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Control No. PCN-23141

April 25, 2023

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

Seiko Epson, Sakata, Japan 6-inch wafer fabrication is added as an alternative wafer fab production line of the power-switch wafers for the product families listed in the table below. Seiko Epson, Sakata, Japan is one of the qualified wafer fabrication sites of Power Integrations products.

REASON FOR CHANGE

Improve manufacturing flexibility and diversification of manufacturing sites.

PRODUCTS AFFECTED

Product Family	Part Numbers
InnoSwitch4-CZ	INN4077C-H181-TL, INN4077C-H182-TL, INN4077C-H183-TL, INN4077C-H184-TL, INN4077C-H185-TL, INN4077C-H186-TL, INN4177C-H187-TL, INN4177C-H188-TL, INN4177C-H189-TL, INN4177C-H190-TL, INN4177C-H191-TL, INN4177C-H192-TL
InnoSwitch4-Pro	INN4377F-H341-TL, INN4377F-H346-TL, INN4477F-H341-TL, INN4577F-H342-TL, INN4677F-H342-TL

QUALIFICATION STATUS

See Appendix 1 for the qualification report.

EFFECT ON CUSTOMER

No adverse impact is expected in customers' applications. The product will be guaranteed to meet the datasheet limits.

EFFECTIVE DATE

July 25, 2023. This date is subject to change. Products fabricated at the current locations will continue to be shipped after the addition.

SAMPLE AVAILABILITY

Samples will be available 6 weeks from the date of request. Please send requests for samples within two weeks after receipt of this notification to the local Power Integrations sales office. For manufacturers that request samples, an accommodation will be made in order to allow time of customer's qualification in a case-specific manner.

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Appendix 1
Reliability Engineering
Qualification Report

Qualification Project: E221502

Project Title: Seiko Epson, Sakata Fab Qual for InnoSwitch4-CZ and InnoSwitch4-Pro Products
Qual Summary:

Reliability testing was performed to qualify power-switch wafer fabrication for InnoSwitch4-CZ and InnoSwitch4-Pro products in the previously qualified Seiko Epson wafer fab in Sakata, Japan. Three representative qual lots were subjected to a full suite of reliability stress tests with passing results obtained. Yield analysis and assembly-level testing were completed with acceptable results. Based on these results, Seiko Epson, Sakata is qualified for power-switch wafer fabrication for InnoSwitch4-CZ and InnoSwitch4-Pro products.

Qualification Vehicles: INN4177C, INN3379C, INN3479C

Reliability Test Descriptions and Conditions

Test Name	Conditions	Reference Specification
DOPL (Dynamic Operating Life Test)	Tj=125°C, Vd_peak=650V, Vsupply = VBP	EIA/JESD22-A108
HALT (Humidity Accelerated Life Test)	Vd = 520V ; Tj=115°C, 85% RH	Internal Standard
THBT (Temperature Humidity Bias Test)	85°C, 85% RH, Vd=100V	EIA/JESD22-A101
TMCL (Temperature Cycle, Air to Air)	-40°C to +125°C, air to air	EIA/JESD22-A104
HTSL (High Temperature Storage Life)	Ta=150°C, unbiased	EIA/JESD22-A103
MSL3 Preconditioning	24-hr 150°C Bake +40-hr 60°C, 60% RH Moisture Soak + 3 Passes 260°C Solder Reflow	EIA/JESD22-A113

DOPL (Dynamic Operating Life)

Product	Lot #	Wafer Fab	Test Duration	No. Failures/Sample Size
INN3379C	MBM782F	Seiko Epson, Sakata	MSL3 + 1000 hours	0 / 45
INN3379C	MBM782G	Seiko Epson, Sakata	MSL3 + 1000 hours	0 / 45
INN4177C	MDB524A	Seiko Epson, Sakata	MSL3 + 1000 hours	0 / 45

HALT (Humidity Accelerated Life Test)

Product	Lot #	Wafer Fab	Test Duration	No. Failures/Sample Size
INN3479C	M9V136A	Seiko Epson, Sakata	MSL3 + 1000 hours	0 / 20
INN3379C	MBM782E	Seiko Epson, Sakata	MSL3 + 1000 hours	0 / 20
INN3379C	MBM782F	Seiko Epson, Sakata	MSL3 + 1000 hours	0 / 20

THBT (Temperature Humidity Bias)

Product	Lot #	Wafer Fab	Test Duration	No. Failures/Sample Size
INN3379C	MBM782E	Seiko Epson, Sakata	MSL3 + 1000 hours	0 / 45
INN3379C	MBM782F	Seiko Epson, Sakata	MSL3 + 1000 hours	0 / 45
NN3379C	MBM782G	Seiko Epson, Sakata	MSL3 + 1000 hours	0 / 45

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HTSL (High Temperature Storage Life)

Product	Lot #	Wafer Fab	Test Duration	No. Failures/Sample Size
INN3379C	MBM782E	Seiko Epson, Sakata	MSL3 + 1000 hours	0 / 45
INN3379C	MBM782F	Seiko Epson, Sakata	MSL3 + 1000 hours	0 / 45
INN3379C	MBM782G	Seiko Epson, Sakata	MSL3 + 1000 hours	0 / 45

TMCL (Temperature Cycling)

Product	Lot #	Wafer Fab	Test Duration	No. Failures/Sample Size
INN3379C	MBM782E	Seiko Epson, Sakata	MSL3 + 850 cycles	0 / 45
INN3379C	MBM782F	Seiko Epson, Sakata	MSL3 + 850 cycles	0 / 45
INN3379C	MBM782G	Seiko Epson, Sakata	MSL3 + 850 cycles	0 / 45

Conclusion: Based on passing qualification results, Seiko Epson, Sakata is qualified for power-switch wafer fabrication for InnoSwitch4-CZ and InnoSwitch4-Pro Products.

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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

Please email this signed form to pcn@power.com specifying the PCN# in the subject.

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