



## Final Product/Process Change Notification

Document #: FPCN25010Z

Issue Date: 01 Jun 2023

|                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                  |
|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>Title of Change:</b>                                                                                                               | Bare Copper Clip qualification for Zener SMA/SMB packages - OSV                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                  |
| <b>Proposed Changed Material First Ship Date:</b>                                                                                     | 07 Dec 2023 or earlier if approved by customer                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                  |
| <b>Current Material Last Order Date:</b>                                                                                              | N/A<br><i>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.</i>                                                                                                                                                                                                         |                  |
| <b>Current Material Last Delivery Date:</b>                                                                                           | N/A<br><i>The Current Material Last Delivery Date may be subject to change based on build and depletion of the current (unchanged) material inventory</i>                                                                                                                                                                                                                                                                                                                                                       |                  |
| <b>Product Category:</b>                                                                                                              | Active components – Discrete components                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                  |
| <b>Contact information:</b>                                                                                                           | Contact your local onsemi Sales Office or <a href="mailto:TP.Phung@onsemi.com">TP.Phung@onsemi.com</a>                                                                                                                                                                                                                                                                                                                                                                                                          |                  |
| <b>PCN Samples Contact:</b>                                                                                                           | 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.                                                                                                                                                                                                          |                  |
| <b>Sample Availability Date:</b>                                                                                                      | 30 July 2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                  |
| <b>PPAP Availability Date:</b>                                                                                                        | 29 June 2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                  |
| <b>Additional Reliability Data:</b>                                                                                                   | Contact your local onsemi Sales Office or <a href="mailto:Khoa.Tran2@onsemi.com">Khoa.Tran2@onsemi.com</a>                                                                                                                                                                                                                                                                                                                                                                                                      |                  |
| <b>Type of Notification:</b>                                                                                                          | 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. 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 <a href="mailto:PCN.Support@onsemi.com">PCN.Support@onsemi.com</a> . |                  |
| <b>Change Category</b>                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                  |
| <b>Category</b>                                                                                                                       | <b>Type of Change</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                  |
| Process - Assembly                                                                                                                    | Change of lead frame finishing material / area (internal)                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                  |
| <b>Description and Purpose:</b>                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                  |
| This Final Product Change Notification (FPCN) is to announce the qualification of Bare Copper Clip for Zener SMA/SMB packages in OSV. |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                  |
|                                                                                                                                       | <b>From</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>To</b>        |
| <b>Clip</b>                                                                                                                           | Ni plated copper clip                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Bare copper clip |
| There is no product marking change as a result of this change.                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                  |
| <b>Reason / Motivation for Change:</b>                                                                                                | Process/Materials Change                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                  |
| <b>Anticipated impact on fit, form, function, reliability, product safety or manufacturability:</b>                                   | 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.                                                                                                                                                                                 |                  |

|                                                  |                                    |                                                                      |                                      |               |
|--------------------------------------------------|------------------------------------|----------------------------------------------------------------------|--------------------------------------|---------------|
| <b>Sites Affected:</b>                           |                                    |                                                                      |                                      |               |
| <b>onsemi Sites</b>                              |                                    |                                                                      | <b>External Foundry/Subcon Sites</b> |               |
| onsemi Vietnam                                   |                                    |                                                                      | None                                 |               |
| <b>Marking of Parts/ Traceability of Change:</b> |                                    | Affected parts with this change will be identified by the date code. |                                      |               |
| <b>Reliability Data Summary:</b>                 |                                    |                                                                      |                                      |               |
| QV DEVICE NAME: SZ1SMA5924BT3G                   |                                    |                                                                      |                                      |               |
| RMS: 83412, 85474                                |                                    |                                                                      |                                      |               |
| PACKAGE: SMA                                     |                                    |                                                                      |                                      |               |
| <b>Test</b>                                      | <b>Specification</b>               | <b>Condition</b>                                                     | <b>Interval</b>                      | <b>Result</b> |
| HTSL                                             | JESD22-A103                        | Ta = 150 °C                                                          | 1008 hrs                             | 0/231         |
| SSOP                                             | AEC-Q101, Mil-Std-750 M1038 Cond B | Rated IZmax, Tj=150C.                                                | 1008 hrs                             | 0/231         |
| PC                                               | J-STD-020 JESD-A113                | MSL 1 @ 260 °C                                                       |                                      | 0/924         |
| IOL                                              | MIL-STD-750 (M1037) AEC-Q101       | Ta = +25°C, deltaTj = 100°C max, Ton = Toff = 2min                   | 15000 cyc                            | 0/231         |
| TC                                               | JESD22-A104                        | Ta = -55°C to +150°C                                                 | 1000 cyc                             | 0/231         |
| H3TRB                                            | JESD22-A101                        | Ta = 85°C, RH = 85%, bias = 80% of rated V                           | 1008 hrs                             | 0/231         |
| uHAST                                            | JESD22-A118                        | 130°C, 85% RH, 18.8psig, unbiased                                    | 96 hrs                               | 0/231         |
| RSH                                              | JESD22- B106                       | Ta = 265°C, 10 sec                                                   |                                      | 0/90          |
| SD                                               | JSTD002                            | Ta = 245°C, 10 sec                                                   |                                      | 0/45          |
|                                                  |                                    |                                                                      |                                      |               |
| QV DEVICE NAME: SZ1SMB5924BT3G                   |                                    |                                                                      |                                      |               |
| RMS: 84079, 85475                                |                                    |                                                                      |                                      |               |
| PACKAGE: SMB                                     |                                    |                                                                      |                                      |               |
| <b>Test</b>                                      | <b>Specification</b>               | <b>Condition</b>                                                     | <b>Interval</b>                      | <b>Result</b> |
| HTSL                                             | JESD22-A103                        | Ta = 150 °C                                                          | 1008 hrs                             | 0/231         |
| SSOP                                             | AEC-Q101, Mil-Std-750 M1038 Cond B | Rated IZmax, Tj=150C.                                                | 1008 hrs                             | 0/231         |
| PC                                               | J-STD-020 JESD-A113                | MSL 1 @ 260 °C                                                       |                                      | 0/924         |
| IOL                                              | MIL-STD-750 (M1037) AEC-Q101       | Ta = +25°C, deltaTj = 100°C max, Ton = Toff = 2min                   | 15000 cyc                            | 0/231         |
| TC                                               | JESD22-A104                        | Ta = -55°C to +150°C                                                 | 1000 cyc                             | 0/231         |
| H3TRB                                            | JESD22-A101                        | Ta = 85°C, RH = 85%, bias = 80% of rated V                           | 1008 hrs                             | 0/231         |
| uHAST                                            | JESD22-A118                        | 130°C, 85% RH, 18.8psig, unbiased                                    | 96 hrs                               | 0/231         |
| RSH                                              | JESD22- B106                       | Ta = 265°C, 10 sec                                                   |                                      | 0/90          |
| SD                                               | JSTD002                            | Ta = 245°C, 10 sec                                                   |                                      | 0/45          |

**QV DEVICE NAME: SZ1SMA5945BT3G**

**RMS: 86596, 86574**

**PACKAGE: SMA**

| Test  | Specification                         | Condition                                             | Interval  | Result |
|-------|---------------------------------------|-------------------------------------------------------|-----------|--------|
| HTSL  | JESD22-A103                           | Ta = 150 °C                                           | 1008 hrs  | 0/231  |
| SSOP  | AEC-Q101, Mil-Std-750<br>M1038 Cond B | Rated IZmax, Tj=150C.                                 | 1008 hrs  | 0/231  |
| PC    | J-STD-020 JESD-A113                   | MSL 1 @ 260 °C                                        |           | 0/924  |
| IOL   | MIL-STD-750 (M1037)<br>AEC-Q101       | Ta = +25°C, deltaTj = 100°C max,<br>Ton = Toff = 2min | 15000 cyc | 0/231  |
| TC    | JESD22-A104                           | Ta = -55°C to +150°C                                  | 1000 cyc  | 0/231  |
| H3TRB | JESD22-A101                           | Ta = 85°C, RH = 85%, bias = 80% of rated<br>V         | 1008 hrs  | 0/231  |
| uHAST | JESD22-A118                           | 130°C, 85% RH, 18.8psig, unbiased                     | 96 hrs    | 0/231  |
| RSH   | JESD22- B106                          | Ta = 265°C, 10 sec                                    |           | 0/90   |
| SD    | JSTD002                               | Ta = 245°C, 10 sec                                    |           | 0/45   |

**QV DEVICE NAME: SZ1SMB5956BT3G**

**RMS: 86597, 86575**

**PACKAGE: SMB**

| Test  | Specification                         | Condition                                             | Interval  | Result |
|-------|---------------------------------------|-------------------------------------------------------|-----------|--------|
| HTSL  | JESD22-A103                           | Ta = 150 °C                                           | 1008 hrs  | 0/231  |
| SSOP  | AEC-Q101, Mil-Std-750<br>M1038 Cond B | Rated IZmax, Tj=150C.                                 | 1008 hrs  | 0/231  |
| PC    | J-STD-020 JESD-A113                   | MSL 1 @ 260 °C                                        |           | 0/924  |
| IOL   | MIL-STD-750 (M1037)<br>AEC-Q101       | Ta = +25°C, deltaTj = 100°C max,<br>Ton = Toff = 2min | 15000 cyc | 0/231  |
| TC    | JESD22-A104                           | Ta = -55°C to +150°C                                  | 1000 cyc  | 0/231  |
| H3TRB | JESD22-A101                           | Ta = 85°C, RH = 85%, bias = 100V                      | 1008 hrs  | 0/231  |
| uHAST | JESD22-A118                           | 130°C, 85% RH, 18.8psig, unbiased                     | 96 hrs    | 0/231  |
| RSH   | JESD22- B106                          | Ta = 265°C, 10 sec                                    |           | 0/90   |
| SD    | JSTD002                               | Ta = 245°C, 10 sec                                    |           | 0/45   |

**Note AEC-1pager 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.



## Final Product/Process Change Notification

Document #: FPCN25010Z

Issue Date: 01 Jun 2023

### Electrical Characteristics Summary:

Electrical characteristics summary 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 |
|---------------------|-----------------|-----------------------|
| SZ1SMA5913BT3G      | NA              | SZ1SMA5924BT3G        |
| SZ1SMA5914BT3G      | NA              | SZ1SMA5924BT3G        |
| SZ1SMA5915BT3G      | NA              | SZ1SMA5924BT3G        |
| SZ1SMA5916BT3G      | NA              | SZ1SMA5924BT3G        |
| SZ1SMA5917BT3G      | NA              | SZ1SMA5924BT3G        |
| SZ1SMA5919BT3G      | NA              | SZ1SMA5924BT3G        |
| SZ1SMA5920BT3G      | NA              | SZ1SMA5924BT3G        |
| SZ1SMA5921BT3G      | NA              | SZ1SMA5924BT3G        |
| SZ1SMA5922BT3G      | NA              | SZ1SMA5924BT3G        |
| SZ1SMA5923BT3G      | NA              | SZ1SMA5924BT3G        |
| SZ1SMA5924BT3G      | NA              | SZ1SMA5924BT3G        |
| SZ1SMA5925BT3G      | NA              | SZ1SMA5945BT3G        |
| SZ1SMA5926BT3G      | NA              | SZ1SMA5945BT3G        |
| S1Z1SMB5919BT3G     | NA              | SZ1SMB5924BT3G        |
| SZ1SMB5913BT3G      | NA              | SZ1SMB5924BT3G        |
| SZ1SMB5914BT3G      | NA              | SZ1SMB5924BT3G        |
| SZ1SMB5915BT3G      | NA              | SZ1SMB5924BT3G        |
| SZ1SMB5916BT3G      | NA              | SZ1SMB5924BT3G        |
| SZ1SMB5917BT3G      | NA              | SZ1SMB5924BT3G        |
| SZ1SMB5918BT3G      | NA              | SZ1SMB5924BT3G        |
| SZ1SMB5919BT3G      | NA              | SZ1SMB5924BT3G        |
| SZ1SMB5920BT3G      | NA              | SZ1SMB5924BT3G        |
| SZ1SMB5921BT3G      | NA              | SZ1SMB5924BT3G        |
| SZ1SMB5922BT3G      | NA              | SZ1SMB5924BT3G        |
| SZ1SMB5923BT3G      | NA              | SZ1SMB5924BT3G        |
| SZ1SMB5925BT3G      | NA              | SZ1SMB5956BT3G        |
| SZ1SMA5918BT3G      | NA              | SZ1SMA5924BT3G        |