PCN Number:	20240628011.1	**PCN Date:**	June 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 26, 2024	**Sample requests accepted until:**	July 28, 2024*

***Sample requests received after July 28, 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**
DL-LIN	LBC4	200 mm	RFAB	LBC9	300 mm

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

Construction differences are as follows:

Group 1 device

	FMX	MLA
Wire type/Diam	1.98mil Cu	1.31mil Cu

Group 2 device

	ASESH	UTL2	MLA
Wire type/Diam	2.0mil Au	2.0mil Cu	1.31mil Cu
Mount compound	EY1000063	PZ0031	4224264
Mold compound	EN2000515	CZ0094	4211880

Group 3 device

	TFME	UTL2	CDAT
Wire type/Diam	1.30mil Au	1.30mil Au	1.31mil Cu
Mount compound	A-03	PZ0013	4207123
Mold compound	R-13	CZ0096	4222198

Qual details are provided in the Qual Data Section.

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.

Changes from Revision N (July 2023) to Revision O (June 2024) **Page**

- Updated origination date from June 2010 to April 2004 to match initial release of the data sheet..... 1
- Deleted Dissipation Ratings table.....1
- Deleted "TPS2042xx and TPS2053xx" in table title.....6
- Updated max UVLO and Supply current, high-level output values for the TPS2041BDR, TPS2041BDGNR, TPS2042BDR, TPS2042BDGNR, TPS2051BDR, TPS2051BDGNR, TPS2052BDGNR, and TPS2041BDBVR.....7
- Updated Overcurrent trip threshold to apply only to TPS2042B and TPS2052B (DRB packages only).....7
- 13
- Added TPS2051BDB.....21
- Updated Section 8.3.7to show that the TPS20x1B and TPS20x2B devices in the D, DGN, and DBV packages do not have overcurrent trip thresholds.....21
- Updated Section 8.3.7.1 22
- Updated Section 8.3.7.2 22

Changes from Revision J (August 2023) to Revision K (June 2024) **Page**

- Removed Dissipation Ratings table.....1
- Added Section 6.3 6
- Updated TPS2061, TPS2062, TPS2065, TPS2066 electrical characteristics, including overcurrent trip threshold, high-level output supply current and undervoltage lockout.....6
- Updated TPS2061, TPS2062, TPS2065, TPS2066 Typical Characteristics.....8
- Updated TPS2061, TPS2062, TPS2065, TPS2066 overcurrent description..... 19
- Updated Section 8.7.1 19
- Updated Section 8.7.2 20

Changes from Revision A (March 2009) to Revision B (June 2024) **Page**

- Updated the numbering format for tables, figures, and cross-references throughout the document..... 1
- Deleted Dissipation Ratings table.....1
- Thermal Information of new needle respin, TPS2066DGNR-1.....4
- Added Thermal Information table.....4
- Updated max UVLO value for TPS2066-1.....4
- Updated max Supply current, high-level output for TPS2066-1.....4
- Updated Overcurrent trip threshold to apply only to TPS2062-1 and TPS2065-1.....4
- Updated section information.....15
- Added Section 7.7.1 16
- Added Section 7.7.2 16

Changes from Revision F (November 2008) to Revision G (June 2024) **Page**

- Updated the numbering format for tables, figures, and cross-references throughout the document..... 1
- Deleted Dissipation Ratings table.....1
- Updated Table 4-1 footnote about PowerPad 3
- Added Section 5.3 4
- Updated max UVLO for TPS2062A.....4
- Updated max Supply current, high-level output values for TPS2062A.....4
- Updated Overcurrent trip threshold to apply only to TPS2062ADRB, TPS2066ADRB, and TPS2066AD.....4
- Updated Section 7.3 13
- Added Section 7.3.1 13
- Added Section 7.3.2 13

Product Folder	Current	New	Link to full datasheet

	Datasheet Number	Datasheet Number	
TPS20xxB	SLVS514N	**SLVS514O**	http://www.ti.com/product/TPS2041B
TPS206x	SLVS490J	**SLVS490K**	http://www.ti.com/product/TPS2061
TPS206x-1	SLVS714A	**SLVS714B**	http://www.ti.com/product/TPS2062-1
TPS206xA	SLVS798F	**SLVS798G**	http://www.ti.com/product/TPS2062A

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

Die Rev:

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

Assembly Site Information:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
TFME	NFM	CHN	Economic Development Zone
UTL2	NS2	THA	Bangpakong, Chachoengsao
FMX	MEX	MEX	Aguascalientes
ASESH	ASH	CHN	Shanghai
MLA	**MLA**	**MYS**	**Kuala Lumpur**
CDAT	**CDA**	**CHN**	**Chengdu**

Sample product shipping label (not actual product label)

Group 1 Product Affected:

TPS2041BDR	TPS2051BDR	TPS2062ADR	TPS2065DR
TPS2042BDR	TPS2061DR	TPS2062DR	TPS2066DR

Group 2 Product Affected:

TPS2041BDGNR	TPS2052BDGNR	TPS2065DGNR
TPS2042BDGNR	TPS2061DGNR	TPS2066DGNR
TPS2051BDGNR	TPS2062DGNR	TPS2066DGNR-1

Group 3 Product Affected:

TPS2041BDBVR	TPS2061DBVR

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 Name	Condition	Duration	Qual Device: TPS2041BDR	Qual Device: TPS2041BDGNR	Qual Device: TPS2042BDR	Qual Device: TPS2042BDGNR	QBS Reference: UCC27624QDGNRQ1	QBS Reference: TPS2052BDR	QBS Reference: LMV393QDRQ1	QBS Reference: TPS2051BDR
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	-	-	-	-	-	1/77/0	3/231/0	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	-	-	3/231/0	1/77/0	3/231/0	-
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	-	-	3/231/0	-	3/135/0	-
HTSL	A6	High Temperature Storage Life	175C	420 Hours	-	-	-	-	-	1/77/0	-	-
HTOL	B1	Life Test	125C	1000 Hours	-	-	-	-	-	-	3/231/0	-
HTOL	B1	Life Test	150C	300 Hours	-	-	-	-	-	1/77/0	-	-
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	-	-	-	-	3/2400/0	-
WBP	C2	Bond Pull	76 Wires, 3 units min	Wires	-	-	-	-	-	1/76/0	-	-
SD	C3	PB Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	-	-	-	-	-	1/15/0	-

Type	#	Test Name	Condition	Duration	Qual Device: TPS2041BDR	Qual Device: TPS2041BDGNR	Qual Device: TPS2042BDR	Qual Device: TPS2042BDGNR	QBS Reference: UCC27624QDGNRQ1	QBS Reference: TPS2052BDR	QBS Reference: LMV393QDRQ1	QBS Reference: TPS2051BDR
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	-	3/30/0	-
ESD	E2	ESD CDM	-	250 Volts	-	-	-	-	-	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
ESD	E2	ESD HBM	-	2000 Volts	-	-	-	-	-	-	1/3/0	-
LU	E4	Latch-Up	Per JESD78	-	-	-	-	-	-	1/6/0	1/6/0	1/3/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	-	-	-	-	-	1/30/0	-	1/30/0
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	-	-	-	1/30/0	-	3/90/0	-

- QBS: Qual By Similarity
- Qual Device TPS2041BDR is qualified at MSL1 260C
- Qual Device TPS2041BDGNR is qualified at MSL1 260C
- Qual Device TPS2042BDR is qualified at MSL1 260C
- Qual Device TPS2042BDGNR 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/

TI Qualification ID: R-CHG-2304-069

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: TPS2061DGNR	Qual Device: TPS2061DR	Qual Device: TPS2062DGNR	Qual Device: TPS2062DR	Qual Device: TPS2062ADR	QBS Reference: UCC27624QDGNRQ1	QBS Reference: TPS2052BDR	QBS Reference: LMV393QDRQ1
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	-	-	-	-	-	-	1/77/0	3/231/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	-	-	-	3/231/0	1/77/0	3/231/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	-	-	-	3/231/0	-	3/135/0
HTSL	A6	High Temperature Storage Life	175C	420 Hours	-	-	-	-	-	-	1/77/0	-
HTOL	B1	Life Test	125C	1000 Hours	-	-	-	-	-	-	-	3/231/0
HTOL	B1	Life Test	150C	300 Hours	-	-	-	-	-	-	1/77/0	-
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	-	-	-	-	-	3/2400/0
WBP	C2	Bond Pull	76 Wires, 3 units min	Wires	-	-	-	-	-	-	1/76/0	-
SD	C3	PB Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	-	-	-	-	-	-	1/15/0

Type	#	Test Name	Condition	Duration	Qual Device: TPS2061DGNR	Qual Device: TPS2061DR	Qual Device: TPS2062DGNR	Qual Device: TPS2062DR	Qual Device: TPS2062ADR	QBS Reference: UCC27624QDGNRQ1	QBS Reference: TPS2052BDR	QBS Reference: LMV393QDRQ1
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	-	3/30/0
ESD	E2	ESD CDM	-	250 Volts	-	-	-	-	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	-
ESD	E2	ESD HBM	-	2000 Volts	-	-	-	-	-	-	-	1/3/0
LU	E4	Latch-Up	Per JESD78	-	-	-	-	-	1/3/0	-	1/6/0	1/6/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	-	-	-	-	1/30/0	-	1/30/0	-
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	-	-	-	-	1/30/0	-	3/90/0

- QBS: Qual By Similarity
- Qual Device TPS2061DGNR is qualified at MSL1 260C
- Qual Device TPS2061DR is qualified at MSL1 260C
- Qual Device TPS2062DGNR is qualified at MSL1 260C
- Qual Device TPS2062DR is qualified at MSL1 260C
- Qual Device TPS2062ADR 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/

TI Qualification ID: R-CHG-2304-071

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: TPS2065DGNR	Qual Device: TPS2065DR	Qual Device: TPS2066DGNR	Qual Device: TPS2066DR	QBS Reference: UCC27624QDGNRQ1	QBS Reference: TPS2052BDR	QBS Reference: LMV393QDRQ1
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	-	-	-	-	-	1/77/0	3/231/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	-	-	3/231/0	1/77/0	3/231/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	-	-	3/231/0	-	3/135/0
HTSL	A6	High Temperature Storage Life	175C	420 Hours	-	-	-	-	-	1/77/0	-
HTOL	B1	Life Test	125C	1000 Hours	-	-	-	-	-	-	3/231/0
HTOL	B1	Life Test	150C	300 Hours	-	-	-	-	-	1/77/0	-
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	-	-	-	-	3/2400/0
WBP	C2	Bond Pull	76 Wires, 3 units min	Wires	-	-	-	-	-	1/76/0	-

Type	#	Test Name	Condition	Duration	Qual Device: TPS2065DGNR	Qual Device: TPS2065DR	Qual Device: TPS2066DGNR	Qual Device: TPS2066DR	QBS Reference: UCC27624QDGNRQ1	QBS Reference: TPS2052BDR	QBS Reference: LMV393QDRQ1
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	-	3/30/0
ESD	E2	ESD CDM	-	250 Volts	-	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	-
ESD	E2	ESD HBM	-	2000 Volts	-	-	-	-	-	-	1/3/0
LU	E4	Latch-Up	Per JESD78	-	-	1/3/0	-	-	-	1/6/0	1/6/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	-	1/30	-	-	-	1/30/0	-
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	-	-	-	1/30/0	-	3/90/0

- QBS: Qual By Similarity
- Qual Device TPS2065DGNR is qualified at MSL1 260C
- Qual Device TPS2065DR is qualified at MSL1 260C
- Qual Device TPS2066DGNR is qualified at MSL1 260C
- Qual Device TPS2066DR 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/

TI Qualification ID: R-CHG-2304-073

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: TPS2051BDR	Qual Device: TPS2051BDGNR	QBS Reference: UCC27624QDGNRQ1	QBS Reference: TPS2052BDR	QBS Reference: LMV393QDRQ1
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	-	-	-	1/77/0	3/231/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	3/231/0	1/77/0	3/231/0
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	3/231/0	-	3/135/0
HTSL	A6	High Temperature Storage Life	175C	420 Hours	-	-	-	1/77/0	-
HTOL	B1	Life Test	125C	1000 Hours	-	-	-	-	3/231/0
HTOL	B1	Life Test	150C	300 Hours	-	-	-	1/77/0	-
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	-	-	3/2400/0
WBP	C2	Bond Pull	76 Wires, 3 units min	Wires	-	-	-	1/76/0	-
SD	C3	PB Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes)	-	-	-	-	-	1/15/0

Type	#	Test Name	Condition	Duration	Qual Device: TPS2051BDR	Qual Device: TPS2051BDGNR	QBS Reference: UCC27624QDGNRQ1	QBS Reference: TPS2052BDR	QBS Reference: LMV393QDRQ1
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	-	3/30/0
ESD	E2	ESD CDM	-	250 Volts	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	-
ESD	E2	ESD HBM	-	2000 Volts	-	-	-	-	1/3/0
LU	E4	Latch-Up	Per JESD78	-	1/3/0	-	-	1/6/0	1/6/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	-	-	1/30/0	-
CHAR	E5	Electrical Distributions	Cpk>1.67 Room, hot, and cold	-	-	-	1/30/0	-	3/90/0

- QBS: Qual By Similarity
- Qual Device TPS2051BDR is qualified at MSL1 260C
- Qual Device TPS2051BDGNR 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/

TI Qualification ID: R-CHG-2304-070

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: TPS2066DGNR-1	Qual Device: TPS2052BDGNR	QBS Package Reference: UCC27624QDGNRQ1	QBS Process/Product Reference: TPS2052BDR	QBS Process Reference: LMV393QDRQ1
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	-	3/231/0	-	-
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	-	3/231/0	-	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	3/231/0	-	-
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	3/231/0	-	-
HTOL	B1	Life Test	125C	1000 Hours	-	-	-	-	3/231/0
HTOL	B1	Life Test	150C	300 Hours	-	-	-	1/77/0	-
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	-	-	3/2400/0
PD	C4	Physical Dimensions	Cpk>1.67	-	-	-	3/30/0	-	-
ESD	E2	ESD CDM	-	250 Volts	1/3/0	-	-	1/3/0	-
ESD	E2	ESD HBM	-	1000 Volts	1/3/0	-	-	1/3/0	-
LU	E4	Latch-Up	Per JESD78	-	1/3/0	-	-	1/6/0	-

Type	#	Test Name	Condition	Duration	Qual Device: TPS2066DGNR-1	Qual Device: TPS2052BDGNR	QBS Package Reference: UCC27624QDGNRQ1	QBS Process/Product Reference: TPS2052BDR	QBS Process Reference: LMV393QDRQ1
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	-	-	1/30/0	-

- QBS: Qual By Similarity
- Qual Device TPS2066DGNR-1 is qualified at MSL1 260C
- Qual Device TPS2052BDGNR 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/

TI Qualification ID: R-CHG-2304-090

Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: TPS2065DBVR	Qual Device: TPS2065DBVR	QBS Package/Process Reference: TPS25221DBVR	QBS Package Reference: TLV9061IDBVR	QBS Package/Process/Product Reference: TPS2051BDBVR	QBS Package Reference: TLV62568DBVR
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	3/231/0	-	-
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	-	3/231/0	3/231/0	-	3/231/0
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	-	3/231/0	3/231/0	-	-
HTOL	B1	Life Test	140C	480 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	-	-	3/9/0	3/228/0	1/76/0	-
WBP	C2	Bond Pull	76 Wires, 3 units min	Wires	-	-	3/9/0	3/228/0	1/76/0	-

Type	#	Test Name	Condition	Duration	Qual Device: TPS2065DBVR	Qual Device: TPS2065DBVR	QBS Package/Process Reference: TPS25221DBVR	QBS Package Reference: TLV9061IDBVR	QBS Package/Process/Product Reference: TPS2051BDBVR	QBS Package Reference: TLV62568DBVR
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes); PB-Free Solder;	-	-	-	-	3/66/0	-	1/22/0
PD	C4	Physical Dimensions	(per mechanical drawing)	-	-	-	-	3/15/0	1/5/0	-
ESD	E2	ESD CDM	-	250 Volts	1/3/0	-	-	-	1/3/0	-
ESD	E2	ESD HBM	-	1000 Volts	1/3/0	-	-	-	1/3/0	-
ESD	E2	ESD HBM	-	4000 Volts	-	-	-	-	-	-
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	-
FTY	E6	Final Test Yield	-	-	1/PASS	1/PASS	-	-	-	-

- QBS: Qual By Similarity
- Qual Device TPS2065DBVR is qualified at MSL1 260C
- Qual Device TPS2065DBVR 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/

TI Qualification ID: R-CHG-2208-005

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