12500 TI Boulevard, MS 8640, Dallas, Texas 75243

**PCN# 20180112000**
**Transfer of select CS150/CS200 devices from GFAB to MAINEFAB Wafer Fab site**
**Change Notification / Sample Request**

**Date:** January 22, 2018
**To:** TOKYO ELECTRON DEVICE (DSTR) 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.

We request you acknowledge receipt of this notification within **30** days of the date of this notice. Lack of acknowledgement of this notice within 30 days constitutes acceptance of the change. If you require samples or additional data to support your evaluation, please request within 30 days.

The changes discussed within this PCN will not take effect any earlier than **90** days from the date of this notification, unless customer agreement has been reached on an earlier implementation of the change. This notification period is per TI's standard process.

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, contact your local Field Sales Representative or the PCN Manager (PCN_ww_admin_team@list.ti.com).

PCN Team
SC Business Services

**20180112000**
**Attachment: 1**

## Products Affected:

The devices listed on this page are a subset of the complete list of affected devices. According to our records, these are the devices that you have purchased within the past twenty-four (24) months. The corresponding customer part number is also listed, if available.

| DEVICE | CUSTOMER PART NUMBER |
|---|---|
| DS26C32ATM/NOPB | null |
| DS26C32ATMX/NOPB | null |
| DS26LV31TM/NOPB | null |
| DS26LV32ATM/NOPB | null |
| DS34C86TM/NOPB | null |
| DS26C31TM/NOPB | null |
| DS26C31TMX/NOPB | null |
| DS26LV31TMX/NOPB | null |
| DS26LV32ATMX/NOPB | null |
| DS34LV86TM/NOPB | null |
| DS34C87TMX/NOPB | null |
| DS34LV86TMX/NOPB | null |
| DS34LV87TMX/NOPB | null |
| DS34LV87TM/NOPB | null |
| DS89C21TM/NOPB | null |
| DS34C87TM/NOPB | null |
| DS89C21TMX/NOPB | null |
| DS34C86TMX/NOPB | null |

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

| | | | |
|---|---|---|---|
| **PCN Number:** | 20180112000 | **PCN Date:** | Jan 22, 2018 |
| **Title:** | Transfer of select CS150/CS200 devices from GFAB to MAINEFAB Wafer Fab site | | |
| **Customer Contact:** | PCN Manager | **Dept:** | Quality Services |
| **Proposed 1st Ship Date:** | Apr 22, 2018 | **Estimated Sample Availability:** | Date provided at sample request. |

| **Change Type:** | | |
|---|---|---|
| ☐ Assembly Site | ☐ Assembly Process | ☐ Assembly Materials |
| ☐ Design | ☐ Electrical Specification | ☐ Mechanical Specification |
| ☐ Test Site | ☐ Packing/Shipping/Labeling | ☐ Test Process |
| ☐ Wafer Bump Site | ☐ Wafer Bump Material | ☐ Wafer Bump Process |
| ☒ Wafer Fab Site | ☒ Wafer Fab Materials | ☒ Wafer Fab Process |
| | ☐ Part number change | |

## PCN Details

**Description of Change:**

This change notification is to announce the transfer of select CS150/CS200 devices from GFAB to the MAINEFAB Wafer Fab site for the selected devices listed in the "Product Affected" section.

| Current | | | | New | | | |
|---|---|---|---|---|---|---|---|
| **Chip Site** | **Process** | **Wafer Diameter** | **Interlayer Dielectric** | **Chip Site** | **Process** | **Wafer Diameter** | **Interlayer Dielectric** |
| GFAB6 | CS150/CS200 | 150mm | TEOS Base ILD TEOS SOG/ SOG etchback | MAINEFAB* | CS150/CS200 | 200mm | TEOS CMP |
| GFAB8 | CS150/CS200 | 200mm | TEOS Base ILD TEOS SOG/ SOG etchback | MAINEFAB* | CS150/CS200 | 200mm | TEOS CMP |
| **Chip Site** | **Process** | **Wafer Diameter** | **Contact Plug** | **Chip Site** | **Process** | **Wafer Diameter** | **Contact Plug** |
| GFAB6 | CS150/CS200 | 150mm | Part of metallization | MAINEFAB* | CS150/CS200 | 200mm | W plug |
| GFAB8 | CS150/CS200 | 200mm | Part of metallization | MAINEFAB* | CS150/CS200 | 200mm | W plug |

*Interlayer Dielectric (ILD) and Contact plug processes will be upgraded to MaineFab's standardized Chemical-Mechanical Planarization (CMP) ILD and Tungsten (W) Contact plug processes.

Qual details are provided in the Qual Data Section.

**Reason for Change:**

GFAB closure

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

None

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

**Current:**

| Current Chip Site | Chip Site Origin Code (20L) | Chip Site Country Code (21L) | Chip Site City |
|---|---|---|---|
| GFAB6 | GF6 | GBR | Greenock |
| GFAB8 | GF8 | GBR | Greenock |

**New Fab Site:**

| New Chip Site | Chip Site Origin Code (20L) | Chip Site Country Code (21L) | Chip Site City |
|---|---|---|---|
| **MAINEFAB** | **CUA** | **USA** | **South Portland** |

Sample product shipping label (not actual product label)


**Product Affected:**

| | | | |
|---|---|---|---|
| ADC10738CIWM/NOPB | DS26C31TMX/NOPB | DS34C86TMX/NOPB | DS89C21TM/NOPB |
| ADC10738CIWMX/NOPB | DS26C32ATM/NOPB | DS34C87TM/NOPB | DS89C21TMX/J7002999 |
| DP8570AV/NOPB | DS26C32ATMX/NOPB | DS34C87TMX/NOPB | DS89C21TMX/NOPB |
| DP8570AVX/NOPB | DS26LV31TM/NOPB | DS34LV86TM/NOPB | LM12458CIV/NOPB |
| DP8573AV/NOPB | DS26LV31TMX/NOPB | DS34LV86TMX/NOPB | LM12458CIVX/NOPB |
| DP8573AVX/NOPB | DS26LV32ATM/NOPB | DS34LV87TM/NOPB | LM12H458CIV/NOPB |
| DP8573A-W | DS26LV32ATMX/NOPB | DS34LV87TMX/NOPB | SCL1033-V0/E7001896 |
| DS26C31TM/NOPB | DS34C86TM/NOPB | | |

## Qualification Report

## MAINEFAB CS200 Technology Qualification
## Approve Date 21-Dec-2017

### Product Attributes

| Attributes | Qual Device: ADC10664CIWM/NOPB_QL |
|---|---|
| **Assembly Site** | AMKOR AP1 |
| **Package Family** | SOIC |
| **Wafer Fab Supplier** | MAINEFAB |
| **Wafer Fab Process** | CS200 |

- QBS: Qual By Similarity
- Qual Device ADC10664CIWM/NOPB is qualified at LEVEL3-260C

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

| Type | Test Name / Condition | Duration | Qual Device: ADC10664CIWM/NOPB |
|---|---|---|---|
| AC | Autoclave 121C | 96 Hours | 3/240/0 |
| HAST | Biased HAST, 130C/85%RH | 96 Hours | 3/240/0 |
| TC | Temperature Cycle, -65/150C | 500 Cycles | 3/240/0 |
| ELFR | Early Life Failure Rate, 125C | 48 Hours | 3/2400/0 |
| HTOL | Life Test, 125C | 1000 Hours | 3/240/0 |
| HTSL | High Temp Storage Bake 150C | 1000 Hours | 3/240/0 |
| HBM | ESD - HBM | 2500 V | 3/9/0 |
| CDM | ESD - CDM | 500 V | 3/9/0 |
| LU | Latch-up | (per JESD78) | 3/18/0 |
| ED | Electrical Characterization | Per Datasheet Parameters | 3/90/0 |
| MQ | Assembly MQ | - | Passed |
| MQ | Wafer FAB MQ | - | Passed |

- 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
## CS150 Technology Qualification - MFAB

## Approve Date 21-July-2017

### Product Attributes

| Attributes | Qual Device: ADC12138CIMSA/NOPB |
|---|---|
| **Assembly Site** | AMKOR AP1 |
| **Package Family** | SSOP |
| **Wafer Fab Supplier** | MAINEFAB |
| **Wafer Fab Process** | CS150 |

- QBS: Qual By Similarity
- Qual Device ADC12138CIMSA/NOPB is qualified at LEVEL3-260C

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

| | Type | Test Name / Condition | Duration | Qual Device: ADC12138CIMSA/NOPB |
|---|---|---|---|---|
| | AC | Autoclave 121C | 96 Hours | 3/231/0 |
| | HAST | Biased HAST, 130C/85%RH | 96 Hours | 3/231/0 |
| | TC | Temperature Cycle, -65/150C | 500 Cycles | 3/231/0 |
| | ELFR | Early Life Failure Rate, 125C | 48HRS | 3/2400/0 |
| | HTOL | Life Test, 125C | 1000 Hours | 3/231/0 |
| | HTSL | High Temp Storage Bake 150C | 1000 Hours | 3/231/0 |
| | HBM | ESD - HBM - Q100 | 1500 V | 3/9/0 |
| | CDM | ESD - CDM - Q100 | 500 V | 3/9/0 |
| | LU | Latch-up | (Per JESD78) | 3/18/0 |
| | ED | Electrical Characterization | Per Datasheet Parameters | 3/90/0 |
| | MQ | Manufacturability (Assembly) | (per mfg. Site specification) | Pass |
| | MQ | Manufacturability (Wafer Fab) | (per mfg. Site specification) | Pass |

- 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 regional contacts shown below, or you can contact your local Field Sales Representative.

| Location | E-Mail |
|---|---|
| USA | PCNAmericasContact@list.ti.com |
| Europe | PCNEuropeContact@list.ti.com |
| Asia Pacific | PCNAsiaContact@list.ti.com |
| Japan | PCNJapanContact@list.ti.com |