



12500 TI Boulevard, MS 8640, Dallas, Texas 75243

**PCN# 20190424001.1A**

**Qualification of DMOS6 as an additional Wafer Fab Site option for select devices  
Change Notification / Sample Request**

**Date:** Dec 09, 2019

Dear Customer:

**The purpose of PCN Revision A is to add clarification to the Description of Change that was included in the original PCN letter.**

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.

The customer should acknowledge receipt of this notification by email within **30** days of the date of receipt. Lack of acknowledgement of this notice within 30 days constitutes customer acceptance of the change.

Samples or additional data to support customer evaluation must be requested within 30 days of receipt of this notification. If samples are requested for evaluation the customer must provide evaluation results within the sample evaluation period indicated on page 3 of this notification. The Sample Evaluation Period begins on the date the customer receives samples from TI.

If the customer approved the change TI can proceed with implementation of the change. The proposed first ship date is shown on page 3.

If the customer does not approve the PCN or the approval response is not provided within the Sample Evaluation Period, TI can implement the change, but the customer may elect to place an order for unchanged product by the Last Time Buy Date for delivery by the Last Time Ship Date. TI cannot guarantee that shipments to the customer after any last time order is delivered will not include the changed material. If the customer places an order with delivery after the Last Time Shipment Date, the order may be fulfilled with changed material or any material processed to TI specifications at that future time.

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 Team ([PCN\\_ww\\_admin\\_team@list.ti.com](mailto:PCN_ww_admin_team@list.ti.com)). For sample requests or sample related questions, contact your field sales representative.

PCN Team  
SC Business Services

**20190424001.1A**  
**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.

| <b>DEVICE</b> | <b>CUSTOMER PART NUMBER</b> |
|---------------|-----------------------------|
| AFE4420YZR    | 38140318                    |
| AFE4420YZR    | 99055ULR                    |

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

|                                                    |                                                                                                     |                                                   |                  |                  |
|----------------------------------------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------|------------------|------------------|
| <b>PCN Number:</b>                                 | 20190424001.1A                                                                                      |                                                   | <b>PCN Date:</b> | Dec. 9, 2019     |
| <b>Title:</b>                                      | Qualification of DMOS6 as an additional Wafer Fab Site option for select devices in LBC8 Technology |                                                   |                  |                  |
| <b>Customer Contact:</b>                           | PCN Manager                                                                                         |                                                   | <b>Dept:</b>     | Quality Services |
| <b>Proposed 1<sup>st</sup> Ship Date:</b>          | Jul 29, 2019                                                                                        | <b>Sample Eval Period:</b>                        | 180 Days         |                  |
| <b>Last Time Buy Date:</b>                         | Dec 29, 2019                                                                                        | <b>Last Time Ship Date:</b>                       | Mar 29, 2020     |                  |
| <b>Change Type:</b>                                |                                                                                                     |                                                   |                  |                  |
| <input type="checkbox"/> Assembly Site             | <input type="checkbox"/> Assembly Process                                                           | <input type="checkbox"/> Assembly Materials       |                  |                  |
| <input type="checkbox"/> Design                    | <input type="checkbox"/> Electrical Specification                                                   | <input type="checkbox"/> Mechanical Specification |                  |                  |
| <input type="checkbox"/> Test Site                 | <input type="checkbox"/> Packing/Shipping/Labeling                                                  | <input type="checkbox"/> Test Process             |                  |                  |
| <input type="checkbox"/> Wafer Bump Site           | <input type="checkbox"/> Wafer Bump Material                                                        | <input type="checkbox"/> Wafer Bump Process       |                  |                  |
| <input checked="" type="checkbox"/> Wafer Fab Site | <input checked="" type="checkbox"/> Wafer Fab Materials                                             | <input type="checkbox"/> Wafer Fab Process        |                  |                  |
|                                                    | <input type="checkbox"/> Part number change                                                         |                                                   |                  |                  |

### PCN Details

#### Description of Change:

Texas Instruments is pleased to announce the qualification of its DMOS6 fabrication facility as an additional Wafer Fab source for the selected devices listed in "Product Affected" section. **Device ID used by customer will read back as either 0x1B and 0x2B.**

| Current Sites    |         |                | Additional Sites    |         |                |
|------------------|---------|----------------|---------------------|---------|----------------|
| Current Fab Site | Process | Wafer Diameter | Additional Fab Site | Process | Wafer Diameter |
| RFAB             | LBC8    | 300mm          | DMOS6               | LBC8    | 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:

##### Current

| Chip Site | Chip Site Origin (20L) | Chip Site Country Code (21L) | Chip Site City |
|-----------|------------------------|------------------------------|----------------|
| RFAB      | RFB                    | USA                          | Richardson     |

##### New Fab Site

| Chip Site | Chip Site Origin (20L) | Chip Site Country Code (21L) | Chip Site City |
|-----------|------------------------|------------------------------|----------------|
| DMOS6     | DM6                    | USA                          | Dallas         |

Sample product shipping label (not actual product label)


**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: (Y) 0033317  
 (20L) CS0: SHE (21L) CCO:USA  
 (22L) ASO: MLA (23L) ACO: MYS

**Product Affected Group:**

AFE4420YZR

**Qualification Report**

Approve Date 22-Mar-2019

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

| Type | Test Name / Condition               | Duration                       | Qual Device:<br><u>AFE4420Y</u><br><u>ZR</u> | QBS Product Reference:<br><u>AFE4420YZ</u><br><u>R</u> | QBS Process Reference:<br><u>CD3700A0YK</u><br><u>HR</u> | QBS Process Reference:<br><u>CD3700A0YKH</u><br><u>R</u> | QBS Process Reference:<br><u>PCD3258A00DY</u><br><u>FPR</u><br><u>(DM6/JCAP)</u> | QBS Package Reference:<br><u>LM3566YFF</u><br><u>R</u> |
|------|-------------------------------------|--------------------------------|----------------------------------------------|--------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------------------------------|--------------------------------------------------------|
| ED   | Electrical Characterization         | Per Datasheet Parameters       | 1/30/0                                       | 1/30/0                                                 | -                                                        | 3/90/0                                                   | -                                                                                | 3/90/0                                                 |
| CDM  | ESD - CDM                           | 1000 V                         | -                                            | -                                                      | 2/6/0                                                    | 1/3/0                                                    | 1/3/0                                                                            | -                                                      |
| CDM  | ESD - CDM                           | 1500 V                         | -                                            | 1/3/0                                                  | -                                                        | -                                                        | -                                                                                | 3/9/0                                                  |
| HBM  | ESD - HBM                           | 1500 V                         | 1/3/0                                        | 1/3/0                                                  | -                                                        | -                                                        | -                                                                                | -                                                      |
| HBM  | ESD - HBM                           | 2500 V                         | -                                            | -                                                      | 2/6/0                                                    | 1/3/0                                                    | 1/3/0                                                                            | 3/9/0                                                  |
| LU   | Latch-up                            | ( per JESD78 )                 | -                                            | 1/6/0                                                  | -                                                        | -                                                        | -                                                                                | -                                                      |
| HTOL | Life Test, 140C                     | 480 Hours                      | -                                            | -                                                      | 2/154/0                                                  | 4/180/0                                                  | -                                                                                | -                                                      |
| HTOL | Life Test, 150C                     | 500 Hours                      | 1/77/0                                       | 1/77/0                                                 | -                                                        | -                                                        | -                                                                                | -                                                      |
| HTSL | High Temp Storage Bake 150C         | 1000 Hours                     | -                                            | -                                                      | 1/77/0                                                   | 1/77/0                                                   | 1/77/0                                                                           | -                                                      |
| HTSL | High Temp Storage Bake 170C         | 420 Hours                      | -                                            | -                                                      | -                                                        | -                                                        | -                                                                                | 3/164/0                                                |
| UHA  | Unbiased HAST 130C/85%RH            | 96 Hours                       | -                                            | -                                                      | 1/77/0                                                   | 1/77/0                                                   | -                                                                                | 2/231/0                                                |
| HAST | Biased HAST, 130C/85%RH             | 96 Hours                       | -                                            | -                                                      | 1/77/0                                                   | 1/77/0                                                   | -                                                                                | 3/231/0                                                |
| TC   | Temperature Cycle, -65/150C         | 500 Cycles                     | -                                            | -                                                      | -                                                        | -                                                        | -                                                                                | 3/231/0                                                |
| TC   | Temperature Cycle, -55/125C         | 700 Cycles                     | -                                            | -                                                      | 1/77/0                                                   | 1/77/0                                                   | -                                                                                | -                                                      |
| PD   | Physical Dimensions                 | (per mechanical drawing)       | -                                            | -                                                      | 1/30/0                                                   | 1/20/0                                                   | -                                                                                | -                                                      |
| SBS  | Bump-shear                          | 36 bumps / min 5 units per lot | -                                            | -                                                      | 1/30/0                                                   | 1/5/0                                                    | -                                                                                | -                                                      |
| SD   | Pb Free Surface Mount Solderability | Pb Free/Solde r-               | -                                            | -                                                      | -                                                        | 1/22/0                                                   | -                                                                                | -                                                      |

- QBS: Qual By Similarity

- Qual Device AFE4420YZR 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/>

Texas Instruments Incorporated

PCN# 20190424001.1A

**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          | <a href="mailto:PCNAmericasContact@list.ti.com">PCNAmericasContact@list.ti.com</a> |
| Europe       | <a href="mailto:PCNEuropeContact@list.ti.com">PCNEuropeContact@list.ti.com</a>     |
| Asia Pacific | <a href="mailto:PCNAsiaContact@list.ti.com">PCNAsiaContact@list.ti.com</a>         |
| WW PCN Team  | <a href="mailto:PCN_ww_admin_team@list.ti.com">PCN_ww_admin_team@list.ti.com</a>   |

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