

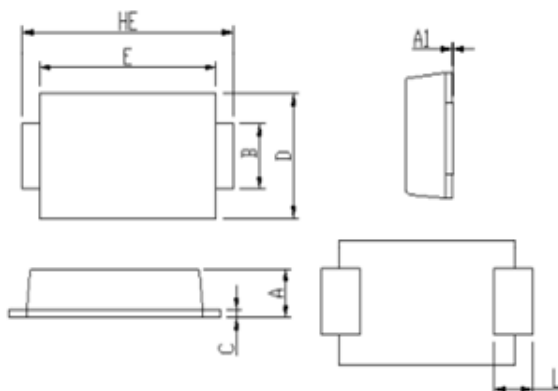


|   |   |                                     |
|---|---|-------------------------------------|
| <b>Title of Change:</b>   | Update to FPCN23290X - SMAF Rectifiers Manufacturing Site Change.   |                                     |
| <b>Proposed First Ship date:</b>  | 29 Jul 2020 or earlier if approved by customer  |                                     |
| <b>Contact Information:</b>   | Contact your local ON Semiconductor Sales Office or <a href="mailto:Benjo.Rulona@onsemi.com">Benjo.Rulona@onsemi.com</a>  |                                     |
| <b>PCN Samples Contact:</b>   | Contact your local ON Semiconductor Sales Office or <PCN.samples@onsemi.com>. 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. |                                     |
| <b>Additional Reliability Data:</b>   | Contact your local ON Semiconductor Sales Office or <a href="mailto:songyong.sim@onsemi.com">songyong.sim@onsemi.com</a>  |                                     |
| <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. 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>Marking of Parts/ Traceability of Change:</b>  | Assembly Plant Code Marking Change from J to g  |                                     |
| <b>Change Category:</b>   | Wafer Fab Change, Assembly Change   |                                     |
| <b>Change Sub-Category(s):</b>  | Manufacturing Site Transfer   |                                     |
| <b>Sites Affected:</b>  |   |                                     |
| <b>ON Semiconductor Sites</b>   | <b>External Foundry/Subcon Sites</b>  |                                     |
| None  | Good-Ark, China   |                                     |
|   | Panjit International Inc., Taiwan   |                                     |
| <b>Description and Purpose:</b>   |   |                                     |
| <p>This is an Update Notification to FPCN23290X to include The POD Change and Package Outline Comparison Details as it was inadvertently excluded in the original PCN.</p> <p>FPCN23290X was originally issued in April with details below:</p> <p>As part of ON Semiconductor's effort to secure available capacity and meet customer's need of a reliable source for Rectifiers in SMAF package, qualification of Good-Ark located in Suzhou, China has been undertaken.</p> <p>This new sourcing is intended to meet consistent supply and service and to prevent supply disruption to our customers.</p> <p>These products are currently assembled and tested in a manufacturing site located in Taiwan. A comparison of the differences between the current and new sites' built parts are presented in the table below. Please note that there is also a slight change in the Package Outline Dimensions (POD):</p> |   |                                     |
|   | <b>Before Change Description</b>  | <b>After Change Description</b>     |
| Wafer Fab   | Pynmax, Taiwan  | Suzhou Good-Ark Electronics Co. Ltd |
| Assembly Site   | Panjit International Taiwan   | Suzhou Good-Ark Electronics Co. Ltd |
| Topmetal/Backmetal  | Au  | Ni                                  |
| Green Molding Compound  | ELER-8-500C-S   | EK1700GH/SP-G300                    |
| POD Change  | A   | B                                   |



|                        | From                  | To                    |
|------------------------|-----------------------|-----------------------|
| Product marking change | Assembly Plant Code J | Assembly Plant Code g |

Package Outline Dimension Comparison



| Package (mm) | A         | B        | C         | D         | E       | L         | HE      |
|--------------|-----------|----------|-----------|-----------|---------|-----------|---------|
| Current (A)  | 0.9~1.1   | 1.60~1.9 | 0.1~0.25  | 2.3~2.7   | 3.6~4.0 | 0.5~0.95  | 4.4~5.0 |
| New (B)      | No Change | 1.25~1.9 | No Change | No Change | 3.6~4.3 | No Change | 4.4~5.2 |

Reliability Data Summary:

**QV DEVICE NAME:** QV-ES1JAF and ES2DAF (QBS-ES1DAF)

**RMS:** SYSQR200402

**PACKAGE:** SMAF (DO-214AD)

| Test  | Specification                | Condition                                  | Interval  | Results |
|-------|------------------------------|--|-----------|---------|
| HTRB  | JESD22-A108                  | Tj=150°C, 100% max rated V                 | 1008 hrs  | 0/240   |
| HTSL  | JESD22-A103                  | Ta= 150°C                                  | 1008 hrs  | 0/240   |
| IOL   | MIL-STD-750 (M1037) AEC-Q101 | Ta=+25°C, delta Tj=100°C<br>On/off = 2 min | 15000 cyc | 0/120   |
| TC    | JESD22-A104                  | Ta= -55°C to +150°C                        | 1000 cyc  | 0/120   |
| HAST  | JESD22-A110                  | 130°C, 85% RH, 18.8psig, bias 100V max     | 96 hrs    | 0/120   |
| uHAST | JESD22-A118                  | 130°C, 85% RH, 18.8psig, unbiased          | 96 hrs    | 0/120   |
| PC    | J-STD-020 JESD-A113          | MSL 1 @ 260 °C                             | -         | 0/480   |
| RSH   | JESD22- B106                 | Ta = 265C, 10 sec                          | -         | 0/30    |
| SD    | JSTD002                      | Ta = 245C, 5 sec                           | -         | 0/45    |



**Electrical Characteristics Summary:**

Electrical Characteristics as per datasheet specifications are not impacted. Parts covered in this change are expected to have comparable performance with the current parts in terms of quality and reliability.

**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 |
|-------------|-----------------------|
| ES1DAF      | ES1JAF                |
| ES1JAF      | ES1JAF                |
| ES2DAF      | ES2DAF                |



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## Appendix A: Changed Products

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| Product | Customer Part Number | Qualification Vehicle | New Part Number | Replacement Supplier |
|---------|----------------------|-----------------------|-----------------|----------------------|
| ES1DAF  |                      | ES1JAF                | NA              |                      |
| ES1JAF  |                      | ES1JAF                | NA              |                      |
| ES2DAF  |                      | ES2DAF                | NA              |                      |