12500 TI Boulevard, MS 8640, Dallas, Texas 75243

**PCN# 20240723007.2**
**Wafer Diameter Change for Select Devices in the LBC3S Process at DFAB**
**Change Notification / Sample Request**

**Date:** July 23, 2024
**To:** MOUSER PCN

Dear Customer:

This is an announcement of a change to a device that is currently offered by Texas Instruments (TI). The details of this change are on the following pages, and are in alignment with our standard product change notification (PCN) process.

TI requires acknowledgement of receipt of this notification within 30 days of the date of this notice. Lack of acknowledgement of this notice within 30 days constitutes acceptance and approval of this change. If samples or additional data are required, requests must be received within 30 days of this notification, given that samples are not built ahead of the change.

The Proposed First Ship date in this PCN letter is the earliest possible date that customers could receive the changed material. It is our commitment that the changed device will not ship before that date. If samples are requested within the 30 day sample request window, customers will still have 30-days to complete their evaluation regardless of the proposed 1st ship date.

This particular PCN is related to TI's multiyear transition plan for our two remaining factories with 150-millimeter production (DFAB in Dallas, Texas, and SFAB in Sherman, Texas). DFAB will remain open, but will focus on 200-mm production, with a smaller set of technologies. SFAB will close no earlier than 2024 and no later than 2025. As referenced in the "reason for change" below, these changes are part of our multiyear plan to transition these products to newer, more efficient manufacturing processes and technologies, underscoring our commitment to product longevity and supply continuity.

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. As always, we thank you for your continued business.

Change Management Team
SC Business Services

**20240723007.2**
**Attachment: 1**

## 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 |
|---|---|
| SN65HVD235QDRQ1 | NULL |

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

| | | | |
|---|---|---|---|
| **PCN Number:** | 20240723007.2 | **PCN Date:** | July 23, 2024 |
| **Title:** | Wafer Diameter Change for Select Devices in the LBC3S Process at DFAB | | |
| **Customer Contact:** | Change Management Team | **Dept:** | Quality Services |
| **Proposed 1st Ship Date:** | January 19, 2025 | **Sample requests accepted until:** | August 22, 2024* |

***Sample requests received after August 22, 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:**

This change notification is to announce a wafer diameter change only for select devices in the LBC3S process at DFAB. This is not a fab site change.

| Current | | | New | | |
|---|---|---|---|---|---|
| **Fab Site** | **Process** | **Wafer Diameter** | **Fab Site** | **Process** | **Wafer Diameter** |
| DFAB | LBC3S | 150 mm | DFAB | LBC3S | 200 mm |

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

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

**Changes to product identification resulting from this PCN:**

Note: This is not a Fab site change. The 6” line and 8” line are in the same location.

**Fab Site Information:**

| Chip Site | Chip Site Origin Code (20L) | Chip Site Country Code (21L) | Chip Site City |
|---|---|---|---|
| DL-LIN | DLN | USA | Dallas |

Sample product shipping label (not actual product label):


**Product Affected:**

SN65HVD235QDRQ1

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



## Automotive Qualification Summary
## (As per AEC-Q100 Rev. J and JEDEC Guidelines)

## SN65HVD235QDRQ1 Transition from 150mm to 200mm
## Approve Date 07-MARCH -2024

### Product Attributes

| Attributes | Qual Device: SN65HVD235QDRQ1 | QBS Process Reference: SN65HVD233QDRQ1 |
|---|---|---|
| **Automotive Grade Level** | - | Grade 1 |
| **Operating Temp Range (C)** | -40 to 125 | -40 to 125 |
| **Product Function** | - | ASIC |
| **Wafer Fab Supplier** | DL-LIN | DL-LIN |
| **Assembly Site** | FMX | FMX |
| **Package Group** | SOIC | SOIC |
| **Package Designator** | D | D |
| **Pin Count** | 8 | 8 |

- QBS: Qual By Similarity
- Qual Device SN65HVD235QDRQ1 is qualified at MSL1 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: SN65HVD235QDRQ1 | QBS Process Reference: SN65HVD233QDRQ1 |
|---|---|---|---|---|---|---|---|---|---|
| **Test Group A - Accelerated Environment Stress Tests** | | | | | | | | | |
| **Test Group B - Accelerated Lifetime Simulation Tests** | | | | | | | | | |
| **Test Group C - Package Assembly Integrity Tests** | | | | | | | | | |
| **Test Group D - Die Fabrication Reliability Tests** | | | | | | | | | |
| EM | D1 | JESD61 | - | - | Electromigration | - | - | 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 |
| HCI | D3 | JESD60 & 28 | - | - | Hot Carrier Injection | - | - | 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 |
| SM | D5 | - | - | - | Stress Migration | - | - | 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 | - | 12000 Volts | - | 1/3/0 |
| ESD | E2 | AEC Q100-002 | 1 | 3 | ESD HBM | - | 16000 Volts | - | 1/3/0 |
| ESD | E2 | AEC Q100-002 | 1 | 3 | ESD HBM | - | 3000 Volts | - | 1/3/0 |
| ESD | E3 | AEC Q100-011 | 1 | 3 | ESD CDM | - | 1000 Volts | - | 1/3/0 |

| Type | # | Test Spec | Min Lot Qty | SS / Lot | Test Name | Condition | Duration | Qual Device: SN65HVD235QDRQ1 | QBS Process Reference: SN65HVD233QDRQ1 |
|---|---|---|---|---|---|---|---|---|---|
| LU | E4 | AEC Q100-004 | 1 | 6 | Latch-Up | Per AEC Q100-004 | - | - | 1/6/0 |
| ED | E5 | AEC Q100-009 | 3 | 30 | Electrical Distributions | Cpk>1.67 Room, hot, and cold | - | - | 3/90/0 |
| 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

**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-2402-102

ZVEI ID: SEM-PW-02

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