12500 TI Boulevard, MS 8640, Dallas, Texas 75243

PCN# 20251121000.2
DS90Ux9x3 Enhancement to DP Video Path
Change Notification / Sample Request

Date: November 21, 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.

TI values customer engagement and feedback related to TI changes. Customers should contact TI if there are questions or concerns regarding a change notification.

Sincerely,

Change Management Team
SC Business Services

20251121000.2
Attachment

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
DS90UH983RTDTQ1	NULL
DS90UB983RTDTQ1	NULL

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

PCN Number:	20251121000.2	PCN Date:	November 21, 2025
Title:	DS90Ux9x3 Enhancement to DP Video Path		
Customer Contact:	Change Management Team	Dept:	Quality Services
Proposed 1st Ship Date:	May 20, 2026	Sample requests accepted until:	January 20, 2026*

***Sample requests received after January 20, 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:

This notification is to inform of a design change to the DS90Ux983/Ux943 product family (<0.00125% of gates). This is a minor revision to enhance the DP Video Path in the DS90Ux9x3 family.

The product datasheet(s) do not require update.

Qual details are provided in the Qual Data Section.

Reason for Change:

Improve device performance.

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

None. Review standard data package (SDP)

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:

None

Product Affected

DS90UB943ARTDRQ1	DS90UB943ARTDTQ1	DS90UB983RTDRQ1	DS90UB983RTDTQ1
DS90UH943ARTDRQ1	DS90UH943ARTDTQ1	DS90UH983RTDRQ1	DS90UH983RTDTQ1

Approve Date 24-October-2025

Attributes	Qual Device: DS90UH983RTDRQ1	Qual Device: DS90UH983RTDTQ1	QBS Package, Process, Product Reference: DS90UB983RTDTQ1	QBS Package, Process, Product Reference: PDS90UH983ACRTDTQ1	QBS Package, Process, Product Reference: DS90UH983RTDTQ1
Automotive Grade Level	Grade 2	Grade 2	Grade 2	Grade 2	Grade 2
Operating Temp Range (C)	-40 to 105	-40 to 105	-40 to 105	-40 to 105	-40 to 105
Product Function	Signal Chain	Signal Chain	Signal Chain	Signal Chain	Signal Chain
Wafer Fab Supplier	DMOS6	DMOS6	DMOS6	DMOS6	DMOS6
Assembly Site	AP1	AP1	AP1	AP1	AP1
Package Group	QFN	QFN	QFN	QFN	QFN
Package Designator	RTD	RTD	RTD	RTD	RTD
Pin Count	64	64	64	64	64

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: DS90UH983RTDRQ1	Qual Device: DS90UH983RTDTQ1	QBS Reference: DS90UB983RTDTQ1
Test Group A - Accelerated Environment Stress Tests										
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL3 260C	-	-	-	3/0/0
PC	A1.1	-	3	22	SAM Precon Pre	Review for delamination	-	-	-	3/66/0
PC	A1.2	-	3	22	SAM Precon Post	Review for delamination	-	-	-	3/66/0
HAST	A2.1	JEDEC JESD22-A110	3	77	Biased HAST	130C/85%RH	96 Hours	-	-	3/231/0
HAST	A2.1.2	-	3	1	Cross Section, post bHAST, 1X	Post stress cross section	Completed	-	-	3/3/0
HAST	A2.1.3	-	3	3	Wire Bond Shear, post bHAST, 1X	Post stress	-	-	-	3/9/0
HAST	A2.1.4	-	3	3	Bond Pull over Stitch, post bHAST, 1X	Post stress	-	-	-	3/9/0
HAST	A2.1.5	-	3	3	Bond Pull over Ball, post bHAST, 1X	Post stress	-	-	-	3/9/0
HAST	A2.2	JEDEC JESD22-A110	3	70	Biased HAST	130C/85%RH	192 Hours	-	-	3/210/0
HAST	A2.2.1	-	3	22	SAM Analysis, post bHAST 2X	Review for delamination	Completed	-	-	3/66/0
HAST	A2.2.2	-	3	1	Cross Section, post bHAST, 2X	Post stress cross section	Completed	-	-	3/3/0

Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: DS90UH983RTDRQ1	Qual Device: DS90UH983RTDTQ1	QBS Reference: DS90UB983RTDTQ1
HAST	A2.2.3	-	3	3	Wire Bond Shear, post bHAST, 2X	Post stress	-	-	-	3/9/0
HAST	A2.2.4	-	3	3	Bond Pull over Stitch, post bHAST, 2X	Post stress	-	-	-	3/9/0
HAST	A2.2.5	-	3	3	Bond Pull over Ball, post bHAST, 2X	Post stress	-	-	-	3/9/0
TC	A4.1	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	500 Cycles	-	-	3/231/0
TC	A4.1.1	-	3	22	SAM Analysis, post TC 1X	Review for delamination	Completed	-	-	3/66/0
TC	A4.1.2	-	3	1	Cross Section, post TC, 1X	Post stress cross section	Completed	-	-	3/3/0
TC	A4.1.3	-	3	3	Wire Bond Shear, post TC, 1X	Post stress	-	-	-	3/9/0
TC	A4.1.4	-	3	3	Bond Pull over Stitch, post TC, 1X	Post stress	-	-	-	3/9/0
TC	A4.1.5	-	3	3	Bond Pull over Ball, post TC, 1X	Post stress	-	-	-	3/9/0
TC	A4.2	JEDEC JESD22-A104 and Appendix 3	3	70	Temperature Cycle	-65C/150C	1000 Cycles	-	-	3/210/0
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
PTC	A5.1	JEDEC JESD22-A105	1	45	PTC	-40/105C	1000 Cycles	-	-	1/45/0
PTC	A5.2	JEDEC JESD22-A105	1	45	PTC	-40/105C	2000 Cycles	-	-	1/45/0
HTSL	A6.1	JEDEC JESD22-A103	3	45	High Temperature Storage Life	150C	1000 Hours	-	-	3/135/0
HTSL	A6.1.1	-	3	1	Cross Section, post HTSL, 1X	Post stress cross section	Completed	-	-	3/3/0
HTSL	A6.2	JEDEC JESD22-A103	3	44	High Temperature Storage Life	150C	2000 Hours	-	-	3/132/0
HTSL	A6.2.1	-	3	1	Cross Section, post HTSL, 2X	Post stress cross section	Completed	-	-	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
WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	-	-	3/90/0

- QBS: Qual By Similarity, also known as Generic Data
- Qual Device DS90UH983RTDRQ1 is qualified at MSL3 260C
- Qual Device DS90UH983RTDTQ1 is qualified at MSL3 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-2504-144

Product Attributes

Attributes	Qual Device: DS90UH983RTDRQ1	Qual Device: DS90UH983RTDTQ1	QBS Package, Process, Product Reference: DS90UB983RTDTQ1	QBS Package, Process, Product Reference: PDS90UH983ACRTDTQ1	QBS Package, Process, Product Reference: DS90UH983RTDTQ1
Automotive Grade Level	Grade 2	Grade 2	Grade 2	Grade 2	Grade 2
Operating Temp Range (C)	-40 to 105	-40 to 105	-40 to 105	-40 to 105	-40 to 105
Product Function	Signal Chain	Signal Chain	Signal Chain	Signal Chain	Signal Chain
Wafer Fab Supplier	DMOS6	DMOS6	DMOS6	DMOS6	DMOS6
Assembly Site	AP1	AP1	AP1	AP1	AP1
Package Group	QFN	QFN	QFN	QFN	QFN
Package Designator	RTD	RTD	RTD	RTD	RTD
Pin Count	64	64	64	64	64

- QBS: Qual By Similarity, also known as Generic Data
- Qual Device DS90UH983RTDRQ1 is qualified at MSL3 260C
- Qual Device DS90UH983RTDTQ1 is qualified at MSL3 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: DS90UH983RTDRQ1	Qual Device: DS90UH983RTDTQ1	QBS Package, Process, Product Reference: DS90UB983RTDTQ1
Test Group A - Accelerated Environment Stress Tests										
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL3 260C	-	-	-	3/0/0
HAST	A2	JEDEC JESD22-A110	3	77	Biased HAST	130C/85%RH	96 Hours	-	-	3/231/0
AC/UHAST	A3	JEDEC JESD22-A102/JEDEC JESD22-A118	3	77	Unbiased HAST	130C/85%RH	192 Hours	-	-	3/231/0
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	500 Cycles	-	-	3/231/0
PTC	A5	JEDEC JESD22-A105	1	45	PTC	-40/105C	1000 Cycles	-	-	1/45/0
HTSL	A6	JEDEC JESD22-A103	1	45	High Temperature Storage Life	150C	1000 Hours	-	-	3/135/0
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

Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: DS90UH983RTDRQ1	Qual Device: DS90UH983RTDTQ1	QBS Package, Process, Product Reference: DS90UB983RTDTQ1
WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	-	-	3/90/0
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	-	-	-	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
TDDB	D2	JESD35	-	-	Time Dependent Dielectric Breakdown	-	-	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
BTI	D4	-	-	-	Bias Temperature Instability	-	-	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
Test Group E - Electrical Verification Tests										
ESD	E2	AEC Q100-002	1	3	ESD HBM	-	2000 Volts	-	-	1/3/0

Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: DS90UH983RTDRQ1	Qual Device: DS90UH983RTDTQ1	QBS Package, Process, Product Reference: DS90UB983RTDTQ1
ESD	E3	AEC Q100-011	1	3	ESD CDM	-	750 Volts	-	-	1/3/0
LU	E4	AEC Q100-004	1	3	Latch-Up	Per AEC Q100-004	-	-	-	2/12/0
ED	E5	AEC Q100-009	3	30	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	-	3/90/0
Additional Tests										
BLR	T1	-	-	-	Board Level Reliability - Temp Cycle	-40/125C	1000 Cycles	-	-	1/32/0

- 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

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-2504-144

Approve Date 24-October-2025

Attributes	Qual Device: DS90UH983RTDTQ1	Qual Device: DS90UH983RTDRQ1	QBS Package, Process, Product Reference: DS90UH941ASRTDTQ1	QBS Package, Process, Product Reference: DS90UH983RTDRQ1
Automotive Grade Level	Grade 2	Grade 2	Grade 2	Grade 2
Operating Temp Range (C)	-40 to 105	-40 to 105	-40 to 105	-40 to 105
Product Function	Signal Chain	Signal Chain	Interface	Signal Chain
Wafer Fab Supplier	DMOS6	DMOS6	DMOS6	DMOS6
Assembly Site	SCSAT	SCSAT	SCSAT	SCSAT
Package Group	QFN	QFN	QFN	QFN
Package Designator	RTD	RTD	RTD	RTD
Pin Count	64	64	64	64

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: DS90UH983RTDTQ1	Qual Device: DS90UH983RTDRQ1	QBS Reference: DS90UH941ASRTDTQ1	QBS Reference: DS90UH983RTDRQ1
Test Group A - Accelerated Environment Stress Tests											
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL3 260C	-	-	-	3/0/0	1/0/0
PC	A1.1	-	3	22	SAM Precon Pre	Review for delamination	-	-	-	-	1/22/0
PC	A1.2	-	3	22	SAM Precon Post	Review for delamination	-	-	-	-	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	A2.1.2	-	3	1	Cross Section, post bHAST, 1X	Post stress cross section	Completed	-	-	3/3/0	1/1/0
HAST	A2.1.3	-	3	3	Wire Bond Shear, post bHAST, 1X	Post stress	-	-	-	3/9/0	1/3/0
HAST	A2.1.4	-	3	3	Bond Pull over Stitch, post bHAST, 1X	Post stress	-	-	-	3/9/0	1/3/0
HAST	A2.1.5	-	3	3	Bond Pull over Ball, post bHAST, 1X	Post stress	-	-	-	3/9/0	1/3/0
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

Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: DS90UH983RTDTQ1	Qual Device: DS90UH983RTDRQ1	QBS Reference: DS90UH941ASRTDTQ1	QBS Reference: DS90UH983RTDRQ1
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	-65/150C	1000 Cycles	-	-	3/231/0	1/77/0
TC	A4.1	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65/150C	500 Cycles	-	-	3/231/0	1/77/0
TC	A4.1	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	1000 Cycles	-	-	3/231/0	1/77/0
TC	A4.1	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	500 Cycles	-	-	3/231/0	1/77/0
TC	A4.1.1	-	3	22	SAM Analysis, post TC 1X	Review for delamination	Completed	-	-	3/66/0	1/22/0
TC	A4.1.2	-	3	1	Cross Section, post TC, 1X	Post stress cross section	Completed	-	-	3/3/0	1/1/0
TC	A4.1.3	-	3	3	Wire Bond Shear, post TC, 1X	Post stress	-	-	-	3/9/0	1/3/0
TC	A4.1.4	-	3	3	Bond Pull over Stitch, post TC, 1X	Post stress	-	-	-	3/9/0	1/3/0

Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: DS90UH983RTDTQ1	Qual Device: DS90UH983RTDRQ1	QBS Reference: DS90UH941ASRTDTQ1	QBS Reference: DS90UH983RTDRQ1
TC	A4.1.5	-	3	3	Bond Pull over Ball, post TC, 1X	Post stress	-	-	-	3/9/0	1/3/0
TC	A4.2.1	-	3	22	SAM Analysis, post TC, 2X	Review for delamination	Completed	-	-	3/66/0	1/22/0
TC	A4.2.2	-	3	1	Cross Section, post TC, 2X	Post stress cross section	Completed	-	-	3/3/0	1/1/0
TC	A4.2.3	-	3	3	Wire Bond Shear, post TC, 2X	Post stress	-	-	-	3/9/0	1/3/0
TC	A4.2.4	-	3	3	Bond Pull over Stitch, post TC, 2X	Post stress	-	-	-	3/9/0	1/3/0
TC	A4.2.5	-	3	3	Bond Pull over Ball, post TC, 2X	Post stress	-	-	-	3/9/0	1/3/0
PTC	A5.1	JEDEC JESD22-A105	1	45	PTC	-40/105C	1000 Cycles	-	-	-	1/45/0
PTC	A5.2	JEDEC JESD22-A105	1	45	PTC	-40/105C	2000 Cycles	-	-	-	1/45/0
HTSL	A6.1	JEDEC JESD22-A103	3	45	High Temperature Storage Life	150C	500 Hours	-	-	3/135/0	1/45/0
HTSL	A6.1.1	-	3	1	Cross Section, post HTSL, 1X	Post stress cross section	Completed	-	-	3/3/0	1/1/0
HTSL	A6.2	JEDEC JESD22-A103	3	44	High Temperature Storage Life	150C	1000 Hours	-	-	3/132/0	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	-	-	3/15/0	1/30/0

Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: DS90UH983RTDTQ1	Qual Device: DS90UH983RTDRQ1	QBS Reference: DS90UH941ASRTDTQ1	QBS Reference: DS90UH983RTDRQ1
WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	-	-	3/15/0	1/30/0

- QBS: Qual By Similarity, also known as Generic Data
- Qual Device DS90UH983RTDTQ1 is qualified at MSL3 260C
- Qual Device DS90UH983RTDRQ1 is qualified at MSL3 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-2504-143

Product Attributes

Attributes	Qual Device: DS90UH983RTDTQ1	Qual Device: DS90UH983RTDRQ1	QBS Package, Process, Product Reference: DS90UH941ASRTDTQ1	QBS Package, Process, Product Reference: DS90UH983RTDRQ1
Automotive Grade Level	Grade 2	Grade 2	Grade 2	Grade 2
Operating Temp Range (C)	-40 to 105	-40 to 105	-40 to 105	-40 to 105
Product Function	Signal Chain	Signal Chain	Interface	Signal Chain
Wafer Fab Supplier	DMOS6	DMOS6	DMOS6	DMOS6
Assembly Site	SCSAT	SCSAT	SCSAT	SCSAT
Package Group	QFN	QFN	QFN	QFN
Package Designator	RTD	RTD	RTD	RTD
Pin Count	64	64	64	64

- QBS: Qual By Similarity, also known as Generic Data
- Qual Device DS90UH983RTDTQ1 is qualified at MSL3 260C
- Qual Device DS90UH983RTDRQ1 is qualified at MSL3 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: DS90UH983RTDTQ1	Qual Device: DS90UH983RTDRQ1	QBS Package, Process, Product Reference: DS90UH941ASRTDTQ1	QBS Package, Process, Product Reference: DS90UH983RTDRQ1
Test Group A - Accelerated Environment Stress Tests											
PC	A1	JEDEC J-STD-020 JESD22-A113	3	77	Preconditioning	MSL3 260C	-	-	-	3/0/0	1/0/0
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	Unbiased HAST	130C/85%RH	96 Hours	-	-	-	1/77/0
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65/150C	1000 Cycles	-	-	3/231/0	1/77/0
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65/150C	500 Cycles	-	-	3/231/0	1/77/0
TC	A4	JEDEC JESD22-A104 and Appendix 3	3	77	Temperature Cycle	-65C/150C	1000 Cycles	-	-	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	1/77/0
PTC	A5	JEDEC JESD22-A105	1	45	PTC	-40/105C	1000 Cycles	-	-	-	1/45/0
HTSL	A6	JEDEC JESD22-A103	1	45	High Temperature Storage Life	150C	500 Hours	-	-	3/135/0	1/45/0
Test Group B - Accelerated Lifetime Simulation Tests											

Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: DS90UH983RTDTQ1	Qual Device: DS90UH983RTDRQ1	QBS Package, Process, Product Reference: DS90UH941ASRTDTQ1	QBS Package, Process, Product Reference: DS90UH983RTDRQ1
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	105C	1000 Hours	-	-	3/231/0	1/77/0
HTOL	B1	JEDEC JESD22-A108	3	77	Life Test	125C	1000 Hours	-	-	3/231/0	1/77/0
ELFR	B2	AEC Q100-008	3	800	Early Life Failure Rate	125C	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	-	-	3/15/0	1/30/0
WBP	C2	MIL-STD883 Method 2011	1	30	Wire Bond Pull	Minimum of 5 devices, 30 wires Cpk>1.67	Wires	-	-	3/15/0	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
PD	C4	JEDEC JESD22-B100 and B108	3	10	Physical Dimensions	Cpk>1.67	-	-	-	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
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
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
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

Type	#	Test Spec	Min Lot Qty	SS / Lot	Test Name	Condition	Duration	Qual Device: DS90UH983RTDTQ1	Qual Device: DS90UH983RTDRQ1	QBS Package, Process, Product Reference: DS90UH941ASRTDTQ1	QBS Package, Process, Product Reference: DS90UH983RTDRQ1
SM	D5	-	-	-	Stress Migration	-	-	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
ESD	E3	AEC Q100-011	1	3	ESD CDM	-	1000 Volts	-	-	1/3/0	1/3/0
ESD	E3	AEC Q100-011	1	3	ESD CDM	-	500 Volts	-	-	-	1/3/0
LU	E4	AEC Q100-004	1	3	Latch-Up	Per AEC Q100-004	-	-	-	1/6/0	2/12/0
ED	E5	AEC Q100-009	3	30	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	-	3/90/0	3/90/0
Additional Tests											
BLR	T1	-	-	-	Board Level Reliability - Temp Cycle	-40/125C	1000 Cycles	-	-	1/32/0	-

- 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

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-2504-143

ZVEI ID: SEM-DE-01, SEM-DE-02

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 the Change Management team or your local Field Sales Representative.