12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20240328001.2
Qualification of RFAB using qualified Process Technology, Die Revision, Datasheet, and additional Assembly site/BOM options for select devices
Change Notification / Sample Request

Date: March 28, 2024
To: MOUSER PCN

Dear Customer:

This is an announcement of a change to a device that is currently offered by Texas Instruments (TI). The details of this change are on the following pages, and are in alignment with our standard product change notification (PCN) process.

TI 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 and approval of this change. If samples or additional data are required, requests must be received within 30 days of this notification, given that samples are not built ahead of the change.

The Proposed First Ship date in this PCN letter is the earliest possible date that customers could receive the changed material. It is our commitment that the changed device will not ship before that date. If samples are requested within the 30 day sample request window, customers will still have 30-days to complete their evaluation regardless of the proposed 1st ship date.

This particular PCN is related to TI's multiyear transition plan for our two remaining factories with 150-millimeter production (DFAB in Dallas, Texas, and SFAB in Sherman, Texas). DFAB will remain open, but will focus on 200-mm production, with a smaller set of technologies. SFAB will close no earlier than 2024 and no later than 2025. As referenced in the "reason for change" below, these changes are part of our multiyear plan to transition these products to newer, more efficient manufacturing processes and technologies, underscoring our commitment to product longevity and supply continuity.

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. As always, we thank you for your continued business.

Change Management Team
SC Business Services

20240328001.2
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
AM26C31QDR	NULL
AM26C31QDRG4	NULL

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

PCN Number:	20240328001.2	PCN Date:	March 28, 2024
Title:	Qualification of RFAB using qualified Process Technology, Die Revision, Datasheet, and additional Assembly site/BOM options for select devices		
Customer Contact:	Change Management Team	Dept:	Quality Services
Proposed 1st Ship Date:	September 24, 2024	Sample requests accepted until:	April 27, 2024*

***Sample requests received after April 27, 2024 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 its RFAB fabrication facility as an additional Wafer Fab option in addition to Assembly site/BOM options for the devices listed below.

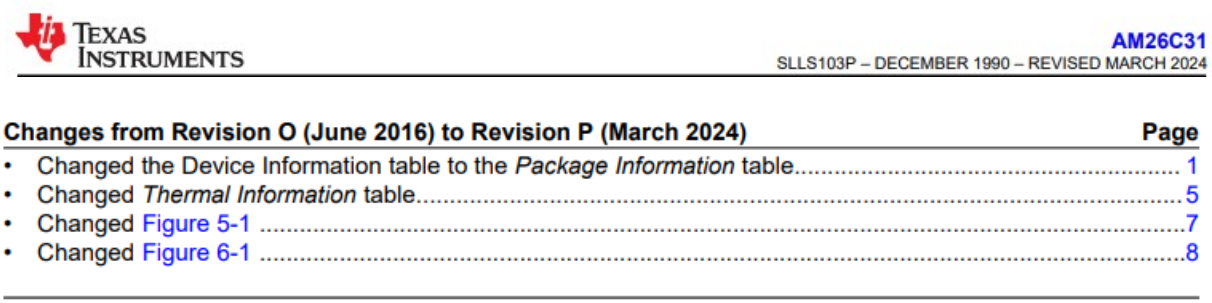
Current Fab Site			Additional Fab Site		
Current Fab Site	**Process**	**Wafer Diameter**	**Additional Fab Site**	**Process**	**Wafer Diameter**
SFAB	IMPC60-80	150 mm	RFAB	LBC7	300 mm

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

Construction differences are as follows:

	FMX	TAI	MLA
Wire diam/type	0.96mil Au	0.96mil Au	0.80mil Cu

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. The links to the revised datasheets are available in the table below.



TEXAS INSTRUMENTS

AM26C31

SLLS103P – DECEMBER 1990 – REVISED MARCH 2024

Changes from Revision O (June 2016) to Revision P (March 2024) **Page**

- Changed the Device Information table to the *Package Information* table..... 1
- Changed *Thermal Information* table..... 5
- Changed Figure 5-1 7
- Changed Figure 6-1 8

Product Folder	Current Datasheet Number	New Datasheet Number	Link to full datasheet:
AM26C31	SLLS103O	**SLLS103P**	http://www.ti.com/product/AM26C31

Qual details are provided in the Qual Data Section.

Reason for Change:

These changes are part of our multiyear plan to transition products from our 150-millimeter factories to newer, more efficient manufacturing processes and technologies, underscoring our commitment to product longevity and 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
SH-BIP-1	SHE	USA	Sherman
RFAB	**RFB**	**USA**	**Richardson**

Die Rev:

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

Assembly Site Information:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
TAI	TAI	TWN	Chung Ho, New Taipei City
FMX	MEX	MEX	Aguascalientes
MLA	**MLA**	**MYS**	**Kuala Lumpur**

Sample product shipping label (not actual product label):

Product Affected:

AM26C31QDR	AM26C31QDRG4

For alternate parts with similar or improved performance, please visit the product page on TI.com

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

RedBull RS485 Wave 4T0R Wave 2-Auto
Approve Date 15-MARCH -2024

Product Attributes

Attributes	Qual Device: AM26C31QDR	Qual Device: AM26C31QDRG4	QBS Package Reference: TCAN1042HVDRQ1	QBS Package Reference: TCAN1051VDRQ1	QBS Process Reference: SN3257QDYYRQ1	QBS Package Reference: SN74HCS74QDRQ1	QBS Package/Product Reference: AM26C32QDR
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	Interface	Interface	Logic	Logic	Interface
Wafer Fab Supplier	RFAB	RFAB	MH8	MH8	RFAB	RFAB	RFAB
Assembly Site	MLA	FMX	FMX	FMX	PHI	MLA	MLA
Package Group	SOIC	SOIC	SOIC	SOIC	SOT	SOIC	SOIC
Package Designator	D	D	D	D	DYY	D	D
Pin Count	16	16	8	8	16	14	16

- QBS: Qual By Similarity
- Qual Device AM26C31QDR is qualified at MSL1 260C
- Qual Device AM26C31QDRG4 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: AM26C31QDR	Qual Device: AM26C31QDRG4	QBS Package Reference: TCAN1042HVDRQ1	QBS Package Reference: TCAN1051VDRQ1	QBS Process Reference: SN3257QDYYRQ1	QBS Package Reference: SN74HCS74QDRQ1	QBS Package/Product Reference: AM26C32QDR
Test Group A - Accelerated Environment Stress Tests														
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL1 260C	-	-	-	No Fails	No Fails	-	No Fails	No Fails

Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: AM26C31QDR	Qual Device: AM26C31QDRG4	QBS Package Reference: TCAN1042HVDRQ1	QBS Package Reference: TCAN1051VDRQ1	QBS Process Reference: SN3257QDYYRQ1	QBS Package Reference: SN74HCS74QDRQ1	QBS Package/Product Reference: AM26C32QDR
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST	130C/85%RH	96 Hours	-	-	2/154/0	1/77/0	-	3/231/0	1/77/0
AC/UHAST	A3	JEDEC JESD22-A102/JEDEC JESD22-A118	3	77	Autoclave	121C/15psig	96 Hours	-	-	2/154/0	1/77/0	-	3/231/0	1/77/0
AC/UHAST	A3	JEDEC JESD22-A102/JEDEC JESD22-A118	3	77	Unbiased HAST	130C/85%RH	96 Hours	-	-	-	-	-	3/231/0	-
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	500 Cycles	-	-	2/154/0	1/77/0	-	3/231/0	-
HTSL	A6	JEDEC JESD22-A103	1	45	High Temperature Storage Life	150C	1000 Hours	-	-	-	-	-	3/135/0	1/45/0
HTSL	A6	JEDEC JESD22-A103	1	45	High Temperature Storage Life	175C	500 Hours	-	-	2/90/0	1/45/0	-	-	-
Test Group B - Accelerated Lifetime Simulation Tests														
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	125C	1000 Hours	1/77/0	-	-	-	-	-	1/77/0
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	150C	300 Hours	-	-	-	-	3/231/0	-	-
ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate	150C	24 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	-	2/60/0	1/30/0	-	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	-	2/60/0	1/30/0	-	3/90/0	1/30/0
SD	C3	JEDEC J-STD-002	1	15	PB Solderability	>95% Lead Coverage	-	-	-	-	-	-	3/45/0	-
SD	C3	JEDEC J-STD-002	1	15	PB-Free Solderability	>95% Lead Coverage	-	-	-	-	-	-	3/45/0	-
PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions	Cpk>1.67	-	1/10/0	-	2/20/0	1/10/0	-	3/30/0	1/10/0
Test Group D - Die Fabrication Reliability Tests														

Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: AM26C31QDR	Qual Device: AM26C31QDRG4	QBS Package Reference: TCAN1042HVDRQ1	QBS Package Reference: TCAN1051VDRQ1	QBS Process Reference: SN3257QDYYRQ1	QBS Package Reference: SN74HCS74QDRQ1	QBS Package/Product Reference: AM26C32QDR
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	-	6000 Volts	1/3/0	-	-	-	-	-	-
ESD	E3	AEC Q100-011	1	3	ESD CDM	-	1500 Volts	1/3/0	-	-	-	-	-	-
LU	E4	AEC Q100-004	1	6	Latch-Up	Per AEC Q100-004	-	1/3/0	-	-	-	-	-	-
ED	E5	AEC Q100-009	3	30	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	1/30/0	-	-	-	-	-	3/90/0
Additional Tests														

- 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-2205-052

[1]-EOS. Discounted

Automotive Qualification Summary
(As per AEC and JEDEC Guidelines)

Q006 PCC SOIC-D w/ RFAB 3um Al LBC7 die at MLA
Approve Date 15-MARCH -2024

Attributes	Qual Device: AM26C31QDR	QBS Process Reference: SN3257QDYYRQ1	QBS Package Reference: SN74HCS74QDRQ1	QBS Package/Product Reference: AM26C32QDR
Automotive Grade Level	Grade 1	Grade 1	Grade 1	Grade 1
Operating Temp Range (C)	-40 to 125	-40 to 125	-40 to 125	-40 to 125
Product Function	Signal Chain	Logic	Logic	Interface
Wafer Fab Supplier	RFAB	RFAB	RFAB	RFAB
Assembly Site	MLA	PHI	MLA	MLA
Package Group	SOIC	SOT	SOIC	SOIC
Package Designator	D	DYY	D	D
Pin Count	16	16	14	16

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: AM26C31QDR	QBS Process Reference: SN3257QDYYRQ1	QBS Package Reference: SN74HCS74QDRQ1	QBS Package/Product Reference: AM26C32QDR
Test Group A - Accelerated Environment Stress Tests											
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL1 260C	-	-	-	No Fails	No Fails
PC	A1.1	-	3	22	SAM Precon Pre	Review for delamination	-	-	-	3/66/0	1/22/0
PC	A1.2	-	3	22	SAM Precon Post	Review for delamination	-	-	-	3/66/0	1/22/0
HAST	A2.1	JEDEC JESD22-A110	3	77	Biased HAST	130C/85%RH	96 Hours	-	-	3/231/0	1/77/0
HAST	A2.2	JEDEC JESD22-A110	3	70	Biased HAST	130C/85%RH	192 Hours	-	-	3/231/0	1/77/0
HAST	A2.2.1	-	3	22	SAM Analysis, post bHAST 2X	Review for delamination	Completed	-	-	3/66/0	1/22/0
HAST	A2.2.2	-	3	1	Cross Section, post bHAST, 2X	Post stress cross section	Completed	-	-	3/3/0	1/1/0
HAST	A2.2.3	-	3	3	Wire Bond Shear, post bHAST, 2X	Post stress	-	-	-	3/9/0	1/3/0
HAST	A2.2.4	-	3	3	Bond Pull over Stitch, post bHAST, 2X	Post stress	-	-	-	3/9/0	1/3/0
HAST	A2.2.5	-	3	3	Bond Pull over Ball, post bHAST, 2X	Post stress	-	-	-	3/9/0	1/3/0
TC	A4.1	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	500 Cycles	-	-	3/231/0	-

Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: AM26C31QDR	QBS Process Reference: SN3257QDYYRQ1	QBS Package Reference: SN74HCS74QDRQ1	QBS Package/Product Reference: AM26C32QDR
TC	A4.2	JEDEC JESD22-A104 and Appendix 3	3	70	Temperature Cycle	-65C/150C	1000 Cycles	-	-	3/231/0	-
TC	A4.2.1	-	3	22	SAM Analysis, post TC, 2X	Review for delamination	Completed	-	-	3/66/0	-
TC	A4.2.2	-	3	1	Cross Section, post TC, 2X	Post stress cross section	Completed	-	-	3/3/0	-
TC	A4.2.3	-	3	3	Wire Bond Shear, post TC, 2X	Post stress	-	-	-	3/9/0	-
TC	A4.2.4	-	3	3	Bond Pull over Stitch, post TC, 2X	Post stress	-	-	-	3/9/0	-
TC	A4.2.5	-	3	3	Bond Pull over Ball, post TC, 2X	Post stress	-	-	-	3/9/0	-
HTSL	A6.1	JEDEC JESD22-A103	3	45	High Temperature Storage Life	150C	1000 Hours	-	-	3/135/0	1/45/0
HTSL	A6.2	JEDEC JESD22-A103	3	44	High Temperature Storage Life	150C	2000 Hours	-	-	3/135/0	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
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

Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: AM26C31QDR	QBS Process Reference: SN3257QDYYRQ1	QBS Package Reference: SN74HCS74QDRQ1	QBS Package/Product Reference: AM26C32QDR
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

- QBS: Qual By Similarity
- Qual Device AM26C31QDR is qualified at MSL1 260C
- Qual Device AM26C31QDRG4 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-2205-052

[1]-2x read. No EOS damage seen. Fail not Cu wire related (no corrosion) and no fab defect/issue identified. Root cause was misaligned device in HAST board socket resulting in low current causing melted Al.

Automotive Qualification Summary
(As per AEC and JEDEC Guidelines)

Q006 PCC SOIC-D w/ RFAB 3um Al LBC7 die at FMX
Approve Date 15-MARCH -2024

Attributes	Qual Device: AM26C31QDRG4	QBS Package Reference: TCAN1042HVDRQ1	QBS Package Reference: TCAN1051VDRQ1	QBS Process Reference: SN3257QDYYRQ1	QBS Product Reference: AM26C32QDR
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	Interface	Interface	Logic	Interface
Wafer Fab Supplier	RFAB	MH8	MH8	RFAB	RFAB
Assembly Site	FMX	FMX	FMX	PHI	MLA
Package Group	SOIC	SOIC	SOIC	SOT	SOIC
Package Designator	D	D	D	DYY	D
Pin Count	16	8	8	16	16

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: AM26C31QDRG4	QBS Package Reference: TCAN1042HVDRQ1	QBS Package Reference: TCAN1051VDRQ1	QBS Process Reference: SN3257QDYYRQ1	QBS Product Reference: AM26C32QDR
Test Group A - Accelerated Environment Stress Tests												

Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: AM26C31QDRG4	QBS Package Reference: TCAN1042HVDRQ1	QBS Package Reference: TCAN1051VDRQ1	QBS Process Reference: SN3257QDYYRQ1	QBS Product Reference: AM26C32QDR
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL1 260C	-	-	No Fails	No Fails	-	-
PC	A1.1	-	3	22	SAM Precon Pre	Review for delamination	-	-	2/44/0	1/22/0	-	-
PC	A1.2	-	3	22	SAM Precon Post	Review for delamination	-	-	2/44/0	1/22/0	-	-
HAST	A2.1	JEDEC JESD22-A110	3	77	Biased HAST	130C/85%RH	96 Hours	-	2/154/0	1/77/0	-	-
HAST	A2.2	JEDEC JESD22-A110	3	70	Biased HAST	130C/85%RH	192 Hours	-	2/140/1[1]	1/70/0	-	-
HAST	A2.2.1	-	3	22	SAM Analysis, post bHAST 2X	Review for delamination	Completed	-	2/44/0	1/22/0	-	-
HAST	A2.2.2	-	3	1	Cross Section, post bHAST, 2X	Post stress cross section	Completed	-	2/2/0	1/1/0	-	-
HAST	A2.2.3	-	3	3	Wire Bond Shear, post bHAST, 2X	Post stress	-	-	2/6/0	1/3/0	-	-
HAST	A2.2.4	-	3	3	Bond Pull over Stitch, post bHAST, 2X	Post stress	-	-	2/6/0	1/3/0	-	-
HAST	A2.2.5	-	3	3	Bond Pull over Ball, post bHAST, 2X	Post stress	-	-	2/6/0	1/3/0	-	-
TC	A4.1	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	500 Cycles	-	2/154/0	1/77/0	-	-
TC	A4.2	JEDEC JESD22-A104 and Appendix 3	3	70	Temperature Cycle	-65C/150C	1000 Cycles	-	2/140/0	1/70/0	-	-

Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: AM26C31QDRG4	QBS Package Reference: TCAN1042HVDRQ1	QBS Package Reference: TCAN1051VDRQ1	QBS Process Reference: SN3257QDYYRQ1	QBS Product Reference: AM26C32QDR
TC	A4.2.1	-	3	22	SAM Analysis, post TC, 2X	Review for delamination	Completed	-	2/44/0	1/22/0	-	-
TC	A4.2.2	-	3	1	Cross Section, post TC, 2X	Post stress cross section	Completed	-	2/2/0	1/1/0	-	-
TC	A4.2.3	-	3	3	Wire Bond Shear, post TC, 2X	Post stress	-	-	2/6/0	1/3/0	-	-
TC	A4.2.4	-	3	3	Bond Pull over Stitch, post TC, 2X	Post stress	-	-	2/6/0	1/3/0	-	-
TC	A4.2.5	-	3	3	Bond Pull over Ball, post TC, 2X	Post stress	-	-	2/6/0	1/3/0	-	-
HTSL	A6.1	JEDEC JESD22-A103	3	45	High Temperature Storage Life	175C	500 Hours	-	2/90/0	1/45/0	-	-
HTSL	A6.2	JEDEC JESD22-A103	3	44	High Temperature Storage Life	175C	1000 Hours	-	2/88/0	1/44/0	-	-
HTSL	A6.2.1	-	3	1	Cross Section, post HTSL, 2X	Post stress cross section	Completed	-	2/2/0	1/1/0	-	-
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	-	2/60/0	1/30/0	-	-
WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	-	2/60/0	1/30/0	-	-

- QBS: Qual By Similarity
- Qual Device AM26C31QDR is qualified at MSL1 260C
- Qual Device AM26C31QDRG4 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-2205-052

[1]-2x read. No EOS damage seen. Fail not Cu wire related (no corrosion) and no fab defect/issue identified. Root cause was misaligned device in HAST board socket resulting in low current causing melted Al.

ZVEI ID's: SEM-DE-01, SEM-DE-02, SEM-DE-03, SEM-PW-02, SEM-PW-09, SEM-PW-13, SEM-PA-08, SEM-PA-18

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