12500 TI Boulevard, MS 8640, Dallas, Texas 75243

**PCN# 20221216001.1**
**Qualification of RFAB as an additional Fab site option for select HPA07 devices**
**Change Notification / Sample Request**

**Date:** December 16, 2022
**To:** PREMIER FARNELL 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.

Texas Instruments 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 of the change. If samples or additional data are required, requests must be received within **30 days** of this notification.

The changes discussed within this PCN will not take effect any earlier than the proposed first ship date on Page 3 of this notification, unless customer agreement has been reached on an earlier implementation of the change.

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 or to provide acknowledgement of this PCN, you may contact your local Field Sales Representative or the PCN Team (PCN_ww_admin_team@list.ti.com). For sample requests or sample related questions, contact your local Field Sales Representative.

PCN Team
SC Business Services

**20221216001.1**
**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 |
|---|---|
| OPA4171AIDR | null |

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

| | | | |
|---|---|---|---|
| **PCN Number:** | 20221216001.1 | **PCN Date:** | December 16, 2022 |
| **Title:** | Qualification of RFAB as an additional Fab site option for select HPA07 devices | | |
| **Customer Contact:** | PCN Manager | **Dept:** | Quality Services |
| **Proposed 1st Ship Date:** | Mar 16, 2023 | **Sample Requests accepted until:** | Jan 16, 2023* |

***Sample requests received after January 16, 2023 will not be supported.**

**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:**

Texas Instruments is pleased to announce the addition of RFAB as an additional Wafer Fab site option for the products listed in the "Product Affected" section of this document.

| Current Fab Site | | | New Fab Site | | |
|---|---|---|---|---|---|
| **Current Fab Site** | **Process** | **Wafer Diameter** | **New Fab Site** | **Process** | **Wafer Diameter** |
| DP1DM5 | HPA07 | 200mm | RFAB | HPA07 | 300mm |

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

**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 |
|---|---|---|---|
| DP1DM5 | DM5 | USA | Dallas |
| **RFAB** | **RFB** | **USA** | **Richardson** |

Sample product shipping label (not actual product label)


**Product Affected:**

| | | | |
|---|---|---|---|
| OPA171AID | OPA2171AIDCUR | OPA4171AIDR | TLV2171IDGKR |
| OPA171AIDBVR | OPA2171AIDCUT | OPA4171AIPW | TLV2171IDGKT |
| OPA171AIDBVT | OPA2171AIDGK | OPA4171AIPWR | TLV2171IDR |
| OPA171AIDR | OPA2171AIDGKR | TLV171IDBVR | TLV4171ID |

| | | | |
|---|---|---|---|
| OPA171AIDRLR | OPA2171AIDR | TLV171IDBVT | TLV4171IDR |
| OPA171AIDRLT | OPA4171AID | TLV171IDR | TLV4171IPWR |
| OPA2171AID | | | |

## Qualification Report
## Approve Date 15-DECEMBER -2022

### Qualification Results

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

| Type | # | Test Name | Condition | Duration | Qual Device: OPA4171AIDR | Qual Device: OPA4171AIPWR | QBS Reference: OPA4991QDRQ1 | QBS Reference: TLV4197QPWRQ1 | QBS Reference: CD3232A1YFFR |
|---|---|---|---|---|---|---|---|---|---|
| HAST | A2 | Biased HAST | 130C/85%RH | 96 Hours | - | - | 3/231/0 | 1/77/0 | 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 | - | - | 1/77/0 | - | 3/231/0 |
| TC | A4 | Temperature Cycle | -65C/150C | 500 Cycles | - | - | 2/154/0 | 1/77/0 | - |
| HTSL | A6 | High Temperature Storage Life | 170C | 420 Hours | - | - | 1/45/0 | 1/45/0 | 3/231/0 |
| HTOL | B1 | Life Test | 140C | 480 Hours | - | - | - | 1/77/0 | 2/154/0 |
| HTOL | B1 | Life Test | 150C | 300 Hours | 1/77/0 | - | - | - | - |
| ELFR | B2 | ELFR | 125C | 48 Hours | - | - | - | - | 2/2000/0 |
| ESD | E2 | ESD CDM | - | 250 Volts | 1/3/0 | - | - | - | - |
| ESD | E2 | ESD HBM | - | 1000 Volts | 1/3/0 | - | - | - | - |
| LU | E4 | Latch-Up | Per JESD78 | - | - | - | 1/6/0 | 1/6/0 | 3/18/0 |
| CHAR | E5 | Electrical Characterization | Per Datasheet Parameters | - | 1/30/0 | - | - | - | 1/30/0 |

- QBS: Qual By Similarity
- Qual Device OPA4171AIDR is qualified at MSL3 260C
- Qual Device OPA4171AIPWR is qualified at MSL2 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 15-DECEMBER -2022

**Qualification Results**

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

| Type | # | Test Name | Condition | Duration | Qual Device: OPA2171AIDR | Qual Device: OPA2171AIDCUR | Qual Device: OPA2171AIDGKR | QBS Reference: SN74LVC2G66QDCURQ1 | QBS Reference: OPA4991QDRQ1 | QBS Reference: TCA9517DGKRQ1 | QBS Reference: OPA4171AIDR | QBS Reference: CD3232A1YFFR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HAST | A2 | Biased HAST | 130C/85%RH | 96 Hours | - | - | - | 3/231/0 | 3/231/0 | 3/231/0 | - | 3/231/0 |
| UHAST | A3 | Autoclave | 121C/15psig | 96 Hours | - | - | - | 3/231/0 | 3/231/0 | 3/231/0 | - | - |
| UHAST | A3 | Unbiased HAST | 130C/85%RH | 96 Hours | - | - | - | - | - | - | - | 3/231/0 |
| TC | A4 | Temperature Cycle | -65C/150C | 500 Cycles | - | - | - | 3/231/0 | 2/154/0 | 3/231/0 | - | 3/231/0 |
| HTSL | A6 | High Temperature Storage Life | 170C | 420 Hours | - | - | - | 1/45/0 | 1/45/0 | 1/45/0 | - | 3/231/0 |
| HTOL | B1 | Life Test | 140C | 480 Hours | - | - | - | - | - | - | - | 2/154/0 |
| HTOL | B1 | Life Test | 150C | 300 Hours | - | - | - | - | - | - | 1/77/0 | - |
| ELFR | B2 | ELFR | 125C | 48 Hours | - | - | - | - | - | - | - | 2/2000/0 |
| SD | C3 | PB-Free Solderability | Precondition w.155C Dry Bake (4 hrs +/- 15 minutes) | - | - | - | - | 1/15/0 | - | 1/15/0 | - | 3/66/0 |
| PD | C4 | Physical Dimensions | (per mechanical drawing) | - | - | - | - | 3/30/0 | - | 3/30/0 | - | 3/60/0 |
| 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 | - | - | - | - | 1/6/0 | 1/6/0 | 1/6/0 | - | 3/9/0 |
| CHAR | E5 | Electrical Characterization | Per Datasheet Parameters | - | 1/30/0 | - | - | - | - | - | 1/30/0 | 1/30/0 |

- QBS: Qual By Similarity
- Qual Device OPA2171AIDR is qualified at MSL2 260C
- Qual Device OPA2171AIDCUR is qualified at MSL1 260C
- Qual Device OPA2171AIDGKR is qualified at MSL2 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 15-DECEMBER -2022

**Qualification Results**

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


| Type | # | Test Name | Condition | Duration | Qual Device: OPA171AIDR | Qual Device: OPA171AIDRLR | Qual Device: OPA171AIDBVR | Package QBS Reference: INA828ID | Package QBS Reference: TMP390AQDRLRQ1 | Package QBS Reference: OPA388QDBVRQ1 | Process QBS Reference: OPA4171AIDR | Process QBS Reference: CD3232A1YFFR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| HAST | A2 | Biased HAST | 130C/85%RH | 96 Hours | - | - | - | 3/231/0 | 3/231/0 | 3/231/0 | - | 3/231/0 |
| UHAST | A3 | Unbiased HAST | 130C | 96 Hours | - | - | - | 3/231/0 | 3/231/0 | 3/231/0 | - | 3/231/0 |
| TC | A4 | Temperature Cycle | -65C/150C | 500 Cycles | - | - | - | 3/231/0 | 3/231/0 | 3/231/0 | - | 3/231/0 |
| HTSL | A6 | High Temperature Storage Life | 150C | 1000 Hours | - | - | - | 3/231/0 | 3/231/0 | 1/77/0 | - | 3/231/0 |
| HTOL | B1 | Life Test | 140C | 480 Hours | - | - | - | - | - | - | - | 2/154/0 |
| HTOL | B1 | Life Test | 150C | 300 Hours | - | - | - | - | - | - | 1/77/0 | - |
| ELFR | B2 | ELFR | 125C | 48 Hours | - | - | - | - | - | - | - | 2/2000/0 |
| ESD | E2 | ESD CDM | - | 250 Volts | 1/3/0 | - | - | 1/3/0 | - | - | 1/3/0 | - |
| ESD | E2 | ESD HBM | - | 1000 Volts | 1/3/0 | - | - | 1/3/0 | - | - | 1/3/0 | - |
| LU | E4 | Latch-Up | Per JESD78 | - | - | - | - | 1/6/0 | - | - | - | - |
| CHAR | E5 | Electrical Characterization | Per Datasheet Parameters | - | 1/30/0 | - | - | 3/90/0 | - | - | 1/30/0 | 1/30/0 |

- QBS: Qual By Similarity
- Qual Device OPA171AIDR is qualified at MSL2 260C

- Qual Device OPA171AIDRLR is qualified at MSL1 260C
- Qual Device OPA171AIDBVR is qualified at MSL2 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 | PCN_ww_admin_team@list.ti.com |

**IMPORTANT NOTICE AND DISCLAIMER**