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Control No. PCN-21431

December 6, 2021

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 8-inch wafer fabrication is added as an alternative wafer fab production line of the low voltage power-switch die (LVFET) of the multi-die product listed below. Seiko Epson, Sakata, Japan is one of the qualified 8-inch wafer fabrication sites of Power Integrations products.

REASON FOR CHANGE

Improve manufacturing flexibility and diversification of manufacturing sites.

PRODUCTS AFFECTED

MIN1072M-TL

QUALIFICATION STATUS

See Appendix 1 for the qualification report.

EFFECT ON CUSTOMER

No adverse impact is expected in customers' applications. The product meets the datasheet limits.

EFFECTIVE DATE

March 6, 2022. 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 8 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: E204904

Project Title: SET Wafer Fab LVFET Die Qual for MinE-CAP Products**Qual Summary:**

Reliability testing was performed to qualify LVFET die from SET (Seiko Epson, Sakata, Japan 8-inch wafer fab) for use with MinE-CAP products. Reliability testing was completed on three MinE-CAP qualification lots using the SET LVFET with passing results obtained. Yield and temperature characterization were performed on each product with acceptable results. Based on these results, the SET LVFET is qualified for use with MinE-CAP products.

Qualification Vehicles: MIN1072M

Reliability Test Descriptions and Conditions

Test Name	Conditions	Reference Specification
DOPL (Dynamic Operating Life Test)	Tj=125°C, Vd=VBOT=VTOP=200V	EIA/JESD22-A108
HALT (Humidity Accelerated Life Test)	Tj=115°C, 85% RH; Vd=VOT=VTOP=200V	Internal Standard
HTRB (High Temperature Reverse Bias)	Ta=150°C; Vd=VBOT=VTOP=520V, static off-state bias	EIA/JESD22-A108
THBT (Temperature Humidity Bias Test)	85°C, 85% RH; Vd=VBOT=375V, VTOP=520V, static off-state bias	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 Test)

Product	Lot #	Package	Test Duration	No. Failures/Sample Size
MIN1072M	M9V600G	MinSOP-16A	MSL3 + 1000 hours	0/45
MIN1072M	MAD873B	MinSOP-16A	MSL3 + 1000 hours	0/45
MIN1072M	MAD874B	MinSOP-16A	MSL3 + 1000 hours	0/45

HALT (Humidity Accelerated Life Test)

Product	Lot #	Package	Test Duration	No. Failures/Sample Size
MIN1072M	M9V600G	MinSOP-16A	MSL3 + 1000 hours	0/19 (Note 1)
MIN1072M	MAD873B	MinSOP-16A	MSL3 + 1000 hours	0/20
MIN1072M	MAD874B	MinSOP-16A	MSL3 + 1000 hours	0/20

Note 1: Sample size reduced to 19; one unit suffered EOS on the power switch die, not a valid failure.

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HTRB (High Temperature Reverse Bias)

Product	Lot #	Package	Test Duration	No. Failures/Sample Size
MIN1072M	M9V600G	MinSOP-16A	MSL3 + 1000 hours	0/45
MIN1072M	MAD873B	MinSOP-16A	MSL3 + 1000 hours	0/45
MIN1072M	MAD874B	MinSOP-16A	MSL3 + 1000 hours	0/45

THBT (Temperature Humidity Bias)

Product	Lot #	Package	Test Duration	No. Failures/Sample Size
MIN1072M	M9V600G	MinSOP-16A	MSL3 + 1000 hours	0/45
MIN1072M	MAD873B	MinSOP-16A	MSL3 + 1000 hours	0/45
MIN1072M	MAD874B	MinSOP-16A	MSL3 + 1000 hours	0/45

TMCL (Temperature Cycling)

Product	Lot #	Package	Test Duration	No. Failures/Sample Size
MIN1072M	M9V600G	MinSOP-16A	MSL3 + 850 cycles	0/45
MIN1072M	MAD873B	MinSOP-16A	MSL3 + 850 cycles	0/45
MIN1072M	MAD874B	MinSOP-16A	MSL3 + 850 cycles	0/45

HTSL (High Temperature Storage Life)

Product	Lot #	Package	Test Duration	No. Failures/Sample Size
MIN1072M	M9V600G	MinSOP-16A	MSL3 + 1000 hours	0/45
MIN1072M	MAD873B	MinSOP-16A	MSL3 + 1000 hours	0/45
MIN1072M	MAD874B	MinSOP-16A	MSL3 + 1000 hours	0/45

Conclusion: Based on these results, the SET LVFET is qualified for use with MinE-CAP 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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