



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

**PCN#20250608001.2**

**Qualification of CDAT as an additional Assembly/Test site for the Select Devices  
Change Notification / Sample Request**

**Date:** June 09, 2025

**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.

Sincerely,

Change Management Team  
SC Business Services

**20250608001.2**  
**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.

<b>DEVICE</b>	<b>CUSTOMER PART NUMBER</b>
SN74LVC1G32QDBVRQ1	NULL
CLVC1G125QDBVRQ1	CLVC1G125QDBVRQ1
TPD2E2U06QDBZRQ1	TPD2E2U06QDBZRQ1
SN74LVC1G08QDBVRQ1	SN74LVC1G08QDBVRQ1

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

<b>PCN Number:</b>	PCN# 20250608001.2			<b>PCN Date:</b>	June 09, 2025																																																
<b>Title:</b>	Qualification of CDAT as an additional Assembly/Test site for select devices																																																				
<b>Customer Contact:</b>	Change Management Team		<b>Dept:</b>	Quality Services																																																	
<b>Proposed 1<sup>st</sup> Ship Date:</b>	December 06, 2025		<b>Sample requests accepted until:</b>	August 08, 2025*																																																	
<b>*Sample requests received after August 08, 2025 will not be supported.</b>																																																					
<b>Change Type:</b>																																																					
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Design	<input type="checkbox"/>	Wafer Bump Material																																																
<input checked="" type="checkbox"/>	Assembly Process	<input type="checkbox"/>	Data Sheet	<input type="checkbox"/>	Wafer Bump Process																																																
<input checked="" type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input type="checkbox"/>	Wafer Fab Site																																																
<input type="checkbox"/>	Mechanical Specification	<input checked="" type="checkbox"/>	Test Site	<input type="checkbox"/>	Wafer Fab Material																																																
<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input type="checkbox"/>	Wafer Fab Process																																																
<b>PCN Details</b>																																																					
<b>Description of Change:</b>																																																					
<p>Texas Instruments Incorporated is announcing the qualification of CDAT as an additional Assembly/Test site for the devices listed below. Construction differences are as follows:</p> <table border="1"> <thead> <tr> <th></th> <th>PHI</th> <th>UTL2</th> <th>HNA</th> <th>HFTF</th> <th>CDAT</th> </tr> </thead> <tbody> <tr> <td>Mount Compound</td> <td>4207123</td> <td>SID#PZ0001</td> <td>SID#400180</td> <td>4207123</td> <td><b>4207123</b></td> </tr> <tr> <td>Bond wire diam/material</td> <td>1.0mil Cu</td> <td>1.0mil Au</td> <td>0.8mil Au</td> <td>1.0mil Cu</td> <td><b>0.8mil Cu</b></td> </tr> <tr> <td>Mold Compound</td> <td>4222198</td> <td>SID#450179</td> <td>SID#450179</td> <td>SID#R-27</td> <td><b>4222198</b></td> </tr> <tr> <td>Final Test Site</td> <td>PHI</td> <td>UTL2</td> <td>HNA</td> <td>HFTF</td> <td><b>CDAT</b></td> </tr> <tr> <td>Lead finish</td> <td>NiPdAu</td> <td>NiPdAu</td> <td>NiPdAu</td> <td>NiPdAu</td> <td><b>Matte Sn</b></td> </tr> <tr> <td>Wafer thickness</td> <td>6.0mil</td> <td>7.5mil</td> <td>6.0mil</td> <td>7.5mil</td> <td><b>6.0mil</b></td> </tr> <tr> <td>MSL level</td> <td>1</td> <td>1</td> <td>2</td> <td>1</td> <td><b>1</b></td> </tr> </tbody> </table> <p>Upon expiry of this PCN, TI will combine lead finish solutions in a single standard part number. For example, a customer order for 7500 units of a specific TI part number with 2500 units SPQ (Standard Pack Quantity per reel) may be fulfilled in the following ways:</p> <ul style="list-style-type: none"> <li>• 3 reels of NiPdAu finish</li> <li>• 3 reels of Matte Sn finish</li> <li>• 2 reels of Matte Sn and 1 reel of NiPdAu finish</li> <li>• 2 reels of NiPdAu and 1 reel of Matte Sn finish</li> </ul> <p>Test coverage, insertions, conditions will remain consistent with current testing and verified with test MQ</p> <p>Qual details are provided in the Qual Data Section.</p>							PHI	UTL2	HNA	HFTF	CDAT	Mount Compound	4207123	SID#PZ0001	SID#400180	4207123	<b>4207123</b>	Bond wire diam/material	1.0mil Cu	1.0mil Au	0.8mil Au	1.0mil Cu	<b>0.8mil Cu</b>	Mold Compound	4222198	SID#450179	SID#450179	SID#R-27	<b>4222198</b>	Final Test Site	PHI	UTL2	HNA	HFTF	<b>CDAT</b>	Lead finish	NiPdAu	NiPdAu	NiPdAu	NiPdAu	<b>Matte Sn</b>	Wafer thickness	6.0mil	7.5mil	6.0mil	7.5mil	<b>6.0mil</b>	MSL level	1	1	2	1	<b>1</b>
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<b>Reason for Change:</b>																																																					
Supply continuity																																																					
<b>Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):</b>																																																					
None																																																					
<b>Impact on Environmental Ratings</b>																																																					
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
<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change

#### Changes to product identification resulting from this PCN:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
HFTF	HFT	CHN	Hefei
HNA	HNT	THA	Ayutthaya
PHI	PHI	PHL	Baguio City
UTL2	NS2	THA	Bangpakong, Chachoengsao
<b>CDAT</b>	<b>CDA</b>	<b>CHN</b>	<b>Chengdu</b>

Sample product shipping label (not actual product label)

G3= Matte Sn  
G4 = NiPdAu

(1P) SN74LS07NSR  
(Q) 2000 (D) 0336  
(31T) LOT: 3959047MLA  
(4W) TKY (1T) 7523483SI2  
(P)  
(2P) REV: (V) 0033317  
(20L) CS0: SHE (21L) CC0: USA  
(22L) AS0: MLA (23L) AC0: MYS

#### Product Affected:

SN74LVC1G08QDBVRQ1*	CLVC1G125QDBVRQ1.B	TPD2E2U06QDBZRQ1*
SN74LVC1G08QDBVRQ1.A	SN74LVC1G32QDBVRQ1*	TPD2E2U06QDBZRQ1.B
SN74LVC1G08QDBVRQ1.B	SN74LVC1G32QDBVRQ1.A	
CLVC1G125QDBVRQ1*	SN74LVC1G32QDBVRQ1.B	

\* G4 part numbers are available and will remain on NiPdAu flows. This PCN does not apply to existing G4 materials. Please visit TI's [labeling and symbolization](#) page for more information on material designators

## Automotive New Product Qualification Summary (As per AEC-Q101 and JEDEC Guidelines)

Approve Date 21-March-2025

### Product Attributes

Attributes	Qual Device: TPD2E2U06QDBZRQ1	QBS Process Reference: ESD2CAN24DBZRQ1	QBS Package Reference: TL431BQDBZRQ1	QBS Package Reference: ESD5452DBZRQ1	QBS Package Reference: ESD2CANXL24DBZRQ1	QBS Package Reference: ESD2CANFD36DBZRQ1	QBS Package Reference: ESD2CAN36DBZRQ1
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	Interface	Interface	Power Management	Interface	Interface	Interface	Interface
Wafer Fab Supplier	CFAB	CFAB	RFAB	CFAB	CFAB	CFAB	CFAB
Assembly Site	CDAT	PHI	CDAT	CDAT	CDAT	CDAT	CDAT
Package Group	SOT	SOT	SOT	SOT	SOT	SOT	SOT
Package Designator	DBZ	DBZ	DBZ	DBZ	DBZ	DBZ	DBZ
Pin Count	3	3	3	3	3	3	3

QBS: Qual By Similarity, also known as Generic Data

Qual Device TPD2E2U06QDBZRQ1 is qualified at MSL1 260C

Per AEC-Q100J A1.3: The PCN devices are categorized as a qualification family and use generic data that has been qualified for the critical attributes in Die sizes, Package Type, Assembly Process and Site.

Note 1: Qual Device has justification to use Package QBS references for Group A, Group C and Group E tests since assembly site and package attributes were qualified.

Note 2: Qual Device has justification to use Process QBS references for Group B since die attributes were qualified.

Note 3: Other devices have passed HBM/CDM with the final wafer/backgrind thickness. TI will not re-run HBM/CDM for this change since backgrind removes bulk silicon and does not affect the active area of die. HBM/CDM purpose is to test the active area of die, die circuit

design and/or wafer fab defects that would result damage to dielectrics, junctions, metal.

## 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: TPD2E2U06QDBZRQ1	QBS Process Reference: ESD2CAN240BZRQ1	QBS Package Reference: TL431BQDBZRQ1	QBS Package Reference: ESDS452DBZRQ1	QBS Package Reference: ESD2CANXL24DBZRQ1	QBS Package Reference: ESD2CANFD36DBZRQ1	QBS Package Reference: ESD2CAN36DBZRQ1
Test Group A - Accelerated Environment Stress Tests														
PC	A1	JEDEC J-STD-020 JESD22-A113	-	0	Preconditioning	MSL1 260C	1 Step	Note 1	-	3/Pass	-	3/Pass	3/Pass	3/Pass
HAST	A2.1	JEDEC JESD22-A110	3	77	Biased HAST	130C/85%RH	96 Hours	Note 1	-	3/231/0	1/77/0	1/77/0	-	1/77/0
AC/UHAST	A3	JEDEC JESD22-A110	3	77	Unbiased HAST	130C/85%RH	96 Hours	Note 1	-	3/231/0	-	1/77/0	1/77/0	1/77/0
TCHT	A4.1	JEDEC JESD22-A104 and Appendix 6	3	77	Temperature Cycle	-65C/150C	1000 Cycles	Note 1	-	3/231/0	-	1/77/0	1/77/0	1/77/0
TC	A4.1	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	500 Cycles	Note 1	-	3/231/0	-	1/77/0	1/77/0	1/77/0
TC	A4.1.1	-	3	5	Post Temp Cycle Bond Pull	MIL-STD 883 Method 2011	Completed	Note 1	-	3/15/0	-	1/5/0	1/5/0	1/5/0
Test Group B - Accelerated Lifetime Simulation Tests														
HTRB	B1	MIL-STD-750-1	3	77	High Temperature Reverse Bias	125C	1000 Hours	Note 2	3/231/0	-	-	-	-	-
HTRB	B1.1	MIL-STD-750-1	3	5	Post High Temperature Reverse Bias Bond Pull	MIL-STD 883 Method 2011	1 Step	Note 2	3/15/0	-	-	-	-	-
Test Group C - Package Assembly Integrity Tests														
DPA	C1	AEC Q101-004 Section 4	1	2	Destructive Physical Analysis	-	1 Step	Note 1	-	-	1/2/0	1/2/0	1/2/0	1/2/0
PD	C2	JESD22-B100	1	30	Physical Dimensions	Cpk>1.67	1 Step	1/30/0	-	3/30/0	1/30/0	1/30/0	1/30/0	1/30/0
WBP	C3	MIL-STD-750-2	1	10	Wire Bond Pull	Minimum of 5 devices, 30 wires Cpk>1.67	1 Step	1/10/0	-	-	1/10/0	1/10/0	1/10/0	1/10/0
WBS	C4	AEC-Q101-003	1	10	Wire Bond Shear	Minimum of 5 devices, 30 wires Cpk>1.67	1 Step	1/10/0	-	-	1/10/0	1/10/0	1/10/0	1/10/0
DS	C5	MIL-STD-750-2	1	5	Die Shear	MIL-STD-750-2 Method 2017	1 Step	1/5/0	-	-	1/5/0	1/5/0	1/5/0	1/5/0
RSH	C8	JESD22-B107	1	30	Solder Heat	260C, 10 seconds	1 Step	Note 1	-	-	1/30/0	-	-	-
TR	C9	JEDEC JESD24-3, 24-4, 24-6 as appropriate	1	10	Thermal Resistance	Pre and Post change	1 Step	Note 1	-	-	1/10/0	-	-	-
SD	C10	JEDEC J-STD-002	1	15	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	1 Step	Note 1	-	-	1/15/0	-	-	-
Test Group E - Electrical Verification Tests														
EV	E0	JESD22-B101	3	1000	Visual/Mechanical	Per JESD22 B-101	1 Step	Note 1	3/3000/0	-	1/1000/0	1/1000/0	-	1/1000/0
ESD	E3	AEC Q101-001	3	10	ESD HBM	Room Temp	2000 Volts	Note 3	1/80/0	-	1/10/0	-	-	-
ESD	E4	AEC Q101-005	3	10	ESD CDM	Room Temp	500 Volts	Note 3	1/60/0	-	-	-	-	-
ESD	E4	AEC Q101-005	3	10	ESD CDM	Room Temp	750 Volts	Note 3	-	-	1/10/0	-	-	-

Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, HTSL, and IOL, as applicable

Passing results reflect shift analysis per Q101 requirements

### 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 : HTRB, 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-2503-021

## Automotive Qualification Summary (As per AEC and JEDEC Guidelines)

**Q006 SOT at CDAT**  
Approve Date 21-March-2025

### Product Attributes

Attributes	Q006 Reference: <u>TPS3840PH30DBVRQ1</u>	Q006 Reference: <u>TL431BQDBZRQ1</u>	Q006 Reference: <u>ESDS452DBZRQ1</u>	Q006 Reference: <u>ESD2CANXL24DBZRQ1</u>	Q006 Reference: <u>ESD2CANFD36DBZRQ1</u>	Q006 Reference: <u>ESD2CAN36DBZRQ1</u>
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	Power Management	Power Management	Interface	Interface	Interface	Interface
Wafer Fab Supplier	RFAB	RFAB	CFAB	CFAB	CFAB	CFAB
Assembly Site	CDAT	CDAT	CDAT	CDAT	CDAT	CDAT
Package Group	SOT	SOT	SOT	SOT	SOT	SOT
Package Designator	DBV	DBZ	DBZ	DBZ	DBZ	DBZ
Pin Count	5	3	3	3	3	3

### 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: <u>TPS3840PH30DBVRQ1</u>	Q006 Reference: <u>TL431BQDBZRQ1</u>	Q006 Reference: <u>ESDS452DBZRQ1</u>	Q006 Reference: <u>ESD2CANXL24DBZRQ1</u>	Q006 Reference: <u>ESD2CANFD36DBZRQ1</u>	Q006 Reference: <u>ESD2CAN36DBZRQ1</u>
Test Group A - Accelerated Environment Stress Tests													
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL1 260C	-	3/Pass	3/Pass	1/Pass	1/Pass	1/Pass	1/Pass
PC	A1.1	-	3	22	SAM Precon Pre	Review for delamination	-	3/66/0	3/66/0	1/22/0	1/22/0	1/22/0	1/22/0
PC	A1.2	-	3	22	SAM Precon Post	Review for delamination	-	3/66/0	3/66/0	1/22/0	1/22/0	1/22/0	1/22/0
HAST	A2.1	JEDEC JESD22-A110	3	77	Biased HAST	130C/85%RH	96 Hours	3/231/0	3/231/0	1/77/0	1/77/0	-	1/77/0
HAST	A2.1.2	-	3	1	Cross Section, post bHAST, 1X	Post stress cross section	Completed	3/3/0	3/3/0	1/1/0	1/1/0	-	1/1/0
HAST	A2.1.3	-	3	3	Wire Bond Shear, post bHAST, 1X	Post stress	-	3/9/0	3/9/0	1/3/0	1/3/0	-	1/3/0
HAST	A2.1.4	-	3	3	Bond Pull over Stitch, post bHAST, 1X	Post stress	-	3/9/0	3/9/0	1/3/0	1/3/0	-	1/3/0
HAST	A2.1.5	-	3	3	Bond Pull over Ball, post bHAST, 1X	Post stress	-	3/9/0	3/9/0	1/3/0	1/3/0	-	1/3/0
HAST	A2.2	JEDEC JESD22-A110	3	70	Biased HAST	130C/85%RH	192 Hours	3/231/0	3/231/0	1/77/0	1/77/0	-	1/77/0
HAST	A2.2.1	-	3	22	SAM Analysis, post bHAST 2X	Review for delamination	Completed	3/66/0	3/66/0	1/22/0	1/22/0	-	1/22/0
HAST	A2.2.2	-	3	1	Cross Section, post bHAST, 2X	Post stress cross section	Completed	3/3/0	3/3/0	1/1/0	1/1/0	-	1/1/0
HAST	A2.2.3	-	3	3	Wire Bond Shear, post bHAST, 2X	Post stress	-	3/9/0	3/9/0	1/3/0	1/3/0	-	1/3/0
HAST	A2.2.4	-	3	3	Bond Pull over Stitch, post bHAST, 2X	Post stress	-	3/9/0	3/9/0	1/3/0	1/3/0	-	1/3/0
HAST	A2.2.5	-	3	3	Bond Pull over Ball, post bHAST, 2X	Post stress	-	3/9/0	3/9/0	1/3/0	1/3/0	-	1/3/0
TC	A4.1	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	500 Cycles	3/231/0	3/231/0	-	1/77/0	1/77/0	1/77/0
TC	A4.1.1	-	3	22	SAM Analysis, post TC 1X	Review for delamination	Completed	3/66/0	3/66/0	-	1/22/0	1/22/0	1/22/0
TC	A4.1.2	-	3	1	Cross Section, post TC, 1X	Post stress cross section	Completed	3/3/0	3/3/0	-	1/1/0	1/1/0	1/1/0
TC	A4.1.3	-	3	3	Wire Bond Shear, post TC, 1X	Post stress	-	3/9/0	3/9/0	-	1/3/0	1/3/0	1/3/0
TC	A4.1.4	-	3	3	Bond Pull over Stitch, post TC, 1X	Post stress	-	3/9/0	3/9/0	-	1/3/0	1/3/0	1/3/0
TC	A4.1.5	-	3	3	Bond Pull over Ball, post TC, 1X	Post stress	-	3/9/0	3/9/0	-	1/3/0	1/3/0	1/3/0

Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Q006 Reference: TPS3840PH30DBVRQ1	Q006 Reference: TL431BQ0BZRQ1	Q006 Reference: ESDS452DBZRQ1	Q006 Reference: ESD2CANXL24DBZRQ1	Q006 Reference: ESD2CANFD36DBZRQ1	Q006 Reference: ESD2CAN36DBZRQ1
TC	A4.2	JEDEC JESD22-A104 and Appendix 3	3	70	Temperature Cycle	-65C/150C	1000 Cycles	3/231/0	3/231/0	-	1/77/0	1/77/0	1/77/0
TC	A4.2.1	-	3	22	SAM Analysis, post TC, 2X	Review for delamination	Completed	3/66/0	3/66/0	-	1/22/0	1/22/0	1/22/0
TC	A4.2.2	-	3	1	Cross Section, post TC, 2X	Post stress cross section	Completed	3/3/0	3/3/0	-	1/1/0	1/1/0	1/1/0
TC	A4.2.3	-	3	3	Wire Bond Shear, post TC, 2X	Post stress	-	3/9/0	3/9/0	-	1/3/0	1/3/0	1/3/0
TC	A4.2.4	-	3	3	Bond Pull over Stitch, post TC, 2X	Post stress	-	3/9/0	3/9/0	-	1/3/0	1/3/0	1/3/0
TC	A4.2.5	-	3	3	Bond Pull over Ball, post TC, 2X	Post stress	-	3/9/0	3/9/0	-	1/3/0	1/3/0	1/3/0
HTSL	A6.1	JEDEC JESD22-A103	3	45	High Temperature Storage Life	150C	1000 Hours	3/135/0	3/231/0	-	-	-	-
HTSL	A6.1.1	-	3	1	Cross Section, post HTSL, 1X	Post stress cross section	Completed	3/3/0	3/3/0	-	-	-	-
HTSL	A6.2	JEDEC JESD22-A103	3	44	High Temperature Storage Life	150C	2000 Hours	3/135/0	3/231/0	-	-	-	-
HTSL	A6.2.1	-	3	1	Cross Section, post HTSL, 2X	Post stress cross section	Completed	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	3/90/0	3/90/0	3/90/0	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	3/90/0	3/90/0	3/90/0	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.

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-2503-021

ZVEI IDs: SEM-PA-05, SEM-PA-07, SEM-PA-08, SEM-PA-11, SEM-PA-18, SEM-PW-03, SEM-PS-02, SEM-TF-01

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).

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

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