

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

#### PCN#20180727000.1

Qualification of a new die prep site (Clark), die coat addition, datasheet changes, and enhanced substrate for Group 1 devices and die coat addition only for the Group 2 devices

**Change Notification / Sample Request** 

Date: \$Date\$

**\$To\$** \$Recipients\_To\$ **\$Cc\$** \$Recipients\_Cc\$

#### Dear Customer:

This is an announcement of a change to a device that is currently offered by Texas Instruments. The details of this change are on the following pages.

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

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

This notice does not change the end-of-life status of any product. Should product affected be on a previously issued product withdrawal/discontinuance notice, this notification does not extend the life of that product or change the life time buy offering/discontinuance plan.

For questions regarding this notice, contact your local Field Sales Representative or the PCN Manager (PCN www admin team@list.ti.com).

Sincerely,

PCN Team SC Business Services

# \$CRF\_PCNNumber\$ 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.

\$DeviceTable\$

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

| PCN Number:                         |   | 20180727000.1 |             |             |                               | P    | CN Date:                 | Aug 7 2018  |            |                 |  |
|-------------------------------------|---|---------------|-------------|-------------|-------------------------------|------|--------------------------|-------------|------------|-----------------|--|
| Title:                              | Qualification of a new die prep site (Clark), die coat addition, datasheet changes, and enhanced substrate for the devices in Group 1 and die coat addition only for the devices in Group 2 |               |             |             |                               |      |                          |             |            |                 |  |
| Customer Contact:                   | •   | PCN M         | PCN Manager |             | De                            | ept: | Quality Services         |             |            |                 |  |
| Proposed 1 <sup>st</sup> Ship Date: |   | Nov 7 2018    |             |             | FETIMATON SAMNIO AVAIIANIIITV |      | Provided upon<br>Request |             |            |                 |  |
| <b>Change Type:</b>                 |   |               |             |             |                               |      |                          |             |            |                 |  |
| Asse                                | embly Site  |               |             |             | Assembly Process              |      |                          |             | Assembly   | Materials       |  |
| Desi                                | ign   |               |             |             | Electrical Specification      |      |                          | $\boxtimes$ | Mechanica  | I Specification |  |
| Test                                | Site  |               |             |             | Packing/Shipping/Labeling     |      |                          |             | Test Proce | SS              |  |
| Wafer Bump Site                     |   |               |             | $\boxtimes$ | Wafer Bump Material           |      |                          | $\boxtimes$ | Wafer Bun  | np Process      |  |
| ☐ Wafer Fab Site                    |   |               |             |             | Wafer Fab Materials           |      |                          |             | Wafer Fab  | Process         |  |
| Part number change                  |   |               |             |             |                               |      |                          |             |            |                 |  |
| PCN Details                         |   |               |             |             |                               |      |                          |             |            |                 |  |
| Description                         | Description of Change:  |               |             |             |                               |      |                          |             |            |                 |  |

Texas Instruments is pleased to announce the qualification of a new substrate AT site (Clark), die coat addition, datasheet changes, and new substrate for the devices in Group 1 and die coat addition only for the devices in Group 2 as follows:

**Group 1 Devices:** 

| What Current   |   | Proposed   |
|----------------|---|--|
| Die Coat       | None  | PI   |
| Die Prep Site  | TIEM  | TI Clark   |
| Substrate      | SIL0008A  | SIL0008G   |
| Bottom Drawing | 8X 0.6±0.1<br>(0.7)<br>8X 0.3±0.1<br>(2.35)<br>(2.35)<br>(2.35)<br>(2.35)<br>(2.35)<br>(2.35)<br>(2.35)<br>(3.70)<br>(3.70)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50)<br>(4.50) | 8X 0.7<br>8X 0.7<br>4X (0.15)<br>3X (0.65)<br>4X (0.15)<br>4X (0.15) |

The product datasheet(s) are being updated as summarized below. The following change history provides further details.



## LMZ10501

| SNVS677G -MAY 2011-REVISED JULY 2018 |  |      |  |  |
|--------------------------------------|--|------|--|--|
| CI                                   | hanges from Revision F (November 2014) to Revision G                   | Page |  |  |
| •                                    | Editorial rebranding for SEO   | 1    |  |  |
| •                                    | Added links for Webench and top navigator icon for TI reference design | 1    |  |  |
| •                                    | Move storage temperature spec to Abs Max table                         | 4    |  |  |
| •                                    | Changed "Handling" to "ESD" Ratings                                    | 4    |  |  |
| •                                    | Added Device Support   | 24   |  |  |
| •                                    | Changed SIL package drawing to SIL0008G                                | 25   |  |  |



#### LMZ10500

| SNVS723G - OCTOBER 2011-REVISED JULY 2018 | www.ti.com            |
|---|-----------------------|
| Changes from Revision F (February 201     | 5) to Revision G Page |
| editorial rebranding for SEO              | 1                     |
| Added links for Webench                   | 1                     |
| Move storage temperature spec to Abs      | Max table             |
| Changed "Handling" to "ESD" Ratings .     | 4                     |
| Added Device Support                      |                       |
| Changed SIL package drawing to SIL00      | 008G24                |

### The datasheet number will be changing:

| Device Family | Change From: | Change To: |
|---------------|--------------|------------|
| LMZ10501      | SNVS677F     | SNVS677G   |
| LMZ10500      | SNVS723F     | SNVS723G   |

These changes may be reviewed at the datasheet links provided below:

http://www.ti.com/lit/ds/symlink/lmz10501.pdf http://www.ti.com/lit/ds/symlink/lmz10500.pdf

# **Group 2 Devices:**

| What     | Current | Proposed |
|----------|---------|----------|
| Die Coat | None    | PI       |

### **Reason for Change:**

Continuity of Supply

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

None

#### **Anticipated impact on Material Declaration**

| No Impact to | $\boxtimes$ | Material Declarations or Product Content reports are driven from        |
|--------------|-------------|---|
| the Material |             | production data and will be available following the production release. |
| Declaration  |             | Upon production release the revised reports can be obtained from the    |
|              |             | TI ECO website.   |

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

Not applicable

| <b>Product Affected</b>    |              |              |              |  |
|----------------------------|--------------|--------------|--------------|--|
| <b>Group 1 Device List</b> |              |              |              |  |
| LMZ10500SILR               | LMZ10500SILT | LMZ10501SILR | LMZ10501SILT |  |
|                            |              |              |              |  |
| Group 2 Device List        |              |              |              |  |
| LMZ20501SILR               | LMZ20501SILT | LMZ20502SILR | LMZ20502SILT |  |



# **Qualification Report**

### LMZ10500/1SIL Substrate change, PI die coat added. LMZ20502/1SIL PI die coat added. Approve Date 29-May-2018

#### **Product Attributes**

| Attributes          | Qual Device: <u>LMZ10501SILT ;</u><br><u>New substrate</u> | QBS Product Reference:<br><u>LMZ10501 SIL: Original</u><br><u>gualification</u> |
|---------------------|--|---|
| Assembly Site       | PTI-TAIWAN   | PTI-TAIWAN  |
| Package Family      | MicroSIP   | MicroSIP  |
| Flammability Rating | UL 94 V-0  | UL 94 V-0   |
| Wafer Fab Supplier  | MFAB   | MFAB  |

<sup>-</sup> QBS: Qual By Similarity

#### **Qualification Results**

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

| Туре  | Test Name / Condition         | Duration     | Qual Device: <u>LMZ10501SILT; New</u><br><u>substrate</u> | QBS Product Reference: <u>LMZ10501SIL:</u> <u>Original qualification</u> |
|-------|-------------------------------|--------------|---|--|
| HAST  | Biased HAST, 110C/85%RH       | 264 Hours    | 3/231/0   | -  |
| HAST  | Biased HAST, 130C/85%RH       | 96 Hours     | -   | 3/231/0  |
| HBM   | ESD - HBM                     | 1000 V       | -   | 1/3/0  |
| CDM   | ESD - CDM                     | 250 V        | -   | 1/3/0  |
| HTOL  | Life Test, 125C               | 1000 Hours   | -   | 1/77/0   |
| HTSL  | High Temp. Storage Bake, 150C | 1000 Hours   | -   | 1/77/0   |
| LU    | Latch-up                      | (per JESD78) | -   | 1/6/0  |
| TC    | Temperature Cycle, -40/125C   | 850 Cycles   | 3/231/0   | 3/231/0  |
| UHAST | Unbiased HAST, 110C/85%RH     | 264 Hours    | 3/231/0   | -  |
| UHAST | Unbiased HAST, 130C/85%RH     | 96 Hours     | -   | 3/231/0  |

<sup>-</sup> Preconditioning was performed for Autoclave, Unbiased HAST, THB/Biased HAST, Temperature Cycle, Thermal Shock, and HTSL, as applicable

Quality and Environmental data is available at TI's external Web site: http://www.ti.com/

Green/Pb-free Status:

Qualified Pb-Free(SMT) and Green

For questions regarding this notice, e-mails can be sent to the regional contacts shown below or your local Field Sales Representative.

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

<sup>-</sup> Qual Device LMZ10501SILT is qualified at LEVEL3-260CX

The following are equivalent HTOL options based on an activation energy of 0.7eV: 1250/14 Hours, 140C/480 Hours, 150C/300 Hours, and 155C/240 Hours

The following are equivalent HTOL options based on an activation energy of 0.7eV: 150C/14 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/14 Hours, and 170C/420 Hours

<sup>-</sup> The following are equivalent Temp Cycle options per JESD47: -55C/125C/700 Cycles and -65C/150C/500 Cycles