PCN Number:	20231130005.2	**PCN Date:**	December 05, 2023
Title:	Qualification of RFAB using qualified Process Technology, Die Revision, Datasheet, and additional Assembly & Test sites/BOM options for select devices		
Customer Contact:	Change Management team	**Dept:**	Quality Services
Proposed 1st Ship Date:	Jun 4, 2024	**Sample requests accepted until:**	Jan 4, 2024*

***Sample requests received after January 4, 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 Materials
☒	Packing/Shipping/Labeling	☐	Test Process	☒	Wafer Fab Process

PCN Details

Description of Change:

Texas Instruments is pleased to announce the addition of RFAB using the LBC9 qualified process technology and additional Assembly & Test sites (MLA) and BOM options for select devices listed below in the product affected section.

Current Fab Site			Additional Fab Site		
Current Fab Site	**Process**	**Wafer Diameter**	**Additional Fab Site**	**Process**	**Wafer Diameter**
DL-LIN	LBC3S	150 mm	RFAB	LBC9	300 mm

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

Construction differences are as follows:

Group 1 BOM Table (RFAB/Process migration & MLA as an additional Assembly site (currently FMX):

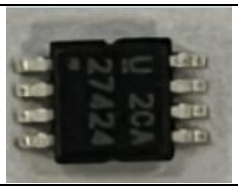
	FMX	**TI Malaysia**
Bond wire composition, diameter	Au, 0.96	Cu, 0.96
Final Test site	FMX	TI Malaysia
Probe Site	D-LIN	CD-PR

Group 2 BOM table (RFAB/Process migration & MLA as an additional Assembly site (Currently ASESH & UTL2):

	UTL2	**TI Malaysia**
Bond wire composition, diameter	Au, 0.96	Cu, 0.96
Mold Compound	(SID#CZ0094)	(4211880)
Mount Compound	(SID#PZ0013)	(4224264)
Final Test site	UTL2	TI Malaysia
Probe Site	D-LIN	CD-PR
MSL	2	1

Test coverage, insertions, conditions will remain consistent with current testing.

Additionally, there will be a marking standardizing effort as follows:

	Current	**Standardized**
D Package Devices	Logo: TI letters & Unitrode Logo Pin 1: Stipe & dot	Logo: TI letters Pin 1: dot
DGN Package devices	Logo: TI logo, Unitrode logo, none Pin 1: dot	Logo: TI letters Pin 1: dimple
Visual – D package		
Visual – DGN package		

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

UCC27423-Q1, UCC27424-Q1, UCC27425-Q1

SGLS274I – SEPTEMBER 2008 – REVISED NOVEMBER 2023

Changes from Revision H (October 2016) to Revision I (November 2023)	**Page**
• Deleted top-side marking and T_A range from the Device Comparison Table. Refer to the Mechanical, Packaging, and Orderable Information for this information	3
• Changed ESD CDM rating value from ±1500 V to ±1000 V in ESD Ratings	6
• Changed input threshold voltage values, deleted V_{OH} output high level and V_{OL} output low level, changed output resistance high and output resistance low values and deleted Latch-up protection from Electrical Characteristics	8
• Changed UCC274323 to UCC27423 in Figure 6-9, changed Figure 6-27 and added -Q1 to part number in several graphs	11

TEXAS INSTRUMENTS

UCC27324-Q1

SLUS678D – MARCH 2008 – REVISED NOVEMBER 2023

Changes from Revision C (June 2018) to Revision D (November 2023)	**Page**
• Changed input threshold voltage values in Input (INA, INB) Electrical Characteristics	5
• Deleted V_{OH} output high level and V_{OL} output low level, changed output resistance high and output resistance low values and deleted Latch-up protection in Output (OUTA, OUTB) Electrical Characteristics	5
• Changed title on Figure 5-2 and changed Figure 5-5 and Figure 5-6	6

TEXAS INSTRUMENTS

UCC27321-Q1, UCC27322-Q1

SLUSA13E – FEBRUARY 2010 – REVISED NOVEMBER 2023

Changes from Revision D (September 2016) to Revision E (November 2023)	**Page**
• Changed input threshold voltage values, deleted VOH output high level and VOL output low level, changed output resistance high and output resistance low values in Electrical Characteristics	7
• Changed Figure 7-16	9

Product Folder	Current Datasheet Number	New Datasheet Number	Link to full datasheet
UCC2742x-Q1	SGLS274H	**SGLS274I**	http://www.ti.com/product/UCC27423-Q1
UCC27324-Q1	SLUS678C	**SLUS678D**	http://www.ti.com/product/UCC27324-Q1
UCC2732x-Q1	SLUSA13D	**SLUSA13E**	http://www.ti.com/product/UCC27321-Q1

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 and 200-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
DL-LIN	DLN	USA	Dallas
RFAB	**RFB**	**USA**	**Richardson**

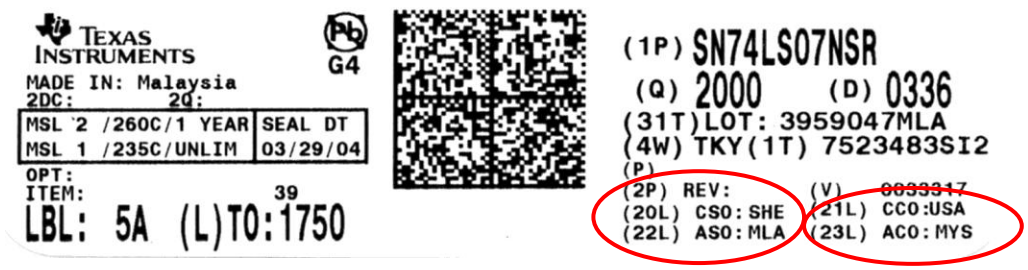
Die Rev:

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

Assembly Site Information:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
FMX	MEX	MEX	Aguascalientes
UTL2	NS2	THA	Bangpakong, Chachoengsao
MLA	**MLA**	**MYS**	**Kuala Lumpur**

Sample product shipping label (not actual product label)



Product Affected:

Group 1 Device list (RFAB/Process migration & MLA as an additional Assembly site (Currently FMX):

UCC27321QDRQ1	UCC27324QDRQ1	UCC27424QDRQ1	UCC27425QDRQ1
UCC27322QDRQ1	UCC27423QDRQ1		

Group 2 Device list (RFAB/Process migration & MLA as an additional Assembly site (Currently UTL2):

UCC27322QDGNRQ1	UCC27423QDGNRQ1	UCC27424QDGNRQ1

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

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: UCC27424QDGNRQ1	Qual Device: UCC27322QDGNRQ1	QBS Package Reference: SN65HVDA1040AQDRQ1	QBS Package Reference: UCC27624QDGNRQ1	QBS Product Reference: UCC27424QDRQ1	QBS Process Reference: LM74700QDBVRQ1
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	-
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST	130C/85%RH	96 Hours	-	-	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	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	1/77/0	-
TC-BP	A4	MIL-STD883 Method 2011	1	5	Post Temp Cycle Bond Pull	-	-	-	-	-	1/5/0	1/5/0	-
HTSL	A6	JEDEC JESD22-A103	1	45	High Temperature Storage Life	150C	1000 Hours	-	-	3/135/0	3/231/0	-	-
Test Group B - Accelerated Lifetime Simulation Tests													
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	125C	1000 Hours	-	-	-	-	1/77/0	-
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	150C	408 Hours	-	-	-	-	-	2/154/0
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	1/30/0	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	1/30/0	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	-	-	-
SD	C3	JEDEC J-STD-002	1	15	PB-Free Solderability	>95% Lead Coverage	-	-	-	1/15/0	-	-	-
PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions	Cpk>1.67	-	1/10/0	1/10/0	3/30/0	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: UCC27424QDGNRQ1	Qual Device: UCC27322QDGNRQ1	QBS Package Reference: SN65HVDA1040AQDRQ1	QBS Package Reference: UCC27624QDGNRQ1	QBS Product Reference: UCC27424QDRQ1	QBS Process Reference: LM74700QDBVRQ1
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
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
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
NBTI	D4	-	-	-	Negative 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
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
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	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	6	Latch-Up	Per AEC Q100-004	-	Device specific data [1]	-	-	-	1/6/0	-
ED	E5	AEC Q100-009	3	30	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	1/30/0	-	-	-	-	-
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

- QBS: Qual By Similarity
- Qual Device UCC27424QDGNRQ1 is qualified at MSL1 260C
- Qual Device UCC27425DGNR is qualified at MSL1 260C
- Qual Device UCC27321DGNR is qualified at MSL1 260C
- Qual Device UCC27322QDGNRQ1 is qualified at MSL1 260C
- Qual Device UCC27324DGNR is qualified at MSL1 260C
- Qual Device UCC27325DGNR is qualified at MSL1 260C

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-2109-012

[1] Qual Device: UCC27424QDGNRQ1 and QBS Product Reference: UCC27424QDRQ1 use the same silicon die and bond-out.

Automotive New Product Qualification Summary
(As per AEC-Q100, AEC-Q006, and JEDEC Guidelines)

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: UCC27624QDRQ1	Qual Device: SN65HVDA1040AQDRQ1 (MLA)
Test Group A – Accelerated Environment Stress Tests								
PC	A1	-	3	22	SAM Analysis, Pre Stress	Completed	1/22/0	3/66/0
PC	**A1**	**JEDEC J-STD-020 JESD22-A113**	**3**	**77**	**Preconditioning**	**Level 1-260C**	**No fails**	**No fails**
PC	A1	-	3	22	SAM Analysis, Post Stress	Completed	1/22/0	3/66/0
HAST	**A2**	**JEDEC JESD22-A110**	**3**	**77**	**Biased HAST, 130C/85%RH**	**96 Hours**	**1/77/0**	**3/231/0**
HAST	A2	-	3	1	Cross Section, Post bHAST 96 Hours	Completed	-	(2)
HAST	A2	-	3	30	Wire Bond Shear, Post bHast, 96 Hours	Wires	-	2/60/0 (3)
HAST	A2	-	3	30	Bond Pull over Stitch, post bHAST, 96 Hours	Wires	-	2/60/0 (3)

Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: UCC27624QDRQ1	Qual Device: SN65HVDA1040AQDRQ1 (MLA)
HAST	A2	-	3	30	Bond Pull over Ball, Post bHAST, 96 Hours	Wires	-	2/60/0 (3)
HAST	**A2**	**JEDEC JESD22-A110**	**3**	**70**	**Biased HAST, 130C/85%RH**	**192 Hours**	**1/70/0**	**3/209/0 (1)**
HAST	A2	-	3	1	Cross Section, Post bHAST 192 Hours	Completed	1/1/0	3/3/0
HAST	A2	-	3	22	SAM Analysis, Post bHAST, 192 Hours	Completed	1/22/0	3/66/0
HAST	A2	-	3	30	Wire Bond Shear, Post bHast, 192 Hours	Wires	1/30/0	3/90/0
HAST	A2	-	3	30	Bond Pull over Stitch, post bHAST, 192 Hours	Wires	1/30/0	3/90/0
HAST	A2	-	3	30	Bond Pull over Ball, Post bHAST, 192 Hours	Wires	1/30/0	3/90/0
TC	**A4**	**JEDEC JESD22-A104 and Appendix 3**	**3**	**77**	**Temperature Cycle, -65/150C**	**500 Cycles**	**1/77/0**	**3/231/0**
TC	A4	-	3	1	Cross Section, Post T/C 500 Cycles	Completed	-	(2)
TC	A4	-	3	22	SAM Analysis, Post T/C, 500 Cycles	Completed	-	3/66/0
TC	A4	-	3	30	Wire Bond Shear, Post T/C 500 Cycles	Wires	-	3/90/0
TC	A4	-	3	30	Bond Pull over Stitch Post T/C 500 Cycles	Wires	-	3/90/0
TC	A4	-	3	30	Bond Pull over Ball Post T/C 500 Cycles	Wires	-	3/90/0
TC	**A4**	**JEDEC JESD22-A104 and Appendix 3**	**3**	**70**	**Temperature Cycle, -65/150C**	**1000 Cycles**	**1/70/0**	**3/210/0**
TC	A4	-	3	1	Cross Section, Post T/C 1000 Cycles	Completed	1/1/0	3/3/0
TC	A4	-	3	22	SAM Analysis, Post T/C, 1000 Cycles	Completed	1/22/0	3/66/0
TC	A4	-	3	30	Wire Bond Shear, Post T/C 1000 Cycles	Wires	1/30/0	3/90/0
TC	A4	-	3	30	Bond Pull over Stitch, Post T/C, 1000 Cycles	Wires	1/30/0	3/90/0
TC	A4	-	3	30	Bond Pull over Ball, Post T/C, 1000 Cycles	Wires	1/30/0	3/90/0

Type	#	Test Spec	Min Lot Qty	SS/Lot	Test Name / Condition	Duration	Qual Device: UCC27624QDRQ1	Qual Device: SN65HVDA1040AQDRQ1 (MLA)
PTC	A5	JEDEC JESD22-A105	1	45	Power Temperature Cycle -40/125C	1000 Cycles	N/A	N/A
PTC	A5	JEDEC JESD22-A105	1	45	Power Temperature Cycle -40/125C	2000 Cycles	N/A	N/A
HTSL	**A6**	**JEDEC JESD22-A103**	**3**	**45**	**High Temp Storage Bake 150C**	**1000 Hours**	**1/77/0**	**3/135/0**
HTSL	A6	-	3	1	Cross Section, Post HTSL 1000 Hours	Completed	-	(2)
HTSL	**A6**	**JEDEC JESD22-A103**	**3**	**44**	**High Temp Storage Bake 150C**	**2000 Hours**	**1/76/0**	**3/132/0**
HTSL	A6	-	3	1	Cross Section, Post HTSL 2000 Hours	Completed	1/1/0	3/3/0
Test Group C – Package Assembly Integrity Tests								
WBS	C1	AEC Q100-001	3	30	Wire Bond Shear, Cpk>1.67	Wires	1/30/0	3/30/0
WBP	C2	MIL-STD883 Method 2011	3	30	Bond Pull over Ball, Cpk >1.67	Wires	1/30/0	3/30/0

- QBS: Qual By Similarity
- Qual Device UCC27624QDRQ1 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-NPD-2108-043

Notes:

1. Lost unit
2. Cross sectioning not performed
3. Wire integrity tests not performed on 1 lot

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: UCC27424QDRQ1	Qual Device: UCC27425QDRQ1	QBS Reference: SN65HVDA1040AQDRQ1	QBS Reference: UCC27624QDRQ1	QBS Reference: LM74700QDBVRQ1	QBS Reference: LM74700QDBVRQ1
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	-	-
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST	130C/85%RH	96 Hours	-	-	3/231/0	1/77/0	-	-
AC/UHAST	A3	JEDEC JESD22-A102/JEDEC JESD22-A118	3	77	Autoclave	121C/15psig	96 Hours	1/77/0	-	3/231/0	1/77/0	-	-
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	500 Cycles	1/77/0	-	3/231/0	1/77/0	-	-
TC-BP	A4	MIL-STD883 Method 2011	1	5	Post Temp Cycle Bond Pull	-	-	1/5/0	-	-	-	-	-
HTSL	A6	JEDEC JESD22-A103	1	45	High Temperature Storage Life	150C	1000 Hours	-	-	3/135/0	1/77/0	-	-
Test Group B - Accelerated Lifetime Simulation Tests													
HTOL	B1	JEDEC JESD22-A108	1	77	Life Test	125C	1000 Hours	1/77/0	-	-	-	-	-
HTOL	B1	JEDEC JESD22-A108	1	77	Life Test	150C	408 Hours	-	-	-	-	1/77/0	2/154/0
ELFR	B2	AEC Q100-008	1	77	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	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	1/30/0	3/90/0	1/30/0	-	-
SD	C3	JEDEC J-STD-002	1	15	PB Solderability	>95% Lead Coverage	-	-	-	1/15/0	-	-	-
SD	C3	JEDEC J-STD-002	1	15	PB-Free Solderability	>95% Lead Coverage	-	-	-	1/15/0	-	-	-
PD	C4	JEDEC JESD22-B100 and B108	1	10	Physical Dimensions	Cpk>1.67	-	1/10/0	1/10/0	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
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

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
NBTI	D4	-	-	-	Negative 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
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
Test Group E - Electrical Verification Tests													
ESD	E2	AEC Q100-002	1	3	ESD HBM	-	2000 Volts	1/3/0	1/3/0	-	1/3/0	1/3/0	-
ESD	E3	AEC Q100-011	1	3	ESD CDM	-	500 Volts	1/3/0	1/3/0	-	1/3/0	1/3/0	-
LU	E4	AEC Q100-004	1	6	Latch-Up	Per AEC Q100-004	-	1/6/0	Device specific data [1]	-	1/6/0	1/6/0	-
ED	E5	AEC Q100-009	3	30	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	Device specific data [2]	3/90/0	3/90/0	3/90/0	1/30/0	-
Additional Tests													
Type	**#**	**Test Spec**	**Min Lot Qty**	**SS / Lot**	**Test Name**	**Condition**	**Duration**	**Qual Device**	**Qual Device**	**QBS Reference**	**QBS Reference**	**QBS Reference**	**QBS Reference**

- 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

- QBS: Qual By Similarity
- Qual Device UCC27424QDRQ1 is qualified at MSL1 260C
- Qual Device UCC27425QDRQ1 is qualified at MSL1 260C

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-2109-004

[1] Qual Device: UCC27425QDRQ1 and Qual Device: UCC27424QDRQ1 have the same pin-out and bond-out. Change in metal for UCC27425QDRQ1 adds a low voltage inverter gate after the input stage. Circuitry directly connected to the pins is the same as for UCC27424QDRQ1.

[2] UCC27424QDRQ1 is covered by the UCC27425QDRQ1.

ZVEI ID's: SEM-DS-01, SEM-DE-01, SEM-DE-02, SEM-DE-03, SEM-PW-02, SEM-PW-09, SEM-PW-13, SEM-PA-07, SEM-PA-08, SEM-PA-11, SEM-PA-13, SEM-PA-18, SEM-TF-01, SEM-PS-02

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

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