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|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|--|
| <b>Title of Change:</b>                                                                                                                                                                                                                | Qualification of ON Semiconductor Binh Duong (OSBD) in Vietnam as metal substrate plant for Intelligent Power Module (IPM) of STK products.                                                                                                                                                                                                                                  |                                              |  |
| <b>Proposed first ship date:</b>                                                                                                                                                                                                       | 17 July 2017                                                                                                                                                                                                                                                                                                                                                                 |                                              |  |
| <b>Contact information:</b>                                                                                                                                                                                                            | Contact your local ON Semiconductor Sales Office or <Tomohiro.Uda@onsemi.com>                                                                                                                                                                                                                                                                                                |                                              |  |
| <b>Samples:</b>                                                                                                                                                                                                                        | Contact your local ON Semiconductor Sales Office or <Tomohiro.Uda@onsemi.com>                                                                                                                                                                                                                                                                                                |                                              |  |
| <b>Additional Reliability Data:</b>                                                                                                                                                                                                    | Contact your local ON Semiconductor Sales Office or <Kazutoshi.Kitazume@onsemi.com>                                                                                                                                                                                                                                                                                          |                                              |  |
| <b>Type of notification:</b>                                                                                                                                                                                                           | This is a Final Product/Process Change Notification (FPCN) sent to customers. FPCNs are issued 90 days prior to implementation of the change.<br>ON Semiconductor 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>.                                            |                                              |  |
| <b>Change Part Identification:</b>                                                                                                                                                                                                     | Identification via lot code                                                                                                                                                                                                                                                                                                                                                  |                                              |  |
| <b>Change category:</b>                                                                                                                                                                                                                | <input type="checkbox"/> Wafer Fab Change <input type="checkbox"/> Assembly Change <input type="checkbox"/> Test Change <input checked="" type="checkbox"/> Other <u>Metal Substrate Mfg.</u>                                                                                                                                                                                |                                              |  |
| <b>Change Sub-Category(s):</b>                                                                                                                                                                                                         | <input checked="" type="checkbox"/> Manufacturing Site Change/Addition <input type="checkbox"/> Material Change <input type="checkbox"/> Datasheet/Product Doc change<br><input type="checkbox"/> Manufacturing Process Change <input type="checkbox"/> Product specific change <input type="checkbox"/> Shipping/Packaging/Marking<br><input type="checkbox"/> Other: _____ |                                              |  |
| <b>Sites Affected:</b>                                                                                                                                                                                                                 | <input type="checkbox"/> All site(s) <input type="checkbox"/> not applicable <input checked="" type="checkbox"/> ON Semiconductor site(s) : <u>ON Binh Duong Province, Vietnam</u> <input type="checkbox"/> External Foundry/Subcon site(s) _____                                                                                                                            |                                              |  |
| <b>Description and Purpose:</b>                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                              |                                              |  |
| As for Insulated Metal Substrate (IMST) using our Intelligent Power Module (IPM) STK series, we plan to build Ni plating process in our Vietnam plant, ON Semiconductor Binh Duong Co., Ltd (OSBD) in order to maintain stable supply. |                                                                                                                                                                                                                                                                                                                                                                              |                                              |  |
|                                                                                                                                                                                                                                        | <b>Before Change</b>                                                                                                                                                                                                                                                                                                                                                         | <b>After Change</b>                          |  |
| Cu foil press                                                                                                                                                                                                                          | OSNC Gunma plant (Japan)                                                                                                                                                                                                                                                                                                                                                     | OSNC Gunma plant / Material supplier (Japan) |  |
| Shearing                                                                                                                                                                                                                               | OSNC Gunma plant (Japan)                                                                                                                                                                                                                                                                                                                                                     | OSNC Gunma plant / Material supplier (Japan) |  |
| Ni plating                                                                                                                                                                                                                             | OSNC Gunma plant (Japan)                                                                                                                                                                                                                                                                                                                                                     | OSNC Gunma plant / OSBD (Vietnam)            |  |
| After Cu foil etching process                                                                                                                                                                                                          | OSBD (Vietnam)                                                                                                                                                                                                                                                                                                                                                               | OSBD (Vietnam)                               |  |
| IPM assembly                                                                                                                                                                                                                           | OSV (Vietnam)                                                                                                                                                                                                                                                                                                                                                                | OSV (Vietnam)                                |  |
| The other process and all materials do not change.                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                              |                                              |  |

**Reliability Data Summary:**

QV DEVICE NAME: STK672-632AN-E

RMS: J35468

PACKAGE: SMART

| Test  | Specification          | Condition                        | Interval | Results |
|-------|------------------------|----------------------------------|----------|---------|
| HTSL  | JEITA EIAJ ED-4701/201 | Ta=125°C                         | 1008 hrs | 0/11    |
| TC    | JEITA EIAJ ED-4701/105 | Ta= -40°C to +125°C              | 1000 cyc | 0/11    |
| AC    | JEITA EIAJ ED-4701/102 | 121°C, 100% RH, 15psig, unbiased | 96 hrs   | 0/11    |
| H3TRB | JEITA EIAJ ED-4701/102 | 85°C, 85% RH, 80% max rated V    | 1008 hrs | 0/11    |

QV DEVICE NAME: STK57FU394A-E

RMS: J35450

PACKAGE: SIP2A

| Test  | Specification          | Condition                        | Interval | Results |
|-------|------------------------|----------------------------------|----------|---------|
| HTSL  | JEITA EIAJ ED-4701/201 | Ta=125°C                         | 1008 hrs | 0/11    |
| TC    | JEITA EIAJ ED-4701/105 | Ta= -40°C to +125°C              | 1000 cyc | 0/11    |
| AC    | JEITA EIAJ ED-4701/102 | 121°C, 100% RH, 15psig, unbiased | 96 hrs   | 0/11    |
| H3TRB | JEITA EIAJ ED-4701/102 | 85°C, 85% RH, 80% max rated V    | 1008 hrs | 0/11    |

**Electrical Characteristic Summary:**

Electrical characteristic are not impacted.

**List of Affected Standard Parts:**

| Part Number    | Qualification Vehicle |
|----------------|-----------------------|
| STK672-400     | STK672-632AN-E        |
| STK672-400B-E  | STK672-632AN-E        |
| STK672-400C-E  | STK672-632AN-E        |
| STK672-401C-E  | STK672-632AN-E        |
| STK672-410     | STK672-632AN-E        |
| STK672-410C-E  | STK672-632AN-E        |
| STK672-430AN-E | STK672-632AN-E        |
| STK672-432AN-E | STK672-632AN-E        |
| STK672-432BN-E | STK672-632AN-E        |
| STK672-440AN-E | STK672-632AN-E        |
| STK672-440BN-E | STK672-632AN-E        |



|                |                |
|----------------|----------------|
| STK672-442AN-E | STK672-632AN-E |
| STK672-442BN-E | STK672-632AN-E |
| STK672-600     | STK672-632AN-E |
| STK672-600A    | STK672-632AN-E |
| STK672-610     | STK672-632AN-E |
| STK672-630AN-E | STK672-632AN-E |
| STK672-630CN-E | STK672-632AN-E |
| STK672-632AN-E | STK672-632AN-E |
| STK672-640AN-E | STK672-632AN-E |
| STK672-640CN-E | STK672-632AN-E |
| STK672-642AN-E | STK672-632AN-E |
| STK672-732AN-E | STK672-632AN-E |
| STK672-740AN-E | STK672-632AN-E |
| STK681-310N-E  | STK672-632AN-E |
| STK681-320     | STK672-632AN-E |
| STK681-332-E   | STK672-632AN-E |
| STK681-360-E   | STK672-632AN-E |
| STK682-010-E   | STK672-632AN-E |

**List of Customer Specific Part:**

*NOTE: Please be informed that parts impacted by this PDN/PCN are Special/Customer specific parts, thus MPN & CPN info will be available to affected customers only by clicking the ["Custom PCN for Selected Company Button"](#) in the Document Analysis page of PCMS/PCN Alert.*