

Control No. PCN-18402

October 12, 2018

**PRODUCT/PROCESS CHANGE NOTIFICATION**

**TYPE OF CHANGE:**       Design               Manufacturing               Other

This notification is provided in accordance with Power Integrations policy of product/process change notification. If you have any questions or need further assistance, please contact your regional Power Integrations sales office.

**DESCRIPTION OF CHANGE**

Power Integrations is adding Lapis Kagoshima, Japan factory for the fabricating of the products listed in this notification. There is no change in the wafer technology, bills of materials or final test program.

**REASON FOR CHANGE**

Addition of an alternative production line for increased manufacturing capacity and flexibility.

**PRODUCTS AFFECTED**

| Product Family | Part Numbers                             | Package   |
|----------------|--|-----------|
| InnoSwitch     | SC1205K1, SC1229K, SC1229K0044, SC1229K1 | eSOP-R16B |
| InnoSwitch-CH  | INN2005K0044                             | eSOP-R16B |
| InnoSwitch-CP  | INN2215K                                 | eSOP-R16B |

**QUALIFICATION STATUS**

Refer to Appendix 1 for the qualification data.

**EFFECT ON CUSTOMER**

No adverse impact is expected in manufacturers' applications and there is no change in the datasheet. The product will be guaranteed to meet the datasheet limits.

**EFFECTIVE DATE**

January 14, 2019. This date is subject to change. Products assembled at the current wafer fab site will continue to be shipped after implementation of the above change.

**SAMPLE AVAILABILITY**

Samples will be available 12 weeks from the date of request.

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**Project Title: Qualification for InnoSwitch Products Lapis Kagashima Wafer Fab**

## Qual Summary:

Reliability testing was performed on three InnoSwitch lots to qualify wafer fabrication of these products in the Lapis Kagoshima, Japan wafer fab. All required reliability tests were completed with passing results. Yield analysis and assembly-level testing were completed with acceptable results. Based on these results, the Kagoshima fab is qualified for wafer fabrication of all InnoSwitch products (InnoSwitch, InnoSwitch-CH and InnoSwitch-CP).

Qualification Vehicles: INN2215K

**Reliability Test Descriptions and Conditions**

| Test Name                             | Conditions   | Reference Specification |
|---------------------------------------|--|-------------------------|
| DOPL (Dynamic Operating Life Test)    | T <sub>j</sub> =125°C, V <sub>d(peak)</sub> =580V                        | EIA/JESD22-A108         |
| THBT (Temperature Humidity Bias Test) | 85°C, 85% RH, V <sub>d</sub> =30V, V <sub>bp</sub> = V <sub>Shunt</sub>  | EIA/JESD22-A101         |
| TMCL (Temperature Cycle, Air to Air)  | -40°C to +125°C, air to air  | EIA/JESD22-A104         |
| HALT (Humidity Accelerated Life Test) | T <sub>j</sub> =115°C, 85% RH, V <sub>d(peak)</sub> =580V                | Internal Standard       |
| HTSL (High Temperature Storage Life)  | T <sub>a</sub> =150°C, unbiased  | EIA/JESD22-A103         |
| MSL3 Preconditioning                  | 24-hr 150C bake → 192-hr 30°C, 60% RH soak → 3 passes 260C solder reflow | IPC/JEDEC J-STD-020     |

**DOPL (Dynamic Operating Life)**

| Product  | Lot #  | Rel Reference # | Test Duration     | No. Failures/Sample Size |
|----------|--------|-----------------|-------------------|--------------------------|
| INN2215K | 7D970A | E182601         | MSL3 + 1000 hours | 0/77                     |
| INN2215K | 7F426A | E182601         | MSL3 + 1000 hours | 0/77                     |
| INN2215K | 7G051A | E182601         | MSL3 + 1000 hours | 0/77                     |

**THBT (Temperature Humidity Bias)**

| Product  | Lot #  | Rel Reference # | Test Duration     | No. Failures/Sample Size |
|----------|--------|-----------------|-------------------|--------------------------|
| INN2215K | 7D970A | E182601         | MSL3 + 1000 hours | 0/77                     |
| INN2215K | 7F426A | E182601         | MSL3 + 1000 hours | 0/77                     |
| INN2215K | 7G051A | E182601         | MSL3 + 1000 hours | 0/77                     |

**TMCL (Temperature Cycling)**

| Product  | Lot #  | Rel Reference # | Test Duration     | No. Failures/Sample Size |
|----------|--------|-----------------|-------------------|--------------------------|
| INN2215K | 7D970A | E182601         | MSL3 + 850 cycles | 0/77                     |
| INN2215K | 7F426A | E182601         | MSL3 + 850 cycles | 0/77                     |
| INN2215K | 7G051A | E182601         | MSL3 + 850 cycles | 0/77                     |

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**HTSL (High Temperature Storage Life)**

| Product  | Lot #  | Rel Reference # | Test Duration     | No. Failures/Sample Size |
|----------|--------|-----------------|-------------------|--------------------------|
| INN2215K | 7D970A | E182601         | MSL3 + 1000 hours | 0/77                     |
| INN2215K | 7F426A | E182601         | MSL3 + 1000 hours | 0/77                     |
| INN2215K | 7G051A | E182601         | MSL3 + 1000 hours | 0/77                     |

**HALT (Humidity Accelerated Life Test)**

| Product  | Lot #  | Rel Reference # | Test Duration     | No. Failures/Sample Size |
|----------|--------|-----------------|-------------------|--------------------------|
| INN2215K | 7D970A | E182602         | MSL3 + 1000 hours | 0/20                     |
| INN2215K | 7F426A | E182602         | MSL3 + 1000 hours | 0/19 (Note 1)            |
| INN2215K | 7G051A | E182602         | MSL3 + 1000 hours | 0/20                     |

Note 1: Sample size reduced as S/N 20 was damaged by faulty transformer on HALT board.

**Conclusion:** Based on these results, the Lapis Kagoshima fab is qualified for wafer fabrication of all InnoSwitch products (InnoSwitch, InnoSwitch-CH and InnoSwitch-CP).

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**CUSTOMER ACKNOWLEDGEMENT**

Power Integrations requests you acknowledge the receipt of the above-mentioned PCN. If no acknowledgment is received within 30 days of this notification, Power Integrations will assume the change is acceptable. Lack of any additional response within 90 days of this notification further constitutes acceptance of the change.

Power Integrations reserves the right to ship either version manufactured after the effective date.

If you have any questions or need further assistance, please contact your regional Power Integrations sales office. Otherwise, please check the box below, acknowledging the receipt of the PCN.

**The indicated Product/Process Change Notification was received by the undersigned authority.**

Name/Title: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Email Address/Phone#: \_\_\_\_\_

Company/Location: \_\_\_\_\_

**CUSTOMER COMMENTS**

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Please email this signed form to [pcn@power.com](mailto:pcn@power.com) specifying the PCN# in the subject.

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