

<b>PCN Number:</b>	20220324002.1	<b>PCN Date:</b>	March 30, 2022
<b>Title:</b>	Qualification of new Fab site (RFAB) using qualified Process Technology, Die Revision, Datasheet update and additional Assembly site/BOM options for select devices		
<b>Customer Contact:</b>	<a href="#">PCN Manager</a>	<b>Dept:</b>	Quality Services
<b>Proposed 1<sup>st</sup> Ship Date:</b>	Jun 30, 2022	<b>Estimated Sample Availability:</b>	Date provided at sample request.
<b>Change Type:</b>			
<input checked="" type="checkbox"/>	Assembly Site	<input type="checkbox"/>	Assembly Process
<input checked="" type="checkbox"/>	Design	<input checked="" type="checkbox"/>	Electrical Specification
<input type="checkbox"/>	Test Site	<input type="checkbox"/>	Packing/Shipping/Labeling
<input type="checkbox"/>	Wafer Bump Site	<input type="checkbox"/>	Wafer Bump Material
<input checked="" type="checkbox"/>	Wafer Fab Site	<input checked="" type="checkbox"/>	Wafer Fab Materials
		<input type="checkbox"/>	Part number change

### PCN Details

#### Description of Change:

Texas Instruments is pleased to announce the qualification of a new fab & process technology (RFAB, LBC7) and assembly (MLA, HFTF) site/BOM options for selected devices as listed below in the product affected section.

Current Fab Site			New Fab Site		
Fab Site	Process	Wafer Diameter	Fab Site	Process	Wafer Diameter
DL-LIN	LBC3S	150 mm	RFAB	LBC7	300 mm
DL-LIN	LBC3S	200 mm			

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

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 link to the revised datasheet is available in the table below.



**SN65HVD3082E, SN75HVD3082E, SN65HVD3085E, SN65HVD3088E**  
SLLS562M – AUGUST 2009 – REVISED FEBRUARY 2022

#### Changes from Revision L (November 2021) to Revision M (February 2022) Page

- Added storage temperature  $T_{stg}$  to *Absolute Maximum Ratings* table.....4
- Changed the *Thermal Information, SN65HVD308xE* table..... 5



**SN65HVD10, SN65HVD11, SN65HVD12**  
**SN75HVD10, SN75HVD11, SN75HVD12**  
SLLS505P – FEBRUARY 2002 – REVISED FEBRUARY 2022

#### Changes from Revision O (February 2017) to Revision P (February 2022) Page

- Changed the *Thermal Information* table..... 5

Product Folder	Current Datasheet Number	New Datasheet Number	Link to full datasheet
SN65HVD3082E	SLLS562L	SLLS562M	<a href="http://www.ti.com/product/SN65HVD3088E">http://www.ti.com/product/SN65HVD3088E</a>
SN65HVD10	SLLS505O	SLLS505P	<a href="http://www.ti.com/product/SN65HVD10">http://www.ti.com/product/SN65HVD10</a>

Construction differences are noted below:

**Group 1 device (FMX to MLA)**

No material differences between sites

**Group 2 device (ASESH, HNA to HFTFAT)**

	<b>ASESH</b>	<b>HNA</b>	<b>HFTFAT</b>
Lead finish	NiPdAuAg	NiPdAu	Matte Sn
Bond wire/diameter	Au, Cu	Au	Cu
Mount Compound	EY1000063	400180	A-18
Mold Compound	EN2000515	450179	R-30

Upon expiry of this PCN TI will combine lead free solutions in a single **standard part number**, for example; **SN65HVD3085EDGKR** – can ship with both Matte Sn and NiPdAu.

Example:

- Customer order for 7500units of SN65HVD3085EDGKR with 2500 units SPQ (Standard Pack Quantity per Reel).
- TI can satisfy the above order in one of the following ways.
  - I. 3 Reels of NiPdAu finish.
  - II. 3 Reels of Matte Sn finish
  - III. 2 Reels of Matte Sn and 1 reel of NiPdAu finish.
  - IV. 2 Reels of NiPdAu and 1 reel of Matte Sn finish.

Tube versions of the devices are included in EOL notice PDN# 20220324003.3

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.

<b>RoHS</b>	<b>REACH</b>	<b>Green Status</b>	<b>IEC 62474</b>
<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
DL-LIN	DLN	USA	Dallas
<b>RFAB</b>	<b>RFB</b>	<b>USA</b>	<b>Richardson</b>

**Die Rev:**

<b>Current</b>	<b>New</b>
Die Rev [2P]	<b>Die Rev [2P]</b>
A, B	-

**Assembly Site Information:**

Assembly Site	Assembly Site Origin (22L)	Assembly Country Code (23L)	Assembly City
FMX	MEX	MEX	Aguascalientes
ASESH	ASH	CHN	Shanghai
HNA	HNT	THA	Ayutthaya
<b>HFTFAT</b>	<b>HFT</b>	<b>CHN</b>	<b>Hefei</b>
<b>MLA</b>	<b>MLA</b>	<b>MYS</b>	<b>Kuala Lumpur</b>

Sample product shipping label (not actual product label)

**G3 = Matte Sn**  
**G4 = NiPdAu**

TEXAS INSTRUMENTS  
MADE IN: Malaysia  
2DC: 20:  
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) CSO: SHE (21L) CCO:USA  
(22L) ASO: MLA (23L) ACO: MYS

**Product Affected:**

**Group 1 Device List (RFAB/Process migration + FMX to MLA Assembly Site):**

SN65HVD10DR	SN65HVD11DR	SN65HVD12DR	SN65HVD3088EDR
SN65HVD10DRG4	SN65HVD11DRG4	SN65HVD12DRG4	SN65HVD3088EDRG4
SN65HVD10QDR	SN65HVD11QDR	SN65HVD3085EDR	

**Group 2 Device List (RFAB/Process migration + ASESH/HNA to HFTF Assembly Site):**

SN65HVD3085EDGKR	SN65HVD3088EDGKR
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## Qualification Report

Approve Date 01-Dec-2021

### Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: SN65HVD11QDR	Qual Device: SN65HVD12DR	QBS Process Reference: TPS51217DSC	QBS Package Reference: TCAN1044VDQ1 (PG2.0)	QBS Package Reference: TCAN1044VD Q1 (PG1.1/PG1.0)
AC	Autoclave 121C	96 Hours	-	-	3/231/0	1/77/0	2/154/0
CDM	ESD - CDM	1500 V	1/3/0	1/3/0	-	-	-
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	-	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	-	3/231/0	1/77/0	2/154/0
HBM	ESD - HBM (All Pins)	4000 V	1/3/0	1/3/0	-	-	-
HBM	ESD - HBM (Bus Pins Only)	16000 V	1/3/0	1/3/0	-	-	-
HTOL	Life Test, 125C	1000 Hours	-	-	-	1/77/0	2/154/0
HTOL	Life Test, 135C	635 Hours	-	-	3/231/0	-	-
HTSL	High Temp Storage Bake 175C	500 Hours	-	-	-	1/45/0	2/90/0
HTSL	High Temp Storage Bake, 170C	420 Hours	-	-	3/231/0	-	-
LU	Latch-up	( Per JESD78 )	1/6/0	1/6/0	-	-	-
TC	Temperature Cycle, -65/150C	500 Cycles	-	-	3/231/0	1/77/0	2/154/0
WBP	Bond Pull	Wires	1/76/0	1/76/0	-	1/30/0	2/60/0
WBS	Ball Bond Shear	Wires	1/76/0	1/76/0	-	1/30/0	2/60/0

- QBS: Qual By Similarity

- Qual Device SN65HVD11QDR is qualified at LEVEL1-260C

- Qual Device SN65HVD12DR is qualified at LEVEL1-260C

- 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/>

#### Green/Pb-free Status:

Qualified Pb-Free (SMT) and Green

## Qualification Report

Approve Date 09-Mar-2022

### Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: BOND6-SN65HVD3085EDR	Qual Device: BOND6-SN65HVD3085EDGKR	Qual Device: BOND8-SN65HVD3088EDR	Qual Device: BOND8-SN65HVD3088EDGKR	QBS Process Reference: TPS51217DSC	QBS Package Reference: TCAN1044VDQ1(PG2_0)	QBS Package Reference: TCAN1044VD Q1(PG1.1/PG1.0)
AC	Autoclave 121C	96 Hours	-	-	-	-	6/462/0	1/77/0	2/154/0
CDM	ESD - CDM	1500 V	1/3/0	1/3/0	1/3/0	1/3/0	3/9/0	-	-
ED	Electrical Characterization	Per Datasheet Parameters	1/30/0	-	1/30/0	-	3/60/0	2/60/0	-
HAST	Biased HAST 130C/85%RH	96 Hours	-	-	-	-	3/231/0	1/77/0	2/154/0
HBM	ESD - HBM	4000 V	1/3/0	-	1/3/0	-	-	-	-
HTOL	Life Test, 135C	635 Hours	-	-	-	-	3/231/0	-	-
HTSL	High Temp Storage Bake 175C	500 Hours	-	-	-	-	-	1/45/0	2/90/0
LI	Lead Pull to Destruction	Leads	-	-	-	-	-	-	1/24/0
LU	Latch-up	(per JESD78)	1/6/0	-	1/6/0	-	3/18/0	-	-
PD	Physical Dimensions	Cpk>1.67	-	-	-	-	-	1/10/0	2/20/0
SD	Surface Mount Solderability	Pb Free Solder	-	-	-	-	-	-	1/15/0
SD	Surface Mount Solderability	Pb Solder	-	-	-	-	-	-	1/15/0
TC	Temperature Cycle -65/150C	500 Cycles	-	-	-	-	3/231/0	1/77/0	2/154/0
WBP	Bond Pull	Wires	1/76/0	1/76/0	1/76/0	1/76/0	-	1/30/0	2/60/0
WBS	Ball Bond Shear	Wires	1/76/0	1/76/0	1/76/0	1/76/0	-	1/30/0	2/60/0

### Qualification Results

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

Type	Test Name / Condition	Duration	QBS Package Reference: TP S62842DGR
AC	Autoclave 121C	96 Hours	3/231/0
CDM	ESD - CDM	1500 V	1/3/0
ED	Electrical Characterization	Per Datasheet Parameters	-
HAST	Biased HAST, 130C/85%RH	96 Hours	3/231/0
HBM	ESD - HBM	4000 V	1/3/0
HTOL	Life Test, 135C	635 Hours	-
HTSL	High Temp Storage Bake 175C	500 Hours	-
LI	Lead Pull to Destruction	Leads	-
LU	Latch-up	(per JESD78)	1/3/0
PD	Physical Dimensions	Cpk>1.67	-
PKG	Lead Finish Adhesion	0 Hr	3/45/0
SD	Solderability test	4	3/66/0
SD	Surface Mount Solderability	Pb Free Solder	-
SD	Surface Mount Solderability	Pb Solder	-
TC	Temperature Cycle, -65/150C	500 Cycles	3/231/0
WBP	Bond Pull	Wires	-
WBS	Ball Bond Shear	Wires	-

- QBS: Qual By Similarity
- Qual Device BOND6-SN65HVD3085EDGKR is qualified at LEVEL1-260C
- Qual Device BOND8-SN65HVD3088EDGKR is qualified at LEVEL1-260C
- Qual Device BOND6-SN65HVD3085EDR is qualified at LEVEL1-260C
- Qual Device BOND8-SN65HVD3088EDR is qualified at LEVEL1-260C

- 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/>

**Green/Pb-free Status:**  
Qualified Pb-Free (SMT) and Green

## Qualification Report

Approve Date 22-Feb-2022

### Qualification Results

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

Type	Test Name / Condition	Duration	Qual Device: SN65HVD10QDR	QBS Process Reference: TPS51217DSC	QBS Package Reference: TCAN1044VDQ1(PG2.0)	QBS Package Reference: TCAN1044VD_Q1(PG1.1/PG1.0)
AC	Autoclave 121C	96 Hours	-	6/462/0	1/77/0	2/154/0
CDM	ESD - CDM	1500 V	1/3/0	3/9/0	-	-
ED	Electrical Characterization	Per Datasheet Parameters	Pass	Pass	-	-
HAST	Biased HAST, 130C/85%RH	96 Hours	-	3/231/0	1/77/0	2/154/0
HBM	ESD – HBM (Bus Pins)	16000 V	1/3/0	-	-	-
HBM	ESD – HBM (All Pins)	4000 V	1/3/0	-	-	-
HTOL	Life Test, 135C	635 Hours	-	3/231/0	-	-
HTSL	High Temp Storage Bake 175C	500 Hours	-	-	1/45/0	2/90/0
LI	Lead Pull to Destruction	Leads	-	-	-	1/24/0
LU	Latch-up	(per JESD78)	1/6/0	3/18/0	-	-
MSL	Moisture Sensitivity, L1	L1-260C	1/12/0	-	-	-
SD	Surface Mount Solderability	Pb Free Solder	-	-	-	1/15/0
SD	Surface Mount Solderability	Pb Solder	-	-	-	1/15/0
TC	Temperature Cycle -65/150C	500 Cycles	-	3/231/0	1/77/0	2/154/0
WBP	Bond Pull	Wires	1/76/0	-	-	-
WBS	Ball Bond Shear	Wires	1/76/0	-	-	-

- QBS: Qual By Similarity

- Qual Device SN65HVD10QDR is qualified at LEVEL1-260C

- 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/>

**Green/Pb-free Status:**

Qualified Pb-Free (SMT) and Green

For questions regarding this notice, e-mails can be sent to the contact shown below or your local Field Sales Representative.

Location	E-Mail
WW Change Management Team	<a href="mailto:PCN_ww_admin_team@list.ti.com">PCN_ww_admin_team@list.ti.com</a>

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