



Final Product/Process Change Notification

Document #:FPCN25506X

Issue Date:06 Oct 2023

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| Title of Change: | Qualification of onsemi ISMF Fab (Malaysia) for Small Signal Transistor housed in SOT723 and SC74 package |
| Proposed First Ship date: | 01 Mar 2024 or earlier if approved by customer |
| Contact Information: | Contact your local onsemi Sales Office or farrah.omar@onsemi.com |
| PCN Samples Contact: | Contact your local onsemi Sales Office. Sample requests are to be submitted no later than 30 days from the date of first notification, Initial PCN or Final PCN, for this change. 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 a Final Product/Process Change Notification (FPCN) sent to customers. FPCNs are issued 90 days prior to implementation of the change. onsemi will consider this change accepted, unless an inquiry is made in writing within 30 days of delivery of this notice. To do so, contact PCN.Support@onsemi.com |
| Marking of Parts/ Traceability of Change: | Changed material can be identified by lot code. |
| Change Category: | Assembly Change, Wafer Fab Change |
| Change Sub-Category(s): | Material Change |

Sites Affected:

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

Description and Purpose:

This is the Final Notification by onsemi notifying customers of its plan to qualify small signal bipolar junction transistor devices at onsemi ISMF fab (Malaysia) housed in SC74 and SOT723 package. onsemi ISMF fab has been an existing qualified manufacturing site for onsemi which is certified with IATF16949:2016. onsemi ISMF fab qualification includes of changing top metal from AlSiCu to AlSi + TiW for devices in SC74 package.

In addition to this, onsemi Leshan (China) is making changes to the leadframe plating area from Ag plated to Cu plated as well as changing Au wire to Cu wire for devices in SC74 package.

| | From | To |
|------------------|--|---|
| Fab Site | JS Foundry, Japan | onsemi ISMF, Malaysia |
| Top Metal | SOT723: No change SC74: AlSiCu | SOT723: No change SC74: AlSi + TiW |
| LeadFrame | SOT723: No change SC74: Ag plated L/F | SOT723: No change SC74: Cu plated L/F |
| Bond Wire | SOT723: No change SC74:1.3mil Au wire | SOT723: No change SC74: 1.3mil Cu wire |

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

Reliability Data Summary:

QV DEVICE NAME: NSV60101DMR6T1G

RMS: L88094

PACKAGE: SC-74

| Test | Specification | Condition | Interval | Results |
|---|------------------------------------|--|------------|---------|
| High Temperature Reverse Bias | JESD22-A108 | Ta=150°C, 100% max rated V | 1008 hrs | 0/231 |
| High Temperature Storage Life | JESD22-A103 | Ta=150°C | 1008 hrs | 0/231 |
| Preconditioning | J-STD-020 JESD-A113 | MSL 1 @ 260°C, Pre IOL, TC, uHAST, HAST for surface mount pkgs only | | 0/924 |
| Intermittent Operating Life | MIL-STD-750 (M1037) AEC-Q101 | Ta=+25°C, delta Tj=100°C On/off =2 min | 15,000 cyc | 0/231 |
| Temperature Cycling | JESD22-A104 | Ta= -55°C to +150°C | 1000 cyc | 0/231 |
| Highly Accelerated Stress Test | JESD22-A110 | 110°C, 85% RH, 3psig, bias | 264 hrs | 0/231 |
| Unbiased Highly Accelerated Stress Test | JESD22-A118 | 130°C, 85% RH, 18.8psig, unbiased | 96 hrs | 0/231 |
| Resistance to Solder Heat | JESD22- B106 | Ta = 265°C, 10 sec Required for through hole devices only | | 0/30 |

QV DEVICE NAME: NSVMMBT5401M3T5G

RMS: L88095

PACKAGE: SOT-723

| Test | Specification | Condition | Interval | Results |
|---|------------------------------------|--|------------|---------|
| High Temperature Reverse Bias | JESD22-A108 | Ta=150°C, 100% max rated V | 1008 hrs | 0/231 |
| High Temperature Storage Life | JESD22-A103 | Ta=150°C | 1008 hrs | 0/231 |
| Preconditioning | J-STD-020 JESD-A113 | MSL 1 @ 260°C, Pre IOL, TC, uHAST, HAST for surface mount pkgs only | | 0/924 |
| Intermittent Operating Life | MIL-STD-750 (M1037) AEC-Q101 | Ta=+25°C, delta Tj=100°C On/off =2 min | 15,000 cyc | 0/231 |
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Electrical Characteristics Summary:

Electrical characteristics are not impacted.



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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**.

| Part Number | Qualification Vehicle |
|-----------------|-----------------------|
| MMBT5401M3T5G | NSVMMBT5401M3T5G |
| NSS60101DMR6T1G | NSV60101DMR6T1G |