12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN#20221219007.1
Qualification of new Fab site (RFAB) using qualified Process Technology, Die Revision, and additional Assembly Sites & BOM option for select devices

Change Notification / Sample Request

Date: December 22, 2022
To: TOKYO ELECTRON DEVICE (DSTR) 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 **30** days of the date of this notice. Lack of acknowledgement of this notice within 30 days constitutes acceptance of the change. If additional data is required, requests must be received within **30 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 PCN Team (PCN_ww_admin_team@list.ti.com). For sample requests or sample related questions, contact your local Field Sales Representative.

Sincerely,

PCN Team
SC Business Services

20221219007.1
Attachment: 1

Products Affected:

The devices listed on this page are a subset of the complete list of affected devices. According to our records, these are the devices that you have purchased within the past twenty-four (24) months. The corresponding customer part number is also listed, if available.

DEVICE	CUSTOMER PART NUMBER
SN74LVC1T45DBVR	null
SN74LVC1T45DCKR	null
SN74LVC4245APWR	null
SN74LVC8T245PWR	null
SN74LVCC3245APWR	null
SN74LVC1T45DBVT	null
SN74LVC1T45DCKT	null
SN74LVCC4245APWR	null
SN74LVC8T245DBR	null

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

PCN Number:	20221219007.1	PCN Date:	December 22, 2022
Title:	Qualification of new Fab site (RFAB) using qualified Process Technology, Die Revision, and additional Assembly Sites & BOM options for select devices		
Customer Contact:	PCN Manager	Dept:	Quality Services
Proposed 1st Ship Date:	Mar 20, 2023	Sample requests accepted until:	Jan 21, 2023*

***Sample requests received after Jan 21, 2023 will not be supported.**

Change Type:					
☒	Assembly Site	☒	Assembly Process	☒	Assembly Materials
☒	Design	☒	Electrical Specification	☐	Mechanical Specification
☐	Test Site	☐	Packing/Shipping/Labeling	☐	Test Process
☐	Wafer Bump Site	☐	Wafer Bump Material	☐	Wafer Bump Process
☒	Wafer Fab Site	☒	Wafer Fab Materials	☒	Wafer Fab Process
		☐	Part number change		

PCN Details

Description of Change:

Texas Instruments is pleased to announce the qualification of a new fab & process technology (RFAB, LBC9) and Assembly sites & BOM options for selected devices as listed below in the product affected section. Construction differences are noted below:

Current Fab Site			Additional Fab Site		
Current Fab Site	**Process**	**Wafer Diameter**	**Additional Fab Site**	**Process**	**Wafer Diameter**
FR-BIP-1	ASLNONC10	200 mm	RFAB	LBC9	300 mm

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

Construction differences are noted below for Groups 1 and 2 (No BOM differences for Group 3):

Group 1 Devices Table (DBV):

	HNA	TFME	ASEWH	CDAT	TIPI
Mount Compound	SID#400180	SID#A-03	SID#4020039A2	4207123	8095733
Bond wire composition, diameter	Au, 0.6 mil	Au, 0.8 mil	Au, 1.0 mil	Cu, 0.8 mil	Cu, 0.8
Mold Compound	SID#450207	SID#R-04	SID#4020039A1	4222198	4222198
Lead finish	NiPdAu	NiPdAu	NiPdAu	Matte Sn	NiPdAu

Group 2 Device Table (DCK):

	ASEWH	HNA	TFME	HFTF
Mount Compound	SID#1120999A2	SID#400180	SID# A-03	SID#A-03
Bond wire composition, diameter	Au, 0.8 mil	Au, 1.0 or 0.6 mil	Au, 0.8 mil	Cu, 1.0 mil
Mold Compound	SID#4020039A1	SID#450179	SID# R-07	SID#R-27
Lead finish	NiPdAu	NiPdAu	NiPdAu	Matte Sn

Upon expiry of this PCN TI will combine lead free solutions in a single ***standard part number.***

For example; ***SN74LVC1T45DBVT*** – can ship with both Matte Sn and NiPdAu.

Example:

- Customer order for 7500 units of SN74LVC2T45DCUR with 2500 units SPQ (Standard Pack Quantity per Reel).

- TI can satisfy the above order in one of the following ways.
  - I. 3 Reels of NiPdAu finish.
  - II. 3 Reels of Matte Sn finish
  - III. 2 Reels of Matte Sn and 1 reel of NiPdAu finish.
  - IV. 2 Reels of NiPdAu and 1 reel of Matte Sn finish.

The datasheets will be changing as a result of the above mentioned changes. The datasheet change details can be reviewed in the datasheet revision history shown below. The links to the revised datasheets are available in the table below.

Product Folder	Current Datasheet Number	New Datasheet Number	Link to full datasheet
SN74LVC1T45	SCES515L	SCES515M	https://www.ti.com/product/SN74LVC1T45
SN74LVC8T245	SCES584B	SCES584C	https://www.ti.com/product/SN74LVC8T245
SN74LVCC3245A	SCAS585P	SCAS585Q	https://www.ti.com/product/SN74LVCC3245A
SN74LVCC4245A	SCAS584M	SCAS584N	https://www.ti.com/product/SN74LVCC4245A
SN74LVC4245A	SCAS375I	SCAS375J	https://www.ti.com/product/SN74LVC4245A

SN74LVC1T45 Single-Bit Dual-Supply Bus Transceiver With Configurable Voltage Translation and 3-State Outputs

Changes from Revision L (February 2017) to Revision M (November 2022) **Page**

- Updated the numbering format for tables, figures, and cross-references throughout the document....1
- Updated the thermals in the *Thermal Information* section....6
- Updated the *Switching Characterisitcs* sections: extended some minimum specifications for lower delays 8
- Updated the I_{off} *Supports Partial Power-Down Mode Operation* section....14
- Added the *Balanced High-Drive CMOS Push-Pull Outputs* and V_{CC} *Isolation* sections....14
- Updated the *Power Supply Recommendations* section....19

SN74LVC8T245 8-Bit Dual-Supply Bus Transceiver With Configurable Voltage Translation and 3-State Outputs

Changes from Revision B (November 2014) to Revision C (December 2022) **Page**

- Removed Machine Model specification..... 1
- Updated the numbering format for tables, figures, and cross-references throughout the document..... 1
- Updated the *ESD Ratings* section (was called *Handling Ratings*)..... 4
- Updated thermals in the Thermal Informations section. 6
- Increased max switching characterisitics specs for VccB = 5V..... 8
- Updated the *Overview* section..... 12
- Added the *Balanced High-Drive CMOS Push-Pull Outputs* and V_{CC} *Isolation* sections..... 12
- Updated the *Power Supply Recommendations* section..... 15

SN74LVCC3245A Octal Bus Transceiver With Adjustable Output Voltage and 3-State Outputs

Changes from Revision P (December 2015) to Revision Q (December 2022) **Page**

- Updated the numbering format for tables, figures, and cross-references throughout the document..... 1
- Added thermal information for DB and PW package..... 6
- Added inclusive terminology..... 15

SN74LVCC4245A Octal Dual-Supply Bus Transceiver With Configurable Output Voltage and 3-State Outputs

Changes from Revision M (March 2005) to Revision N (December 2022) **Page**

- Removed ordering information..... 1
- Updated the numbering format for tables, figures, and cross-references throughout the document..... 1
- Added the *Pin Configuration and Functions*, *Detailed Description*, *Application and Implementation*, *Layout* sections 1
- Added thermal values for PW package..... 5

SN74LVC4245A Octal Bus Transceiver and 3.3-V to 5-V Shifter With 3-State Outputs

Changes from Revision I (January 2015) to Revision J (December 2022) **Page**

- Updated the numbering format for tables, figures, and cross-references throughout the document..... 1
- Updated thermals for DB and PW package..... 5

Reason for Change:

Supply Continuity

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

None

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
FR-BIP-1	TID	DEU	Freising
RFAB	**RFB**	**USA**	**Richardson**

Die Rev:

Current	New
Die Rev [2P]	**Die Rev [2P]**
-	**A**

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
HNA	HNT	THA	Ayutthaya
TFME	NFM	CHN	Economic Development Zone
ASEWH	AWH	CHN	Weihai
HFTFAT	**HFT**	**CHN**	**Hefei**
CDAT	**CDA**	**CHN**	**Chengdu**
TIPI	**PHI**	**PHL**	**Baguio City**

Sample product shipping label (not actual product label)

Product Affected:

Group 1 Device list:

SN74LVC1T45DBVR	SN74LVC1T45DBVT

Group 2 Device list:

SN74LVC1T45DCKR	SN74LVC1T45DCKT

Group 3 Device list:

SN74LVC4245APWR	SN74LVC8T245PWR	SN74LVCC3245APWR	SN74LVCC4245APWR
SN74LVC8T245DBR	SN74LVC8T245DBRG4	SN74LVC8T245PWRE4	SN74LVC8T245PWRG4

Qualification Report
Approve Date 08-NOVEMBER -2022

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: SN74LVC1T45DBVR	Qual Device: SN74LVC1T45DBVT	QBS Reference: TLV1805QDBVRQ1	QBS Reference: SN74HCS74QPWRQ1
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	3/231/0	3/231/0
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	-	3/231/0	-
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	-	-	3/231/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	3/231/0	3/231/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	-	3/135/0
HTSL	A6	High Temperature Storage Life	175C	500 Hours	-	-	3/135/0	-
HTOL	B1	Life Test	125C	1000 Hours	-	-	3/231/0	3/231/0
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	-	3/2400/0
SD	C3	PB Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	-	1/15/0	1/15/0
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	-	1/15/0	1/15/0
PD	C4	Physical Dimensions	Cpk>1.67	-	-	-	3/30/0	3/30/0
ESD	E2	ESD CDM	-	250 Volts	1/3/0	-	-	-
ESD	E2	ESD CDM	-	500 Volts	-	-	1/3/0	1/3/0
ESD	E2	ESD HBM	-	1000 Volts	1/3/0	-	-	-
ESD	E2	ESD HBM	-	2000 Volts	-	-	1/3/0	1/3/0
LU	E4	Latch-Up	Per JESD78	-	1/3/0	-	-	-
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	-	-	-
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	-	3/90/0	3/90/0

- QBS: Qual By Similarity
- Qual Device SN74LVC1T45DBVR is qualified at MSL1 260C
- Qual Device SN74LVC1T45DBVT 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

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

TI Qualification ID: R-CHG-2110-058

Qualification Report
Approve Date 08-NOVEMBER -2022

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: SN74LVC1T45DBVT	Qual Device: SN74LVC1T45DBVR	QBS Reference: SN74HCS74QPWRQ1	QBS Reference: TLV9061IDBVR
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	-	3/231/0
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	3/231/0	-
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	-	-	3/231/0
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	-	3/231/0	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	-	3/231/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	3/231/0	-
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	3/135/0	-
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	-	-	3/231/0
HTOL	B1	Life Test	125C	1000 Hours	-	-	3/231/0	-
HTOL	B1	Life Test	150C	300 Hours	-	-	-	3/231/0
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	3/2400/0	-
WBS	C1	Ball Shear	76 balls, 3 units min	Wires	-	-	-	3/228/0
WBP	C2	Bond Pull	76 Wires, 3 units min	Wires	-	-	-	3/228/0
SD	C3	PB Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	-	1/15/0	-
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	-	1/15/0	-
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes); PB-Free Solder;	-	-	-	-	3/66/0
PD	C4	Physical Dimensions	(per mechanical drawing)	-	-	-	-	3/15/0
PD	C4	Physical Dimensions	Cpk>1.67	-	-	-	3/30/0	-
ESD	E2	ESD CDM	-	250 Volts	-	1/3/0	-	-
ESD	E2	ESD CDM	-	500 Volts	-	-	1/3/0	-
ESD	E2	ESD HBM	-	1000 Volts	-	1/3/0	-	-
ESD	E2	ESD HBM	-	2000 Volts	-	-	1/3/0	-
LU	E4	Latch-Up	Per JESD78	-	-	1/3/0	-	-
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	-	1/30/0	-	-
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	-	3/90/0	-
FTY	E6	Final Test Yield	-	-	-	-	-	3/3/0

- QBS: Qual By Similarity
- Qual Device SN74LVC1T45DBVT is qualified at MSL1 260C
- Qual Device SN74LVC1T45DBVR 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

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

TI Qualification ID: R-CHG-2109-075

Qualification Report
Approve Date 08-NOVEMBER -2022

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: SN74LVC1T45DCKT	Qual Device: SN74LVC1T45DCKR	QBS Reference: SN74HCS74QPWRQ1	QBS Reference: SN74LVC1T45QDCKRQ1	QBS Reference: SN74AUP1T34QDCKRQ1
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	3/231/0	-	-
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	-	1/77/0	3/231/0
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	-	-	1/77/0	3/231/0
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	-	3/231/0	-	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	3/231/0	-	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	-	1/77/0	3/231/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	3/135/0	-	-
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	-	-	1/45/0
HTSL	A6	High Temperature Storage Life	175C	500 Hours	-	-	-	1/45/0	-
HTOL	B1	Life Test	125C	1000 Hours	-	-	3/231/0	1/77/0	1/77/0
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	3/2400/0	-	-

SD	C3	PB Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	-	1/15/0	-	1/15/0
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	-	1/15/0	-	1/15/0
PD	C4	Physical Dimensions	Cpk>1.67	-	-	-	3/30/0	1/10/0	3/30/0
ESD	E2	ESD CDM	-	1000 Volts	-	-	-	-	1/3/0
ESD	E2	ESD CDM	-	250 Volts	-	1/3/0	-	-	-
ESD	E2	ESD CDM	-	500 Volts	-	-	1/3/0	1/3/0	-
ESD	E2	ESD HBM	-	2000 Volts	-	-	1/3/0	1/3/0	-
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	-	1/30/0	-	-	-
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	-	3/90/0	3/90/0	3/90/0

- QBS: Qual By Similarity
- Qual Device SN74LVC1T45DCKT is qualified at MSL1 260C
- Qual Device SN74LVC1T45DCKR 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

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

TI Qualification ID: R-CHG-2109-055

Qualification Report

FAB5 LVC8T PW-MLA (Commercial)
Approve Date 31-MARCH -2022

Product Attributes

Attributes	Qual Device: SN74LVC8T245PWR	Qual Device: SN74LVCC3245APWR	Qual Device: SN74LVCC4245APWR	Qual Device: SN74LVC4245APWR	QBS Reference: SN74HCS74QPWRQ1	QBS Reference: SN74AXC8T245QPWRQ1
Die Attributes						
Wafer Fab Supplier	RFAB	RFAB	RFAB	RFAB	RFAB	MH8
Wafer Process	LBC9	LBC9	LBC9	LBC9	LBC9	LBC7T
Die Size (L,W) (um)	890 x 1130	890 x 1130	890 x 1130	890 x 1130	460 x 510	882.8 x 1166.3
Passivation	Silicon Oxynitride	Silicon Oxynitride	Silicon Oxynitride	Silicon Oxynitride	Silicon Oxynitride	Silicon Oxynitride
Package Attributes						
Assembly Site	MLA	MLA	MLA	MLA	MLA	MLA
Package Group	TSSOP	TSSOP	TSSOP	TSSOP	TSSOP	TSSOP
Package Designator	PW	PW	PW	PW	PW	PW
Package Size (mm)	7.8 x 4.4	7.8 x 4.4	7.8 x 4.4	7.8 x 4.4	5 x 4.4	7.8 x 4.4
Body Thickness (mm)	1	1	1	1	1	1
Pin Count	24	24	24	24	14	24
Lead Finish	NIPDAU	NIPDAU	NIPDAU	NIPDAU	NIPDAU	NIPDAU
Lead Pitch(mm)	0.65	0.65	0.65	0.65	0.65	0.65
Mount Compound Supplier	HENKEL	HENKEL	HENKEL	HENKEL	HENKEL	HENKEL
Mount Compound Supplier Number	QMI 505MT	QMI 505MT	QMI 505MT	QMI 505MT	QMI 505MT	QMI 505MT
Mold Compound Supplier	SUMITOMO	SUMITOMO	SUMITOMO	SUMITOMO	SUMITOMO	SUMITOMO
Mold Compound Supplier Number	EME-G610TA	EME-G610TA	EME-G610TA	EME-G610TA	EME-G610TA	EME-G610TA
Bond Wire Composition	CU	CU	CU	CU	CU	CU

Bond Wire Diameter(um)	25.4	25.4	25.4	25.4	20.32	25.4
Flammability Rating	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0	UL 94 V-0

- QBS: Qual By Similarity
- Qual Device SN74LVC8T245PWR is qualified at MSL1 260C
- Qual Device SN74LVCC3245APWR is qualified at MSL1 260C
- Qual Device SN74LVCC4245APWR is qualified at MSL1 260C
- Qual Device SN74LVC4245APWR is qualified at MSL1 260C

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: SN74LVC8T245PWR	Qual Device: SN74LVCC3245APWR	Qual Device: SN74LVCC4245APWR	Qual Device: SN74LVC4245APWR	QBS Reference: SN74HCS74QPWRQ1	QBS Reference: SN74AXC8T245QPWRQ1
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	-	-	3/231/0	3/231/0
UHAST	A3	Autoclave	130C/85%RH	96 Hours	-	-	-	-	-	3/231/0
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	-	-	-	3/231/0	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	-	-	3/231/0	3/231/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	-	-	3/135/0	3/135/0
HTOL	B1	Life Test	125C	1000 Hours	-	-	-	-	3/231/0	3/231/0
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	-	-	3/2400/0	-
SD	C3	PB Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	-	-	-	1/15/0	-
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	-	-	-	1/15/0	-
PD	C4	Physical Dimensions	Cpk>1.67	-	-	-	-	-	3/30/0	-
ESD	E2	ESD CDM	-	250 Volts	1/3/0	1/3/0	1/3/0	-	-	-
ESD	E2	ESD CDM	-	500 Volts	-	-	-	-	1/3/0	-
ESD	E2	ESD HBM	-	1000 Volts	1/3/0	1/3/0	1/3/0	-	-	-
ESD	E2	ESD HBM	-	2000 Volts	-	-	-	-	1/3/0	-
LU	E4	Latch-Up	Per JESD78	-	-	1/3/0	1/3/0	-	-	-
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	1/30/0	1/30/0	1/30/0	-	-
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	-	-	-	3/90/0	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

TI Qualification ID: R-CHG-2110-038

For questions regarding this notice, e-mails can be sent to the contacts shown below or your local Field Sales Representative.

Location	E-Mail
WW Change Management Team	PCN_ww_admin_team@list.ti.com

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