3	77	Autoclave	121C/15psig	96 Hours	-	-	3/231/0	-	-	-	-
AC/UHAST	A3	JEDEC JESD22-A102/JEDEC JESD22-A118	3	77	Unbiased HAST	130C/85%RH	96 Hours	-	-	-	3/231/0	3/231/0	3/231/0	1/77/0
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	500 Cycles	-	-	3/231/0	3/231/0	3/231/0	3/231/0	1/77/0
TC-BP	A4	MIL-STD883 Method 2011	1	5	Post Temp Cycle Bond Pull	-	-	-	-	1/30/0	1/5/0	-	1/5/0	-
HTSL	A6	JEDEC JESD22-A103	1	45	High Temperature Storage Life	150C	1000 Hours	-	-	-	3/135/0	1/45/0	3/135/0	1/45/0
Test Group B - Accelerated Lifetime Simulation Tests														
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	125C	1000 Hours	-	-	3/231/0	3/231/0	-	3/231/0	-
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	150C	300 Hours	-	-	-	-	1/77/0	-	-
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	3/90/0	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	3/90/0	1/30/0
SD	C3	JEDEC J-STD-002	1	15	PB Solderability	>95% Lead Coverage	-	-	-	-	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	-
PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions	Cpk>1.67	-	-	-	-	3/30/0	3/30/0	3/30/0	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
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
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
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
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
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
ESD	E2	AEC Q100-002	1	3	ESD HBM	-	4000 Volts	Device specific data [1]	1/3/0	-	-	-	-	-
ESD	E3	AEC Q100-011	1	3	ESD CDM	-	1500 Volts	Device specific data [1]	1/3/0	-	-	-	-	-
ESD	E3	AEC Q100-011	1	3	ESD CDM	-	500 Volts	-	-	-	-	1/3/0	1/3/0	1/3/0
LU	E4	AEC Q100-004	1	3	Latch-Up	Per AEC Q100-004	-	Device specific data [1]	1/6/0	-	-	1/6/0	1/6/0	-
ED	E5	AEC Q100-009	3	30	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	1/30/0	3/90/0	-	3/90/0	3/90/0	3/90/0	1/30/0

Note [1] INA214AQDCKRQ1, INA212AQDCKRQ1, and INA213AQDCKRQ1 are same silicon die as INA210BQDCKRQ1 except for one metal layer difference for different gain which does not impact ESD/LU.
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-2407-004

Automotive Qualification Summary (As per AEC and JEDEC Guidelines)

Q006 SOT at CDAT

Approve Date 28-April-2025

Product Attributes

Attributes	Qual Device: INA214AQDCKRQ1	QBS Process Reference: INA215AQDCKRQ1	QBS Package Reference: TPS3840PH30DBVRQ1	QBS Package Reference: LM74703QDDFRQ1	QBS Package Reference: TXS0101QDCKRQ1	QBS Package, Product Reference: INA210BQDCKRTL
Automotive Grade Level	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 125	-40 to 125
Product Function	Signal Chain	Signal Chain	Power Management	Power Management	Logic	Signal Chain
Wafer Fab Supplier	AIZU	AIZU	FFAB	FFAB	FFAB	AIZU
Assembly Site	CDAT	TFME	CDAT	CDAT	CDAT	CDAT
Package Group	SOT	SOT	SOT	SOT	SOT	SOT
Package Designator	DCK	DCK	DBV	DDF	DCK	DCK
Pin Count	6	6	5	8	6	6

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: INA214AQDCKRQ1	QBS Reference: INA215AQDCKRQ1	QBS Reference: TPS3840PH30DBVRQ1	QBS Reference: LM74703QDDFRQ1	QBS Reference: TXS0101QDCKRQ1	QBS Reference: INA210BQDCKRTL
Test Group A - Accelerated Environment Stress Tests													
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL1 260C	-	-	-	3/0/0	3/364/0	3/0/0	-
PC	A1.1	-	3	22	SAM Precon Pre	Review for delamination	-	-	-	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	3/66/0	-
HAST	A2.1	JEDEC JESD22-A110	3	77	Biased HAST	130C/85%RH	96 Hours	-	-	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	-	3/3/0	-
HAST	A2.1.3	-	3	3	Wire Bond Shear, post bHAST, 1X	Post stress	-	-	-	3/9/0	-	3/9/0	-
HAST	A2.1.4	-	3	3	Bond Pull over Stitch, post bHAST, 1X	Post stress	-	-	-	3/9/0	-	3/9/0	-
HAST	A2.1.5	-	3	3	Bond Pull over Ball, post bHAST, 1X	Post stress	-	-	-	3/9/0	-	3/9/0	-
HAST	A2.2	JEDEC JESD22-A110	3	70	Biased HAST	130C/85%RH	192 Hours	-	-	3/231/0	-	3/231/0	-
HAST	A2.2.1	-	3	22	SAM Analysis, post bHAST 2X	Review for delamination	Completed	-	-	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	-	3/3/0	-
HAST	A2.2.3	-	3	3	Wire Bond Shear, post bHAST, 2X	Post stress	-	-	-	3/9/0	-	3/9/0	-
HAST	A2.2.4	-	3	3	Bond Pull over Stitch, post bHAST, 2X	Post stress	-	-	-	3/9/0	-	3/9/0	-
HAST	A2.2.5	-	3	3	Bond Pull over Ball, post bHAST, 2X	Post stress	-	-	-	3/9/0	-	3/9/0	-
TC	A4.1	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	500 Cycles	-	-	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	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	3/3/0	3/3/0	-
TC	A4.1.3	-	3	3	Wire Bond Shear, post TC, 1X	Post stress	-	-	-	3/9/0	3/9/0	3/9/0	-
TC	A4.1.4	-	3	3	Bond Pull over Stitch, post TC, 1X	Post stress	-	-	-	3/9/0	3/9/0	3/9/0	-
TC	A4.1.5	-	3	3	Bond Pull over Ball, post TC, 1X	Post stress	-	-	-	3/9/0	3/9/0	3/9/0	-
TC	A4.2	JEDEC JESD22-A104 and Appendix 3	3	70	Temperature Cycle	-65C/150C	1000 Cycles	-	-	3/231/0	3/228/0	3/231/0	-
TC	A4.2.1	-	3	22	SAM Analysis, post TC, 2X	Review for delamination	Completed	-	-	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	3/3/0	3/3/0	-
TC	A4.2.3	-	3	3	Wire Bond Shear, post TC, 2X	Post stress	-	-	-	3/9/0	3/9/0	3/9/0	-
TC	A4.2.4	-	3	3	Bond Pull over Stitch, post TC, 2X	Post stress	-	-	-	3/9/0	3/9/0	3/9/0	-
TC	A4.2.5	-	3	3	Bond Pull over Ball, post TC, 2X	Post stress	-	-	-	3/9/0	3/9/0	3/9/0	-
HTSL	A6.1	JEDEC JESD22-A103	3	45	High Temperature Storage Life	150C	1000 Hours	-	-	3/135/0	1/45/0	3/135/0	-
HTSL	A6.1.1	-	3	1	Cross Section, post HTSL, 1X	Post stress cross section	Completed	-	-	3/3/0	1/1/0	3/3/0	-
HTSL	A6.2	JEDEC JESD22-A103	3	44	High Temperature Storage Life	150C	2000 Hours	-	-	3/135/0	1/45/0	3/135/0	-
HTSL	A6.2	JEDEC JESD22-A103	3	44	High Temperature Storage Life	175C	500 Hours	-	1/45/0	-	-	-	-
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	-
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	3/90/0	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	3/90/0	1/30/0

QBS: Qual By Similarity, also known as Generic Data
Qual Device INA214AQDCKRQ1 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-2407-004

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

Approve Date 06-December-2024

Product Attributes

Attributes	Qual Device: INA210BQDCKRTL	QBS Process Reference: INA215AQDCKRQ1	QBS Package Reference: TPS3840PH30DBVRQ1	QBS Package Reference: LM74703QDDFRQ1	QBS Package Reference: TXS0101QDCKRQ1
Automotive Grade Level	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 125
Product Function	Signal Chain	Signal Chain	Power Management	Power Management	Logic
Wafer Fab Supplier	AIZU	AIZU	RFAB	RFAB	RFAB
Assembly Site	CDAT	TFME	CDAT	CDAT	CDAT
Package Group	SOT	SOT	SOT	SOT	SOT
Package Designator	DCK	DCK	DBV	DDF	DCK
Pin Count	6	6	5	8	6

QBS: Qual By Similarity, also known as Generic Data
Qual Device INA210BQDCKRTL is qualified at MSL1 260C
Note 1: Qual device and affected devices in PCN have justification to use Package QBS references for HAST, AC/UHAST and TC-BP based on AEC-100J A1.3 assembly site and package attributes were qualified.
Note 2: Qual device and affected devices in PCN have justification to use Process QBS references for HTOL and ELFR based on AEC-100J A1.2 silicon wafer fab and process attributes were qualified. Group B tests purpose is for silicon defects, they do not get influenced by assembly site or BOM differences.
Note 3: Qual device and affected devices in PCN have justification to use SD QBS based on AEC-100J A1.3 leadframe attributes are qualified.
Note 4: One lot is allowed per AEC-Q100J A1.5.1 Multiple Sites - When the specific product or process attribute to be qualified or requalified will affect more than one wafer fab site or assembly site, a minimum of one lot of testing per affected site is required.

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: INA210BQDCKRTL	QBS Process Reference: INA215AQDCKRQ1	QBS Package Reference: TPS3840PH30DBVRQ1	QBS Package Reference: LM74703QDDFRQ1	QBS Package Reference: TXS0101QDCKRQ1
Test Group A - Accelerated Environment Stress Tests												
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL1 260C	-	1/Pass Note 4	-	3/Pass	3/Pass	3/Pass
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST	130C/85%RH	96 Hours	Note 1	-	3/231/0	3/231/0	3/231/0
AC/UHAST	A3	JEDEC JESD22-A102/JEDEC JESD22-A118	3	77	Autoclave	121C/15psig	96 Hours	-	-	3/231/0	-	-
AC/UHAST	A3	JEDEC JESD22-A102/JEDEC JESD22-A118	3	77	Unbiased HAST	130C/85%RH	96 Hours	1/77/0 Note 4	-	-	3/231/0	3/231/0
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	500 Cycles	1/77/0 Note 4	-	3/231/0	3/231/0	3/231/0
TC-BP	A4	MIL-STD883 Method 2011	1	5	Post Temp Cycle Bond Pull	-	-	Note 1	-	1/5/0	1/5/0	1/5/0
HTSL	A6	JEDEC JESD22-A103	1	45	High Temperature Storage Life	150C	1000 Hours	1/45/0 Note 4	-	3/135/0	1/45/0	3/135/0
Test Group B - Accelerated Lifetime Simulation Tests												
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	125C	1000 Hours	Note 2	3/231/0	3/231/0	-	1/77/0
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	150C	300 Hours	Note 2	-	-	1/77/0	-
ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate	125C	48 Hours	Note 2	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 Note 4	1/30/0	3/90/0	3/90/0	3/90/0

WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	1/30/0 Note 4	1/30/0	3/90/0	3/90/0	3/90/0
SD	C3	JEDEC J-STD-002	1	15	PB Solderability	>95% Lead Coverage	-	Note 3	-	1/15/0	1/15/0	-
SD	C3	JEDEC J-STD-002	1	15	PB-Free Solderability	>95% Lead Coverage	-	Note 3	-	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 Note 4	-	3/30/0	3/30/0	3/30/0
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
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
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
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
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
Test Group E - Electrical Verification Tests												
ESD	E2	AEC Q100-002	1	3	ESD HBM	-	2000 Volts	1/3/0 Note 4	-	-	-	-
ESD	E3	AEC Q100-011	1	3	ESD CDM	-	500 Volts	1/3/0 Note 4	-	-	-	-
ED	E5	AEC Q100-009	3	30	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	1/30/0 Note 4	-	-	-	-

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-2405-062

Automotive Qualification Summary (As per AEC and JEDEC Guidelines)

Q006 SOT at CDAT

Approve Date 06-December-2024

Product Attributes

Attributes	Q006 Reference: TPS3840PH30DBVRQ1	Q006 Reference: LM74703QDDFRQ1	Q006 Reference: TXS0101QDCKRQ1
Automotive Grade Level	Grade 1	Grade 1	Grade 1
Operating Temp Range (C)	-40 to 125	-40 to 125	-40 to 125
Product Function	Power Management	Power Management	Logic
Wafer Fab Supplier	RFAB	RFAB	RFAB
Assembly Site	CDAT	CDAT	CDAT
Package Group	SOT	SOT	SOT
Package Designator	DBV	DDF	DCK
Pin Count	5	8	6

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	Q006 Reference: TPS3840PH30DBVRQ1	Q006 Reference: LM74703QDDFRQ1	Q006 Reference: TXS0101QDCKRQ1
Test Group A - Accelerated Environment Stress Tests										
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL1 260C	-	3/Pass	3/Pass	3/Pass
PC	A1.1	-	3	22	SAM Precon Pre	Review for delamination	-	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	3/66/0
HAST	A2.1	JEDEC JESD22-A110	3	77	Biased HAST	130C/85%RH	96 Hours	3/231/0	Note 1	3/231/0
HAST	A2.1.2	-	3	1	Cross Section, post bHAST, 1X	Post stress cross section	Completed	3/3/0	Note 1	3/3/0
HAST	A2.1.3	-	3	3	Wire Bond Shear, post bHAST, 1X	Post stress	-	3/9/0	Note 1	3/9/0
HAST	A2.1.4	-	3	3	Bond Pull over Stitch, post bHAST, 1X	Post stress	-	3/9/0	Note 1	3/9/0
HAST	A2.1.5	-	3	3	Bond Pull over Ball, post bHAST, 1X	Post stress	-	3/9/0	Note 1	3/9/0
HAST	A2.2	JEDEC JESD22-A110	3	70	Biased HAST	130C/85%RH	192 Hours	3/210/0	Note 1	3/210/0
HAST	A2.2.1	-	3	22	SAM Analysis, post bHAST 2X	Review for delamination	Completed	3/66/0	Note 1	3/66/0
HAST	A2.2.2	-	3	1	Cross Section, post bHAST, 2X	Post stress cross section	Completed	3/3/0	Note 1	3/3/0
HAST	A2.2.3	-	3	3	Wire Bond Shear, post bHAST, 2X	Post stress	-	3/9/0	Note 1	3/9/0
HAST	A2.2.4	-	3	3	Bond Pull over Stitch, post bHAST, 2X	Post stress	-	3/9/0	Note 1	3/9/0
HAST	A2.2.5	-	3	3	Bond Pull over Ball, post bHAST, 2X	Post stress	-	3/9/0	Note 1	3/9/0
TC	A4.1	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	500 Cycles	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	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	3/3/0	3/3/0
TC	A4.1.3	-	3	3	Wire Bond Shear, post TC, 1X	Post stress	-	3/9/0	3/9/0	3/9/0
TC	A4.1.4	-	3	3	Bond Pull over Stitch, post TC, 1X	Post stress	-	3/9/0	3/9/0	3/9/0
TC	A4.1.5	-	3	3	Bond Pull over Ball, post TC, 1X	Post stress	-	3/9/0	3/9/0	3/9/0
TC	A4.2	JEDEC JESD22-A104 and Appendix 3	3	70	Temperature Cycle	-65C/150C	1000 Cycles	3/210/0	3/210/0	3/210/0
TC	A4.2.1	-	3	22	SAM Analysis, post TC, 2X	Review for delamination	Completed	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	3/3/0	3/3/0

TC	A4.2.3	-	3	3	Wire Bond Shear, post TC, 2X	Post stress	-	3/9/0	3/9/0	3/9/0
TC	A4.2.4	-	3	3	Bond Pull over Stitch, post TC, 2X	Post stress	-	3/9/0	3/9/0	3/9/0
TC	A4.2.5	-	3	3	Bond Pull over Ball, post TC, 2X	Post stress	-	3/9/0	3/9/0	3/9/0
HTSL	A6.1	JEDEC JESD22-A103	3	45	High Temperature Storage Life	150C	1000 Hours	3/135/0	1/45/0 Note 1	3/135/0
HTSL	A6.1.1	-	3	1	Cross Section, post HTSL, 1X	Post stress cross section	Completed	3/3/0	1/1/0 Note 1	3/3/0
HTSL	A6.2	JEDEC JESD22-A103	3	44	High Temperature Storage Life	150C	2000 Hours	3/132/0	1/44/0 Note 1	3/132/0
HTSL	A6.2.1	-	3	1	Cross Section, post HTSL, 2X	Post stress cross section	Completed	3/3/0	1/1/0 Note 1	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	3/90/0	3/90/0	3/90/0
WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	3/90/0	3/90/0	3/90/0

This report represents AEC-Q006 7.1 Family Data Usage using technology driver and lead products that are most representative of the technology family.
Note 1: LM74703QDDFRQ1 HAST and HTSL QBS'd to TPS3840PH30DBVRQ1 that has same Assembly site, package, bond pad metal, wire and mold attributes.
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
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TI Qualification ID: R-CHG-2405-062

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ZVEI ID: SEM-PW-02, SEM-PW-13, SEM-PA-18, SEM-PA-08, SEM-PA-07, SEM-PA-11, SEM-TF-01

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