

#### PCN# 20190823000.1 Qualification of DMOS6 as an additional Fab site option for select devices and Datasheet Update Change Notification / Sample Request

Date: August 30, 2019 To: Newark/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 (<u>PCN ww admin team@list.ti.com</u>). For sample requests or sample related questions, contact your local Field Sales Representative.

PCN Team SC Business Services

### 20190823000.1 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

BQ25970YFFT

**CUSTOMER PART NUMBER** 

null

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

|   | er:   | 20190   | 90823000.1  |  |                     | PCN Date:                            |            | Aug 30, 2019  |  |
|---|---|---|---|--|---------------------|--------------------------------------|------------|---|--|
| I ITIQ'   | itle: Qualification of DMOS6 as an additional Fab site option for select devices and Datasheet Update   |   |   |  |                     |                                      |            |   |  |
| Customer Contact:   |   |   | <u>CN Manager</u>   |  | Dept                | ::                                   |            | Quality Services                                    |  |
| Proposed 1 <sup>st</sup> Ship Date:   |   | : N   | ov 30, 2019   | Estima<br>Availa   | nated Sample        |                                      | -          | Date provided at sample request.                    |  |
| Change Typ  | be:   |   |   |  |                     |                                      |            | - p p   |  |
| Assembly Site   |   |   | Assembly Process  |  |                     |                                      | Assemb     | ssembly Materials                                   |  |
| Design  |   |   | Electrical Specification  |  |                     |                                      |            | lechanical Specification                            |  |
| Test Site   |   |   | Packing/Shipping/Labeling   |  |                     |                                      | Test Pro   |   |  |
| Wafer Bump Site       X       Wafer Fab Site  |   |   | Wafer Bump Material<br>Wafer Fab Materials  |  |                     | Wafer Bump Process Wafer Fab Process |            |   |  |
|   | ad Sile   |   | Part number   |  |                     |                                      |            |   |  |
|   |   |   |   | Details  |                     |                                      |            |   |  |
| Description   | of Change:  |   |   |  |                     |                                      |            |   |  |
|   | afer Fab sour   | ce for th   | ne selected dev   |  | he "Pro             | odu                                  | uct Affec  |   |  |
|   | Current F   | ab Site   |   |  | Additional Fa       |                                      |            | Site  |  |
| Current F<br>Site   | ab Proc   | ess   | Wafer<br>Diameter   | New Fab<br>Site  |                     | Pr                                   | ocess      | Wafer<br>Diameter                                   |  |
| RFAB  | LBC   | 29  | 300mm   | DMOS6  |                     | LBC9                                 |            | 300mm   |  |
| Device Fai  | mily  |   | Change From:  |  |                     | Change To:                           |            |   |  |
| bq28975,  | bq25971   |   | SLUSCT3A  |  | S                   | SLU                                  | ISCT3C     |   |  |
| in Trave  |   |   |   |  |                     |                                      |            |   |  |
| IEXA<br>INST  | AS<br>TRUMENTS  |   |   |  | SLUSCT3             | c_1                                  |            | bq25970, bq25971                                    |  |
|   |   | ugust 201   | 9) to Revision C  |  | SLUSCT3             | C-1                                  | NOVEMBER 2 | bq25970, bq25971<br>017-REVISED AUGUST 2019<br>Page |  |
| Changes fro   | m Revision B (A   | -   |   | naracteristics   |                     |                                      |            | 017-REVISED AUGUST 2019                             |  |
| Changes fro    Added VE   | m Revision B (A<br>3AT Alarm Compa  | arator Accu   |   |  |                     |                                      |            | 017-REVISED AUGUST 2019<br>Page                     |  |
| Changes fro<br>• Added VE<br>Changes fro  | m Revision B (A<br>3AT Alarm Compa<br>m Revision A (D   | arator Accu   | uracy to Electrical Ch<br>2017) to Revision B   | 1  |                     |                                      |            | 017-REVISED AUGUST 2019<br>Page<br>                 |  |
| Changes fro<br>• Added VE<br>Changes fro<br>• Deleted V<br>The docume<br>(CQE) for a o<br>Qual details                            | m Revision B (A<br>BAT Alarm Compa<br>m Revision A (D<br>/BAT Alarm Comp<br>nt is not avai<br>copy of the da<br>are provided                                      | ecember 2<br>barator Accu<br>barator Accu<br>lable on<br>atasheet             | uracy to Electrical Ch<br>2017) to Revision B<br>curacy from Electrica<br>the TI website. | I Characteristics<br>Please contac                           |                     |                                      |            | 017-REVISED AUGUST 2019<br>Page<br>                 |  |
| Changes fro<br>• Added VE<br>Changes fro<br>• Deleted V<br>The docume<br>(CQE) for a o<br>Qual details<br>Reason for              | m Revision B (A<br>BAT Alarm Compa<br>m Revision A (D<br>/BAT Alarm Comp<br>nt is not avai<br>copy of the da<br>are provided<br><b>Change:</b>                    | ecember 2<br>barator Accu<br>barator Accu<br>lable on<br>atasheet<br>in the C | aracy to Electrical Ch<br>2017) to Revision B<br>curacy from Electrica<br>the TI website. | I Characteristics<br>Please contac                           | ct the <sup>-</sup> |                                      |            | 017-REVISED AUGUST 2019<br>Page<br>                 |  |
| Changes fro<br>Added VE<br>Changes fro<br>Deleted V<br>The docume<br>(CQE) for a c<br>Qual details<br>Reason for<br>Continuity of | m Revision B (A<br>BAT Alarm Compa<br>m Revision A (D<br>/BAT Alarm Comp<br>nt is not avail<br>copy of the da<br>are provided<br><b>Change:</b><br>f supply and t | ecember a<br>parator Accu<br>parator Accu<br>lable on<br>atasheet<br>in the Q | aracy to Electrical Ch<br>2017) to Revision B<br>curacy from Electrica<br>the TI website. | I Characteristics<br>Please contac<br>on.<br>vice characteri | ct the <sup>-</sup> | TI                                   | Custome    | 017-REVISED AUGUST 2019<br>Page<br>                 |  |
| Changes fro<br>Added VE<br>Changes fro<br>Deleted V<br>The docume<br>(CQE) for a c<br>Qual details<br>Reason for<br>Continuity of | m Revision B (A<br>BAT Alarm Compa<br>m Revision A (D<br>/BAT Alarm Comp<br>nt is not avail<br>copy of the da<br>are provided<br><b>Change:</b><br>f supply and t | ecember a<br>parator Accu<br>parator Accu<br>lable on<br>atasheet<br>in the Q | aracy to Electrical Ch<br>2017) to Revision B<br>curacy from Electrica<br>the TI website. | I Characteristics<br>Please contac<br>on.<br>vice characteri | ct the <sup>-</sup> | TI                                   | Custome    | 017-REVISED AUGUST 2019<br>Page<br>                 |  |

| Changes to product identification resulting from this PCN:   |                             |          |                              |                |  |
|--|-----------------------------|----------|------------------------------|----------------|--|
| Fab Site Informat  | ion:                        |          |                              |                |  |
| Chip Site  | Chip Site Origin Code (20L) |          | Chip Site Country Code (21L) | Chip Site City |  |
| RFAB   | RFB                         |          | USA                          | Richardson     |  |
| DMOS6  | DM6                         |          | USA                          | Dallas         |  |
| Sample product shipping label (not actual product label)<br>TEXAS<br>INSTRUMENTS<br>MADE IN: Malaysia<br>20:<br>MSL 2 /260C/1 YEAR SEAL DT<br>MSL 1 /235C/UNLIM 03/29/04<br>OPT:<br>ITEM:<br>Sample State DT<br>03/29/04<br>DPT:<br>ITEM:<br>Sample State DT<br>03/29/04<br>OPT:<br>ITEM:<br>Sample State DT<br>03/29/04<br>OPT:<br>ITEM:<br>Sample State DT<br>03/29/04<br>OPT:<br>ITEM:<br>Sample State DT<br>Sample State DT |                             |          |                              |                |  |
| Product Affected:<br>BQ25970YFFR   |                             | 5970YFFT |                              |                |  |
| 22239,0111K  | 022.                        |          |                              |                |  |

# **Qualification Report**

# Approve Date 19-July-2019

### **Qualification Results**

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

| Туре | Test Name / Condition         | Duration                 | Qual Device:<br>BQ25970YFFR | QBS Device:<br>BQ25910YFFR |
|------|-------------------------------|--------------------------|-----------------------------|----------------------------|
| ED   | Electrical Characterization   | Per Datasheet Parameters | Pass                        | Pass                       |
| ELFR | Early Life Failure Rate, 140C | 24 Hours                 | -                           | 3/2400/0                   |
| HAST | Biased HAST, 130C/85%RH       | 96 Hours                 | -                           | 3/231/0                    |
| HAST | Unbiased HAST, 130C/85%RH     | 96 Hours                 | -                           | 3/231/0                    |
| HBM  | ESD - HBM                     | 3000 V                   | 1/3/0                       | 3/9/0                      |
| CDM  | ESD - CDM                     | 1500 V                   | 1/3/0                       | 3/9/0                      |
| HTOL | Life Test, 140C               | 480 Hours                | 1/77/0                      | 3/231/0                    |
| HTSL | High Temp. Storage Bake, 170C | 420 Hours                | -                           | 3/231/0                    |
| LU   | Latch-up                      | (per JESD78)             | 1/6/0                       | 3/18/0                     |
| TC   | Temperature Cycle, -55/125C   | 700 Cycles               | -                           | 3/231/0                    |

- Qual Device BQ25970YFFR 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: <u>http://www.ti.com/</u>

#### 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     |
| WW PCN Team  | PCN ww admin team@list.ti.com  |

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