# **Final Product/Process Change Notification**



Document# : P752AAB Issue Date : Jun. 12, 2017

| Title of Change:   | Qualify alternate assembly & test site, SP Semiconductor for TO3PF3 package in addition to current Suzhou site.  |                          |                          |                                 |  |
|--|--|--------------------------|--------------------------|---------------------------------|--|
| Proposed first ship date:  | Sep. 10, 2017  |                          |                          |                                 |  |
| Contact information:   | Contact your local ON Semiconductor Sales Office or < ci.fong@onsemi.com >   |                          |                          |                                 |  |
| Samples:   | Contact your local ON Semiconductor Sales Office   |                          |                          |                                 |  |
| Additional Reliability Data:   | Contact your loca  | ON Semicono              | luctor Sales Office      |                                 |  |
| 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.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>.</pcn.support@onsemi.com> |                          |                          |                                 |  |
| Change Part Identification:  | 1737   |                          |                          |                                 |  |
| Change category:   | Wafer Fab (  | Change A                 | ssembly Change           | Test Change Other               |  |
| Change Sub-Category(s):  |  |                          |                          |                                 |  |
| Manufacturing Site Change/Addition   | Manufacturin   | g Process Char           | nge Mate                 | erial Change                    |  |
| Product specific change  | Datasheet/Pro  | duct Doc chan            | ge Ship                  | ping/Packaging/Marking          |  |
| Other  |  |                          |                          |                                 |  |
| Sites Affected:  |  |                          |                          |                                 |  |
| All site(s)  |  |                          | • • • • • •              |                                 |  |
| All site(s)  | Not applicable   | ON Semic                 | conductor site(s)        | External Foundry/Subcon site(s) |  |
|  |  | Select site:             |                          | Select site:                    |  |
| Description and Purpose:  Change Description Qualify alte  | rnate assembly 8   | k test site SP           | Semiconductor            | for TO3PF3 package.             |  |
| <u>Description of Change (From):</u> T<br>Suzhou in-house  | O3PF3 Diode(FFA  | F60UA60DN                | ) assembly and te        | st single source in             |  |
| Suzilou III-llouse   | Current  | FSSZ, C                  | hina                     |                                 |  |
|  | Package<br>Lead Frame  | TO3P<br>TO-3PF-3         |                          |                                 |  |
|  | Adhesive   | 93.5Pb5Si                | n1.5Ag                   |                                 |  |
|  | Wire<br>EMC  | AI 99.99%<br>KTMC-3090FP |                          |                                 |  |
|  | Lead Finish  | Pure                     | Tin                      |                                 |  |
| <u>Description of Change (To):</u> SP Semi is being added as secondary assembly & test site to improve capacity and flexibility. |  |                          |                          |                                 |  |
| Proposed   |  | China                    | SPSemi, Korea            |                                 |  |
| Package<br>Lead Frame  | TO3PF3 TO-3PF-3L Bare  |                          | TO3PF3<br>TO-3PF-3L Bare |                                 |  |
| Adhesive   |  | 93.5Pb5Sn1.5Ag 93.       |                          |                                 |  |
| Wire   | Al 99  | Al 99.99% Al 99          |                          |                                 |  |
| EMC<br>Lead Finish   | KTMC-3090FP<br>Pure Tin  |                          | ST-7100HF<br>Pure Tin    | <del></del>                     |  |
| Leau rifiisii  | rur  |                          | Ture IIII                |                                 |  |
| Reason of Change: To Improve Capaci  | ty and Supply Flexil   | oility of TO3PF          | 73                       |                                 |  |
| Reliability Data Summary:  |  |                          |                          |                                 |  |



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| Qualification Plan | Device       | Package | Process | No. of Lots   |
|--------------------|--------------|---------|---------|---------------|
| Q20160832          | FFAF60UA60DN | TO3PF   | Diode   | 3 (77pcs/Lot) |

| Test Description:              | Condition:               | Standard :       | Duration:  | Results: |
|--------------------------------|--------------------------|------------------|------------|----------|
| Power cycle                    | Delta 100CC, 2 Min cycle | MIL-STD-750-1036 | 6000cycles | 0/231    |
| Temperature Humidity Bias Test | 85C, 85%RH, 100V         | JESD22-A101      | 1000 hrs   | 0/231    |
| High Temperature Storage Life  | 175C                     | JESD22-A103      | 1000 hrs   | 0/231    |
| High Temperature Reverse Bias  | 175C, 80% BV             | JESD22-A108      | 1000 hrs   | 0/231    |
| Temperature Cycle              | -65C, 150C               | JESD22-A104      | 500 cycles | 0/231    |

FFAF60UA60DN, Ass'y Site Transfer(From Suzhou to SP Semi) Qualification loaded on TO3PF 3Lots had been passed with required reliability test without any failures.

### **Electrical Characteristic Summary:**

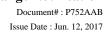
Electrical characteristics are not impacted.

### **Qualification Plan:**

| Qualification Plan | Device       | Package | Process | No. of Lots   |
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| Temperature Cycle              | -65C, 150C               | JESD22-A104      | 500 cycles | 0/231    |

# **Final Product/Process Change Notification**





# List of Affected Part(s):

| Part Number  | Qualification Vehicle |
|--------------|-----------------------|
| FFAF60UA60DN | FFAF60UA60DN          |