



**12500 TI Boulevard, MS 8640, Dallas, Texas 75243**

**PCN#20240326001.1**

**Qualification alternate Mount Compound material for select devices  
Change Notification / Sample Request**

**Date:** March 27, 2024

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 and approval of this 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 change management team.

For sample requests or sample related questions, contact your local Field Sales Representative.

Sincerely,

Change Management Team  
SC Business Services

**20240326001.1**  
**Change Notification / Sample Request**  
**Attachments**

**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.

| <b>DEVICE</b>  | <b>CUSTOMER PART NUMBER</b> |
|----------------|-----------------------------|
| DRV5053VAQDBZR | NULL                        |
| OPA192IDBVT    | NULL                        |
| OPA197IDBVR    | NULL                        |
| OPA197IDBVT    | NULL                        |
| TLV70028DCKR   | NULL                        |
| TPS62260DDCR   | NULL                        |

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

| <b>PCN Number:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 20240326001.1                                                         |                                               |                                               | <b>PCN Date:</b>         | March 27, 2024      |      |         |              |                |                                               |                                               |                                               |                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|-----------------------------------------------|-----------------------------------------------|--------------------------|---------------------|------|---------|--------------|----------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|-----------------------------------------------|
| <b>Title:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Qualification of alternate mount compound material for select devices |                                               |                                               |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| <b>Customer Contact:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Change Management team                                                |                                               | <b>Dept:</b>                                  | Quality Services         |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| <b>Proposed 1<sup>st</sup> Ship Date:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | June 25, 2024                                                         |                                               | <b>Sample Requests accepted until:</b>        | April 26, 2024*          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| <b>*Sample requests received after April 26, 2024 will not be supported.</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                       |                                               |                                               |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| <b>Change Type:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                       |                                               |                                               |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Assembly Site                                                         | <input type="checkbox"/>                      | Design                                        | <input type="checkbox"/> | Wafer Bump Material |      |         |              |                |                                               |                                               |                                               |                                               |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Assembly Process                                                      | <input type="checkbox"/>                      | Data Sheet                                    | <input type="checkbox"/> | Wafer Bump Process  |      |         |              |                |                                               |                                               |                                               |                                               |
| <input checked="" type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Assembly Materials                                                    | <input type="checkbox"/>                      | Part number change                            | <input type="checkbox"/> | Wafer Fab Site      |      |         |              |                |                                               |                                               |                                               |                                               |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Mechanical Specification                                              | <input type="checkbox"/>                      | Test Site                                     | <input type="checkbox"/> | Wafer Fab Material  |      |         |              |                |                                               |                                               |                                               |                                               |
| <input type="checkbox"/>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Packing/Shipping/Labeling                                             | <input type="checkbox"/>                      | Test Process                                  | <input type="checkbox"/> | Wafer Fab Process   |      |         |              |                |                                               |                                               |                                               |                                               |
| <b>PCN Details</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                       |                                               |                                               |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| <b>Description of Change:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                       |                                               |                                               |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| <p>This PCN is to inform of an alternate Mount Compound material set for the list of devices in the product affected sections below.</p> <table border="1" style="width: 100%;"> <thead> <tr> <th>What</th> <th>Current</th> <th>Additional</th> </tr> </thead> <tbody> <tr> <td>Mount Compound</td> <td>SID#A-09</td> <td>4226215</td> </tr> </tbody> </table> <p>Qualification results are shown below</p>                                                                                                                                                                                         |                                                                       |                                               |                                               |                          |                     | What | Current | Additional   | Mount Compound | SID#A-09                                      | 4226215                                       |                                               |                                               |
| What                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Current                                                               | Additional                                    |                                               |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| Mount Compound                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | SID#A-09                                                              | 4226215                                       |                                               |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| <b>Reason for Change:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                       |                                               |                                               |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| Standardization                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                       |                                               |                                               |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| <b>Anticipated impact on Form, Fit, Function, Quality or Reliability (positive / negative):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                       |                                               |                                               |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                       |                                               |                                               |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| <b>Impact on Environmental Ratings</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                       |                                               |                                               |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| <p>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.</p> <table style="width: 100%;"> <thead> <tr> <th>RoHS</th> <th>REACH</th> <th>Green Status</th> <th>IEC 62474</th> </tr> </thead> <tbody> <tr> <td><input checked="" type="checkbox"/> No Change</td> <td><input checked="" type="checkbox"/> No Change</td> <td><input checked="" type="checkbox"/> No Change</td> <td><input checked="" type="checkbox"/> No Change</td> </tr> </tbody> </table> |                                                                       |                                               |                                               |                          |                     | 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 |
| 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 |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| <b>Changes to product identification resulting from this PCN:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                       |                                               |                                               |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                       |                                               |                                               |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| <b>Product Affected:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                       |                                               |                                               |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| BQ500100DCKR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | INA199A3DCKT                                                          | OPA180IDBVT                                   | TPS71710DCKT                                  |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| BQ500100DCKT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | INA199B1DCKR                                                          | OPA188AIDBVR                                  | TPS71711DCKR                                  |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| DRV5053CAQDBZR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | INA199B1DCKT                                                          | OPA188AIDBVT                                  | TPS71711DCKT                                  |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| DRV5053EAQDBZR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | INA199B2DCKR                                                          | OPA192IDBVR                                   | TPS71712DCKR                                  |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| DRV5053OAQDBZR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | INA199B2DCKT                                                          | OPA192IDBVT                                   | TPS71712DCKT                                  |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| DRV5053PAQDBZR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | INA199B3DCKR                                                          | OPA197IDBVR                                   | TPS71713DCKR                                  |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| DRV5053RAQDBZR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | INA199B3DCKT                                                          | OPA197IDBVT                                   | TPS71713DCKT                                  |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| DRV5053VAQDBZR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | INA199C1DCKR                                                          | OPA377AIDCKR                                  | TPS71715DCKR                                  |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| INA186A1IDCKR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | INA199C1DCKT                                                          | OPA377AIDCKT                                  | TPS71715DCKT                                  |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |
| INA186A1IDCKT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | INA199C2DCKR                                                          | TLV333IDCKR                                   | TPS71718DCKR                                  |                          |                     |      |         |              |                |                                               |                                               |                                               |                                               |

|               |              |              |               |
|---------------|--------------|--------------|---------------|
| INA186A2IDCKR | INA210BIDCKR | TLV333IDCKT  | TPS71718DCKT  |
| INA186A2IDCKT | INA210BIDCKT | TLV70012DCKR | TPS71719DCKR  |
| INA186A3IDCKR | INA211BIDCKR | TLV70012DCKT | TPS71719DCKT  |
| INA186A3IDCKT | INA211BIDCKT | TLV70015DCKR | TPS71721DCKR  |
| INA186A4IDCKR | INA211CIDCKR | TLV70015DCKT | TPS71721DCKT  |
| INA186A4IDCKT | INA212AIDCKR | TLV70018DCKR | TPS71725DCKR  |
| INA186A5IDCKR | INA212AIDCKT | TLV70018DCKT | TPS71725DCKT  |
| INA190A1IDCKR | INA212BIDCKR | TLV70025DCKR | TPS71726DCKR  |
| INA190A1IDCKT | INA212CIDCKR | TLV70025DCKT | TPS71726DCKT  |
| INA190A2IDCKR | INA213BIDCKR | TLV70028DCKR | TPS71727DCKR  |
| INA190A2IDCKT | INA213BIDCKT | TLV70028DCKT | TPS71727DCKT  |
| INA190A3IDCKR | INA213CIDCKR | TLV70030DCKR | TPS717285DCKR |
| INA190A3IDCKT | INA213CIDCKT | TLV70030DCKT | TPS717285DCKT |
| INA190A4IDCKR | INA214BIDCKR | TLV70033DCKR | TPS71728DCKR  |
| INA190A4IDCKT | INA214BIDCKT | TLV70033DCKT | TPS71728DCKT  |
| INA190A5IDCKR | INA215AIDCKR | TMP126DCKR   | TPS71729DCKR  |
| INA190A5IDCKT | INA215AIDCKT | TMP126NDCKR  | TPS71729DCKT  |
| INA199A1DCKR  | INA215BIDCKR | TPS62260DDCR | TPS71730DCKR  |
| INA199A1DCKT  | INA215BIDCKT | TPS71701DCKR | TPS71730DCKT  |
| INA199A2DCKR  | INA215CIDCKR | TPS71701DCKT | TPS71733DCKR  |
| INA199A2DCKT  | OPA180IDBVR  | TPS71710DCKR | TPS71733DCKT  |
| INA199A3DCKR  | TPS62561DDCR |              |               |

TI Information  
Selective Disclosure

**Qualification Report**  
**Approve Date 01-MARCH -2023**

**Qualification Results**

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

| Type  | #  | Test Name                     | Condition                                                                        | Duration   | Qual Device:<br>OPA328DBVT | QBS<br>Reference:<br>OPA1671IDCKR | QBS<br>Reference:<br>OPA2328DGKR | QBS Reference:<br>OPA3S328RGRR |
|-------|----|-------------------------------|----------------------------------------------------------------------------------|------------|----------------------------|-----------------------------------|----------------------------------|--------------------------------|
| HAST  | A2 | Biased HAST                   | 130C/85%RH                                                                       | 96 Hours   | 3/231/0                    | 3/231/0                           | 1/77/0                           | 3/231/0                        |
| UHAST | A3 | Unbiased HAST                 | 130C/85%RH                                                                       | 96 Hours   | 3/231/0                    | 3/231/0                           | 1/77/0                           | 3/231/0                        |
| TC    | A4 | Temperature Cycle             | -65/150C                                                                         | 500 Cycles | -                          | 3/231/0                           | 1/77/0                           | 3/231/0                        |
| TC    | A4 | Temperature Cycle             | -65C/150C                                                                        | 500 Cycles | 3/231/0                    | 3/231/0                           | 1/77/0                           | 3/231/0                        |
| HTSL  | A6 | High Temperature Storage Life | 150C                                                                             | 1000 Hours | -                          | -                                 | -                                | 3/231/0                        |
| HTSL  | A6 | High Temperature Storage Life | 170C                                                                             | 420 Hours  | 3/231/0                    | 3/231/0                           | 1/77/0                           | -                              |
| HTOL  | B1 | Life Test                     | 150C                                                                             | 300 Hours  | -                          | 3/231/0                           | 1/77/0                           | 3/231/0                        |
| ELFR  | B2 | Early Life Failure Rate       | 125C                                                                             | 48 Hours   | -                          | 3/2397/0 <sup>1</sup>             | -                                | -                              |
| SD    | C3 | PB Solderability              | Precondition<br>w.155C Dry Bake<br>(4 hrs +/- 15<br>minutes); PB<br>Solder;      | -          | 3/66/0                     | -                                 | -                                | -                              |
| SD    | C3 | PB-Free Solderability         | Precondition<br>w.155C Dry Bake<br>(4 hrs +/- 15<br>minutes); PB-Free<br>Solder; | -          | 3/66/0                     | -                                 | -                                | -                              |

|      |    |                             |                          |            |        |        |        |        |
|------|----|-----------------------------|--------------------------|------------|--------|--------|--------|--------|
| PD   | C4 | Physical Dimensions         | (per mechanical drawing) | -          | 3/15/0 | -      | -      | -      |
| ESD  | E2 | ESD CDM                     | -                        | 250 Volts  | 1/3/0  | 3/9/0  | 1/3/0  | 1/3/0  |
| ESD  | E2 | ESD HBM                     | -                        | 1000 Volts | 1/3/0  | 3/9/0  | 1/3/0  | 1/3/0  |
| LU   | E4 | Latch-Up                    | Per JESD78               | -          | 1/6/0  | 3/18/0 | 1/6/0  | 3/18/0 |
| CHAR | E5 | Electrical Characterization | Per Datasheet Parameters | -          | 1/30/0 | 3/90/0 | 1/30/0 | 3/90/0 |

- QBS: Qual By Similarity
- Qual Device OPA328DBVT 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/>

**Green/Pb-free Status:**

Qualified Pb-Free(SMT) and Green

TI Qualification ID: R-NPD-2206-042

[1]-Lost 3 units.

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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