# Initial Product/Process Change Notification

Document #:IPCN25229Z
Issue Date:15 Feb 2023

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| **Title of Change:** | Qualification of onsemi ISMF (Malaysia) wafer fab for Small signal bipolar junction transistor devices |
| **Proposed Changed Material First Ship Date:** | 15 Jan 2024 or earlier if approved by customer |
| **Current Material Last Order Date:** | N/A<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:** | N/A<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 Hiroshi.Koizumi@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. |
| **Additional Reliability Data:** | Contact your local onsemi Sales Office or ChangKit.Mok@onsemi.com |
| **Type of Notification:** | This is an Initial Product/Process Change Notification (IPCN) sent to customers. An IPCN is an advance notification about an upcoming change and contains general information regarding the change details and devices affected. It also contains the preliminary reliability qualification plan.The completed qualification and characterization data will be included in the Final Product/Process Change Notification (FPCN). This IPCN notification will be followed by a Final Product/Process Change Notification (FPCN) at least 6 months prior to implementation of the change. In case of questions, contact <PCN.Support@onsemi.com>. |

**Change Category**

| Category | Type of Change |
|---|---|
| Process - Wafer Production | Move of all or part of wafer fab to a different location/site/subcontractor |
| Process - Assembly | Move of all or part of assembly to a different location/site/subcontractor. |

**Description and Purpose:**

This is the Initial Notification by onsemi notifying customers of its plan to qualify small signal bipolar junction transistor devices in onsemi ISMF fab (Malaysia).onsemi ISMF fab has been an existing qualified manufacturing site for onsemi which certified with IATF 16949:2016. NSVFSB560ALT1G transfer Assembly and Final test site from onsemi Cebu to onsemi Seremban for long term sustainability.

| | From | To |
|---|---|---|
| Wafer Fab | JS foundry (Japan) | onsemi ISMF (Malaysia) |
| Backgrind/backmetal | JS foundry (Japan) | onsemi ISMF (Malaysia) |
| Assembly/Final test site | NSVFSB560ALT1G (onsemi Cebu) | NSVFSB560ALT1G (onsemi Seremban) |

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

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| **Reason / Motivation for Change:** | Source/Supply/Capacity Changes |
| **Anticipated impact on fit, form, function, reliability, product safety or manufacturability:** | The device will be qualified and validated based on the same Product Specification.<br>No anticipated impacts. |

| **Sites Affected:** | |
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| **onsemi Sites** | **External Foundry/Subcon Sites** |
| onsemi Seremban, Malaysia | None |

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| **Marking of Parts/ Traceability of Change:** | Product marking follows onsemi marking format / Changed material can be identified by lot code. |

**Reliability Data Summary:**

**QV DEVICE NAME: NSVFSB560A**
**RMS: 87865**
**PACKAGE: SSOT3**

| Test | Specification | Condition | Interval |
|---|---|---|---|
| High Temperature Reverse Bias | JESD22-A108 | Ta=150°C, 100% max rated V | 1008 hrs |
| High Temperature Storage Life | JESD22-A103 | Ta= 150°C | 1008 hrs |
| Preconditioning | J-STD-020 JESD-A113 | MSL 1 @ 260°C | - |
| Intermittent Operating Life | MIL-STD-750 (M1037) AEC-Q101 | Ta=+25°C, delta Tj=100°C On/off = 2 min | 15,000 cyc |
| Temperature Cycling | JESD22-A104 | Ta= -55°C to +150°C | 1000 cyc |
| Highly Accelerated Stress Test | JESD22-A110 | 110°C, 85% RH, 17.7psia, bias | 264 hrs |
| Unbiased Highly Accelerated Stress Test | JESD22-A118 | 130°C, 85% RH, 33.38psia, unbiased | 96 hrs |
| Resistance to Solder Heat | JESD22- B106 | Ta = 265°C, 10 sec Required for through hole devices only | - |
| Solderability | JSTD002 | Ta = 245°C, 5 sec | - |

**QV DEVICE NAME: FJT44TF**
**RMS: 87878**
**PACKAGE: SOT223**

| Test | Specification | Condition | Interval |
|---|---|---|---|
| High Temperature Reverse Bias | JESD22-A108 | Ta=150°C, 100% max rated V | 1008 hrs |
| High Temperature Storage Life | JESD22-A103 | Ta= 150°C | 1008 hrs |
| Preconditioning | J-STD-020 JESD-A113 | MSL 1 @ 260°C | - |
| Intermittent Operating Life | MIL-STD-750 (M1037) AEC-Q101 | Ta=+25°C, delta Tj=100°C On/off = 2 min | 15,000 cyc |
| Temperature Cycling | JESD22-A104 | Ta= -55°C to +150°C | 1000 cyc |
| Highly Accelerated Stress Test | JESD22-A110 | 110°C, 85% RH, 17.7psia, bias | 264 hrs |
| Unbiased Highly Accelerated Stress Test | JESD22-A118 | 130°C, 85% RH, 33.38psia, unbiased | 96 hrs |
| Resistance to Solder Heat | JESD22- B106 | Ta = 265°C, 10 sec Required for through hole devices only | - |
| Solderability | JSTD002 | Ta = 245°C, 5 sec | - |

**QV DEVICE NAME: NSVMMBTH81LT3G**
**RMS: 87893**
**PACKAGE: SOT23**

| Test | Specification | Condition | Interval |
|---|---|---|---|
| High Temperature Reverse Bias | JESD22-A108 | Ta=150°C, 100% max rated V | 1008 hrs |
| High Temperature Storage Life | JESD22-A103 | Ta= 150°C | 1008 hrs |
| Preconditioning | J-STD-020 JESD-A113 | MSL 1 @ 260°C | - |
| Intermittent Operating Life | MIL-STD-750 (M1037) AEC-Q101 | Ta=+25°C, delta Tj=100°C On/off = 2 min | 15,000 cyc |
| Temperature Cycling | JESD22-A104 | Ta= -55°C to +150°C | 1000 cyc |
| Highly Accelerated Stress Test | JESD22-A110 | 110°C, 85% RH, 17.7psia, bias | 264 hrs |
| Unbiased Highly Accelerated Stress Test | JESD22-A118 | 130°C, 85% RH, 33.38psia, unbiased | 96 hrs |
| Resistance to Solder Heat | JESD22- B106 | Ta = 265°C, 10 sec Required for through hole devices only | - |
| Solderability | JSTD002 | Ta = 245°C, 5 sec | - |

**Electrical Characteristics Summary:**

Electrical characteristics will be performed and updated per FPCN.

**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 |
|---|---|---|
| NSVMMBTA28LT1G | NA | FJT44TF, NSVFSB560A |
| NSVFSB560ALT1G | NA | NSVFSB560A |
| NSVMMBTH81LT3G | NA | NSVMMBTH81LT3G |
| NSVMMBTH81LT1G | NA | NSVMMBTH81LT3G |