

<b>PCN Number:</b>	20240430000.1	<b>PCN Date:</b>	April 30, 2024
<b>Title:</b>	Qualification of RFAB using qualified Process Technology, Die Revision, Datasheet, and additional Assembly site options for select devices		
<b>Customer Contact:</b>	Change Management Team	<b>Dept:</b>	Quality Services
<b>Proposed 1<sup>st</sup> Ship Date:</b>	July 29, 2024	<b>Sample requests accepted until:</b>	May 30, 2024*

**\*Sample requests received after May 30, 2024 will not be supported.**

Change Type:					
<input checked="" type="checkbox"/>	Assembly Site	<input checked="" type="checkbox"/>	Design	<input type="checkbox"/>	Wafer Bump Material
<input type="checkbox"/>	Assembly Process	<input checked="" type="checkbox"/>	Data Sheet	<input type="checkbox"/>	Wafer Bump Process
<input type="checkbox"/>	Assembly Materials	<input type="checkbox"/>	Part number change	<input checked="" type="checkbox"/>	Wafer Fab Site
<input type="checkbox"/>	Mechanical Specification	<input type="checkbox"/>	Test Site	<input checked="" type="checkbox"/>	Wafer Fab Material
<input checked="" type="checkbox"/>	Packing/Shipping/Labeling	<input type="checkbox"/>	Test Process	<input checked="" type="checkbox"/>	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 a new Assembly site (CDAT) for the devices listed in the "Product Affected" section.

Current Fab Site			Additional Fab Site		
Fab Site	Process	Wafer Diameter	Fab Site	Process	Wafer Diameter
MIHO8	LBC7	200 mm	RFAB	LBC9	300 mm
RFAB	LBC7	300 mm			

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

With CDAT being added as a new Assembly site in addition to JCETCZ and TIPI, there are no new BOM materials being introduced.

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.



TPS562201, TPS562208  
SLVSD91C – DECEMBER 2015 – REVISED APRIL 2024

Changes from Revision B (September 2020) to Revision C (April 2024)	Page
• Updated trademark information.....	1
• Added WEBENCH information throughout the document.....	1
• Changed low shutdown current from less than 10µA to less than 20µA.....	1
• Updated the document title.....	1
• Updated <i>Device Information</i> table format.....	1
• Changed VBST (vs SW) and VFB MAX from 6.5 to 6.....	4
• Changed Human-body model (HBM) value from 3000 to 2000.....	4
• Changed VBST (vs SW) MAX from 6.0 to 5.5.....	4
• Updated specifications in the <i>Electrical Characteristics</i> table.....	5
• Updated <a href="#">Figure 5-1</a> and <a href="#">Figure 5-2</a> .....	6
• Updated the <i>Current Protection</i> section.....	10

Changes from Revision * (December 2015) to Revision A (April 2024)	Page
• Updated the numbering format for tables, figures, and cross-references throughout the document.....	1
• Changed low shutdown current from less than 10µA to 20µA.....	1
• Added WEBENCH information throughout the document.....	1
• Updated trademark information.....	1
• Updated <i>Device Information</i> table format.....	1
• Changed VBST (vs SW) and VFB MAX from 6.5 to 6.....	4
• Changed Human-body model (HBM) value from 3000 to 2000.....	4
• Changed VBST (vs SW) MAX from 6.0 to 5.5.....	4
• Updated Specifications in the <i>Electrical Characteristics</i> table .....	6
• Updated <a href="#">Figure 5-1</a> and <a href="#">Figure 5-2</a> .....	7
• Updated the <i>Current Protection</i> section.....	11

Product Folder	Current Datasheet Number	New Datasheet Number	Link to full datasheet
TPS56220x	SLVSD91B	<a href="#">SLVSD91C</a>	<a href="http://www.ti.com/product/TPS562201">http://www.ti.com/product/TPS562201</a>
TPS56320x	SLVSD90	<a href="#">SLVSD90A</a>	<a href="http://www.ti.com/product/TPS563201">http://www.ti.com/product/TPS563201</a>

Qual details are provided in the Qual Data Section.

#### Reason for Change:

Continuity of Supply

#### 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
<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> No Change	<input checked="" type="checkbox"/> 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
MIHO8	MH8	JPN	Ibaraki
<a href="#">RFAB</a>	<a href="#">RFB</a>	<a href="#">USA</a>	<a href="#">Richardson</a>

##### Die Rev:

##### Current

##### New

Die Rev [2P]	Die Rev [2P]
A	<a href="#">A</a>

#### Assembly Site Information:

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
JCETCZ	JCC	CHN	Chuzhou
TIPI	PHI	PHL	Baguio City
<a href="#">CDAT</a>	<a href="#">CDA</a>	<a href="#">CHN</a>	<a href="#">Chengdu</a>

Sample product shipping label (not actual product label):



MADE IN: Malaysia  
2DC: 2Q:

MSL 2 / 260C / 1 YEAR	SEAL DT
MSL 1 / 235C / UNLIM	03 / 29 / 04

OPT:  
ITEM:

39  
LBL: 5A (L)T0:1750



(1P) SN74LS07NSR  
(Q) 2000 (D) 0336  
(31T) LOT: 3959047MLA  
(4W) TKY (1T) 7523483SI2  
(P)  
(2P) REV: (V) 0033317  
(20L) CS0: SHE (21L) CC0: USA  
(22L) AS0: MLA (23L) AC0: MYS

#### Product Affected:

TPS562201DDCR	TPS562208DDCR	TPS563201DDCR	TPS563208DDCR
TPS562201DDCT	TPS562208DDCT	TPS563201DDCT	TPS563208DDCT

#### Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: TPS563201DDCR	QBS Reference: TPS563249DDCR	QBS Reference: TPS564201DDCR	QBS Reference: TPS51393RJER	QBS Reference: TPS563203DRLR	QBS Reference: TPS564201DDCR
HAST	A2	Biased HAST	110C/85%RH	264 Hours	-	-	-	3/231/0	-	-
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	3/231/0	-	-	1/77/0	-
UHA	A3	Autoclave	121C/15psig	96 Hours	-	-	-	-	-	3/231/0
UHA	A3	Unbiased HAST	110C/85%RH	264 Hours	-	-	-	3/231/0	-	-
UHA	A3	Unbiased HAST	130C/85%RH	96 Hours	1/77/0	3/231/0	3/231/0	-	1/77/0	-
TC	A4	Temperature Cycle	-55C/125C	700 Cycles	1/77/0	-	-	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	150C	1000 Hours	-	-	-	-	1/77/0	-
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	3/231/0	3/231/0	3/231/0	-	-

Type	#	Test Name	Condition	Duration	Qual Device: TPS563201DDCR	QBS Reference: TPS563249DDCR	QBS Reference: TPS564201DDCR	QBS Reference: TPS51393RJER	QBS Reference: TPS563203DRLR	QBS Reference: TPS564201DDCR
HTOL	B1	Life Test	125C	1000 Hours	-	3/231/0	-	3/231/0	1/77/0	-
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	-	3/2400/0	-	-
SD	C3	PB-Free Solderability	Precondition w/155C Dry Bake (4 hrs +/- 15 minutes); PB- Free Solder;	-	-	3/66/0	3/66/0	-	-	1/22/0
PD	C4	Physical Dimensions	(per mechanical drawing)	-	-	-	-	1/5/0	-	-
ESD	E2	ESD CDM	-	1500 Volts	1/3/0	-	-	-	1/3/0	-
ESD	E2	ESD HBM	-	2000 Volts	1/3/0	-	-	-	1/3/0	-
LU	E4	Latch-Up	Per JESD78	-	1/3/0	-	-	-	1/3/0	-
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	-	-	3/90/0	1/30/0	-
FTY	E6	Final Test Yield	-	-	-	-	-	3/3/0	1/1/0	-

- QBS: Qual By Similarity
- Qual Device TPS563201DDCR 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-NPD-2307-003

#### Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: TPS562208DDCR	QBS Reference: TPS563249DDCR	QBS Reference: TPS564201DDCR	QBS Reference: TPS51393RJER	QBS Reference: TPS563203DRLR	QBS Reference: TPS564201DDCR	QBS Reference: TPS563201DDCR
HAST	A2	Biased HAST	110C/85%RH	264 Hours	-	-	-	3/231/0	-	-	-
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	3/231/0	-	-	1/77/0	-	-
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	-	-	-	-	3/231/0	-
UHAST	A3	Unbiased HAST	110C/85%RH	264 Hours	-	-	-	3/231/0	-	-	-
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	3/231/0	3/231/0	-	1/77/0	-	1/77/0
TC	A4	Temperature Cycle	-55C/125C	700 Cycles	-	-	-	3/231/0	3/231/0	-	1/77/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	3/231/0	3/231/0	-	-	3/231/0	-
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	-	-	1/77/0	-	-
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	3/231/0	3/231/0	3/231/0	-	-	-
HTOL	B1	Life Test	125C	1000 Hours	-	3/231/0	-	3/231/0	1/77/0	-	-
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	-	3/2400/0	-	-	-

Type	#	Test Name	Condition	Duration	Qual Device: <a href="#">TPS562208DDCR</a>	QBS Reference: <a href="#">TPS563249DDCR</a>	QBS Reference: <a href="#">TPS564201DDCR</a>	QBS Reference: <a href="#">TPS51393RJER</a>	QBS Reference: <a href="#">TPS563203DRLR</a>	QBS Reference: <a href="#">TPS564201DDCR</a>	QBS Reference: <a href="#">TPS563201DDCR</a>
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes); PB-Free Solder;	-	-	3/66/0	3/66/0	-	-	1/22/0	-
PD	C4	Physical Dimensions	(per mechanical drawing)	-	-	-	-	1/5/0	-	-	-
ESD	E2	ESD CDM	-	1500 Volts	1/3/0	-	-	-	1/3/0	-	1/3/0
ESD	E2	ESD HBM	-	2000 Volts	1/3/0	-	-	-	1/3/0	-	1/3/0
LU	E4	Latch-Up	Per JESD78	-	1/3/0	-	-	-	1/3/0	-	1/3/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	-	-	3/90/0	1/30/0	-	1/30/0
FTY	E6	Final Test Yield	-	-	-	-	-	3/3/0	1/1/0	-	-

- QBS: Qual By Similarity
- Qual Device TPS562208DDCR 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-NPD-2307-024

#### Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: <a href="#">TPS563208DDCR</a>	QBS Reference: <a href="#">TPS563249DDCR</a>	QBS Reference: <a href="#">TPS564201DDCR</a>	QBS Reference: <a href="#">TPS51393RJER</a>	QBS Reference: <a href="#">TPS563203DRLR</a>	QBS Reference: <a href="#">TPS564201DDCR</a>	QBS Reference: <a href="#">TPS563201DDCR</a>
HAST	A2	Biased HAST	110C/85%RH	264 Hours	-	-	-	3/231/0	-	-	-
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	3/231/0	-	-	1/77/0	-	-
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	-	-	-	-	3/231/0	-
UHAST	A3	Unbiased HAST	110C/85%RH	264 Hours	-	-	-	3/231/0	-	-	-
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	3/231/0	3/231/0	-	1/77/0	-	1/77/0
TC	A4	Temperature Cycle	-55C/125C	700 Cycles	-	-	-	3/231/0	3/231/0	-	1/77/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	3/231/0	3/231/0	-	-	3/231/0	-
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	-	-	1/77/0	-	-
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	3/231/0	3/231/0	3/231/0	-	-	-
HTOL	B1	Life Test	125C	1000 Hours	-	3/231/0	-	3/231/0	1/77/0	-	-
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	-	3/2400/0	-	-	-

Type	#	Test Name	Condition	Duration	Qual Device: TPS563208DDCR	QBS Reference: TPS563249DDCR	QBS Reference: TPS564201DDCR	QBS Reference: TPS51393RJER	QBS Reference: TPS563203DRLR	QBS Reference: TPS564201DDCR	QBS Reference: TPS563201DDCR
SD	C3	PB-Free Solderability	Precondition w/155C Dry Bake (4 hrs +/- 15 minutes); PB-Free Solder;	-	-	3/66/0	3/66/0	-	-	1/22/0	-
PD	C4	Physical Dimensions	(per mechanical drawing)	-	-	-	-	1/5/0	-	-	-
ESD	E2	ESD CDM	-	1500 Volts	1/3/0	-	-	-	1/3/0	-	1/3/0
ESD	E2	ESD HBM	-	2000 Volts	1/3/0	-	-	-	1/3/0	-	1/3/0
LU	E4	Latch-Up	Per JESD78	-	1/3/0	-	-	-	1/3/0	-	1/3/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	-	-	3/90/0	1/30/0	-	1/30/0
FTY	E6	Final Test Yield	-	-	-	-	-	3/3/0	1/1/0	-	-

- QBS: Qual By Similarity
- Qual Device TPS563208DDCR 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

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TI Qualification ID: R-NPD-2307-025

#### Qualification Results

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

Type	#	Test Name	Condition	Duration	Qual Device: TPS562201DDCR	QBS Reference: TPS563249DDCR	QBS Reference: TPS564201DDCR	QBS Reference: TPS51393RJER	QBS Reference: TPS563203DRLR	QBS Reference: TPS564201DDCR	QBS Reference: TPS563201DDCR
HAST	A2	Biased HAST	110C/85%RH	264 Hours	-	-	-	3/231/0	-	-	-
HAST	A2	Biased HAST	130C/85%RH	96 Hours	-	3/231/0	-	-	1/77/0	-	-
UHAST	A3	Autoclave	121C/15psig	96 Hours	-	-	-	-	-	3/231/0	-
UHAST	A3	Unbiased HAST	110C/85%RH	264 Hours	-	-	-	3/231/0	-	-	-
UHAST	A3	Unbiased HAST	130C/85%RH	96 Hours	-	3/231/0	3/231/0	-	1/77/0	-	1/77/0
TC	A4	Temperature Cycle	-55C/125C	700 Cycles	-	-	-	3/231/0	3/231/0	-	1/77/0
TC	A4	Temperature Cycle	-65C/150C	500 Cycles	-	3/231/0	3/231/0	-	-	3/231/0	-
HTSL	A6	High Temperature Storage Life	150C	1000 Hours	-	-	-	-	1/77/0	-	-
HTSL	A6	High Temperature Storage Life	170C	420 Hours	-	3/231/0	3/231/0	3/231/0	-	-	-
HTOL	B1	Life Test	125C	1000 Hours	-	3/231/0	-	3/231/0	1/77/0	-	-
ELFR	B2	Early Life Failure Rate	125C	48 Hours	-	-	-	3/2400/0	-	-	-

Type	#	Test Name	Condition	Duration	Qual Device: <a href="#">TPS562201DDCR</a>	QBS Reference: <a href="#">TPS563249DDCR</a>	QBS Reference: <a href="#">TPS564201DDCR</a>	QBS Reference: <a href="#">TPS51393RJER</a>	QBS Reference: <a href="#">TPS563203DRLR</a>	QBS Reference: <a href="#">TPS564201DDCR</a>	QBS Reference: <a href="#">TPS563201DDCR</a>
SD	C3	PB-Free Solderability	Precondition w.155C Dry Bake (4 hrs +/- 15 minutes); PB-Free Solder;	-	-	3/66/0	3/66/0	-	-	1/22/0	-
PD	C4	Physical Dimensions	(per mechanical drawing)	-	-	-	-	1/5/0	-	-	-
ESD	E2	ESD CDM	-	1500 Volts	1/3/0	-	-	-	1/3/0	-	1/3/0
ESD	E2	ESD HBM	-	2000 Volts	1/3/0	-	-	-	1/3/0	-	1/3/0
LU	E4	Latch-Up	Per JESD78	-	1/3/0	-	-	-	1/3/0	-	1/3/0
CHAR	E5	Electrical Characterization	Per Datasheet Parameters	-	1/30/0	-	-	3/90/0	1/30/0	-	1/30/0
FTY	E6	Final Test Yield	-	-	-	-	-	3/3/0	1/1/0	-	-

- QBS: Qual By Similarity
- Qual Device [TPS562201DDCR](#) 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-NPD-2307-012

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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