# Final Product/Process Change Notification

Document #: FPCN24680Z
Issue Date: 29 Sep 2022

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|---|---|
| **Title of Change:** | Pd-coated Cu wire qualification on SC74 transistor and Bias Resistor Transistor at onsemi Leshan, China facility. |
| **Proposed Changed Material First Ship Date:** | 05 Apr 2023 or earlier if approved by customer |
| **Current Material Last Order Date:** | 28 Dec 2022<br>*Orders received after the Current Material Last Order Date expiration are to be considered as orders for new changed material as described in this PCN. Orders for current (unchanged) material after this date will be per mutual agreement and current material inventory availability*. |
| **Current Material Last Delivery Date:** | 04 Apr 2023<br>*The Current Material Last Delivery Date may be subject to change based on build and depletion of the current (unchanged) material inventory* |
| **Product Category:** | Active components – Discrete components |
| **Contact information:** | Contact your local onsemi Sales Office or Andy.Tao@onsemi.com |
| **PCN Samples Contact:** | Contact your local onsemi Sales Office to place sample order.<br>Sample requests are to be submitted no later than 45 days after publication of this change notification.<br>Samples delivery timing will be subject to request date, sample quantity and special customer packing/label requirements. |
| **Sample Availability Date:** | 30 Oct 2022 |
| **PPAP Availability Date:** | 28 Oct 2022 |
| **Additional Reliability Data:** | Contact your local onsemi Sales Office or c.l.yang@lps.com.cn |
| **Type of Notification:** | This is a Final Product/Process Change Notification (FPCN) sent to customers. The change will be implemented at 'Proposed Change Material First Ship Date' in compliance to J-STD-46 or ZVEI, or earlier upon customer approval, or per our signed agreements.<br>onsemi will consider this proposed change and it's conditions acceptable, unless an inquiry is made in writing within 45 days of delivery of this notice. To do so, contact PCN.Support@onsemi.com.<br>onsemi will consider this proposed change and it's conditions acceptable, unless an inquiry is made in writing within 45 days of delivery of this notice. To do so, contact PCN.Support@onsemi.com. |

**Change Category**

| Category | Type of Change |
|---|---|
| Process - Assembly | Change of wire bonding |

**Description and Purpose:**

onsemi is notifying customers of its use of 0.8 mils Pd-coated Cu wire for transistor devices assembled in SC74 at onsemi Leshan, China facility.

Upon the expiration of this PCN, these devices will be built with 0.8 mils Pd-coated Cu wire .

Datasheet specifications and product electrical performance remain unchanged.

Reliability Qualification and full electrical characterization over temperature have been performed.

| | Before Change Description | After Change Description |
|---|---|---|
| **Bond Wire** | 0.8 mils bare Cu wire | 0.8 mils Pd-coated Cu wire |

There is no product marking change as a result of this change

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| **Reason / Motivation for Change:** | Process/Materials Change |
| **Anticipated impact on fit, form, function, reliability, product safety or manufacturability:** | The device has been qualified and validated based on the same Product Specification. The device has successfully passed the qualification tests. Potential impacts can be identified, but due to testing performed by onsemi in relation to the PCN, associated risks are verified and excluded.<br><br>No anticipated impacts. |

**Sites Affected:**

| **onsemi Sites** | **External Foundry/Subcon Sites** |
|---|---|
| onsemi Leshan, China | None |

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| **Marking of Parts/ Traceability of Change:** | Changed material will be identified by date code |

**Reliability Data Summary:**

**QV DEVICE NAME: SMBT2001T1G/ SMBT2002T1G**
**RMS#:84630/84694**
**PACKAGE :SC74**

| Test | Specification | Condition | Interval | Results |
|---|---|---|---|---|
| HTRB | JESD22-A108 | Ta=150°C, 100% max rated V | 2016 hrs | 0/231 |
| HTSL | JESD22-A103 | Ta=150°C | 2016 hrs | 0/231 |
| IOL | MIL-STD-750<br>Method 1037 | Ta=+25°C, delta Tj=100°C<br>On/off = 2 min | 30K cyc | 0/231 |
| TC | JESD22-A104 | Ta= -65°C to +150°C | 1000 cyc | 0/231 |
| HAST | JESD22-A110 | 110°C, 85% RH, 3psig, bias | 528 hrs | 0/231 |
| uHAST | JESD22-A118 | 130°C, 85% RH, 18.8psig, unbiased | 96 hrs | 0/231 |
| PC | J-STD-020 JESD-A113 | MSL 1 @ 260 °C | - | |
| RSH | JESD22- B106 | Ta = 265C, 10 sec | - | 0/30 |
| SD | JSTD002 | Ta = 245C, 5 sec | - | 0/30 |

**Note AEC-1pger is attached.**

*To view attachments:*
*1. Download pdf copy of the PCN to your computer*
*2. Open the downloaded pdf copy of the PCN*
*3. Click on the paper clip icon available on the menu provided in the left/bottom portion of the screen to reveal the Attachment field*
*4. Then click on the attached file.*

**Electrical Characteristics Summary:**

Three temperature characterization and ESD performance meet datasheet specification.

Electrical characterization result is available upon request.

**List of Affected Parts:**

***Note:*** *Only the standard (off the shelf) part numbers are listed in the parts list. Any custom parts affected by this PCN are shown in the customer specific PCN addendum in the PCN email notification, or on the* ***PCN Customized Portal****.*

| Current Part Number | New Part Number | Qualification Vehicle |
|---|---|---|
| SHN1B01FDW1T1G | N/A | SMBT2002T1G |
| SMBT2001T1G | N/A | SMBT2001T1G |