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Control No. PCN-21201

July 15, 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

A design change was made to TinySwitch-LT product family to improve manufacturing capacity at Lapis Miyazaki, a qualified wafer fabrication facility of Power Integrations. There is neither change to the existing TinySwitch-LT datasheet nor a change to the reliability of the products.

REASON FOR CHANGE

Improve manufacturing capacity and diversification of manufacturing sites.

PRODUCTS AFFECTED

Part Numbers	Package
TNY174DG-TL, TNY175DG-TL, TNY175DG209-TL, TNY176DG-TL	SO-8C
TNY174PG, TNY174PN, TNY175PG, TNY176PG, TNY176PN, TNY176PN0005, TNY177PG, TNY177PGAU, TNY177PN, TNY178PG, TNY178PN, TNY179PG, TNY179PN, TNY179PNAU, TNY180PG, TNY180PN, TNY180PNAU	DIP-8C

QUALIFICATION STATUS

Refer to Appendix 1 for the qualification data.

EFFECT ON CUSTOMER

No adverse impact is expected in customers' applications but customers are encouraged to request samples to validate on their applications.

EFFECTIVE DATE

October 15, 2021. This date is subject to change. Products fabricated at the current wafer fab site will continue to be shipped after the implementation of the above change.

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.

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Appendix 1
Reliability Engineering
Qualification Report

Qualification Project: E201407

Project Title: TinySwitch-LT Products Lapis Miyazaki Fab Transfer Qualification Report
Summary:

TinySwitch-LT products will be fabricated in the Lapis Miyazaki wafer fab which was previously qualified and running mass production on the wafer fabrication process to be used for TinySwitch-LT products. TinySwitch and other products running on this wafer fabrication process in this wafer fab were subjected to full qualification with passing results that qualify this fab transfer. TinySwitch-LT products from Lapis Miyazaki were subjected to yield and temperature characterization testing with acceptable results.

Based on these results, Lapis Miyazaki is qualified for wafer fabrication of TinySwitch-LT products.

Reliability Test Descriptions and Conditions

Test Name	Conditions	Reference Specification
DOPL (Dynamic Operating Life Test)	Tj=125°C, Vd _(peak) =580V	EIA/JESD22-A108
HTRB (High Temperature Reverse Bias Test)	Ta=150°C; Vd=580V, Vbp = 5.8V	EIA/JESD22-A108
THBT (Temperature Humidity Bias Test)	85°C, 85% RH, Vd=30V, Vbp = 5.8V	EIA/JESD22-A101
TMCL (Temperature Cycle, Air to Air)	-65°C to +150°C, air to air, unbiased	EIA/JESD22-A104
HALT (Humidity Accelerated Life Test)	DOPL at Tj=115°C, 85% RH, Vd(peak)=580V	Internal Standard
HTSL (High Temperature Storage Life)	Ta=150°C, unbiased	EIA/JESD22-A103

DOPL (Dynamic Operating Life)

Product	Lot #	Wafer Fab	Test Duration	No. Failures/Sample Size
TNY288DG	7B740G	Lapis Miyazaki	MSL1 + 1000 hours	0 / 45
TNY290PG	4F980B	Lapis Miyazaki	1000 hours	0 / 45
TNY290PG	9D589A	Lapis Miyazaki	1000 hours	0 / 45
TNY290PG	9D590A	Lapis Miyazaki	1000 hours	0 / 45

HTRB (High Temperature Reverse Bias)

Product	Lot #	Wafer Fab	Test Duration	No. Failures/Sample Size
TNY288DG	7B740G	Lapis Miyazaki	MSL1 + 1000 hours	0 / 45
TNY290PG	4F980B	Lapis Miyazaki	1000 hours	0 / 45
TNY290PG	9D589A	Lapis Miyazaki	1000 hours	0 / 45
TNY290PG	9D590A	Lapis Miyazaki	1000 hours	0 / 45

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THBT (Temperature Humidity Bias)

Product	Lot #	Wafer Fab	Test Duration	No. Failures/Sample Size
TNY288DG	7B740G	Lapis Miyazaki	MSL1 + 1000 hours	0 / 45
TNY290PG	4F980B	Lapis Miyazaki	1000 hours	0 / 45
TNY290PG	9D589A	Lapis Miyazaki	1000 hours	0 / 45
TNY290PG	9D590A	Lapis Miyazaki	1000 hours	0 / 45

TMCL (Temperature Cycling)

Product	Lot #	Wafer Fab	Test Duration	No. Failures/Sample Size
TNY288DG	7B740G	Lapis Miyazaki	MSL1 + 1000 cycles	0 / 45
TNY290PG	4F980B	Lapis Miyazaki	1000 cycles	0 / 45
TNY290PG	9D589A	Lapis Miyazaki	1000 cycles	0 / 45
TNY290PG	9D590A	Lapis Miyazaki	1000 cycles	0 / 45

HALT (Humidity Accelerated Life Test)

Product	Lot #	Wafer Fab	Test Duration	No. Failures/Sample Size
TNY288DG	7B740G	Lapis Miyazaki	MSL1 + 1000 cycles	0 / 20
TNY290PG	4F980B	Lapis Miyazaki	1000 hours	0 / 20
TNY290PG	9D589A	Lapis Miyazaki	1000 hours	0 / 20
TNY290PG	9D590A	Lapis Miyazaki	1000 hours	0 / 20

HTSL (High Temperature Storage Life)

Product	Lot #	Wafer Fab	Test Duration	No. Failures/Sample Size
TNY288DG	7B740G	Lapis Miyazaki	MSL1 + 1000 cycles	0 / 45
TNY290PG	4F980B	Lapis Miyazaki	1000 hours	0 / 45
TNY290PG	9D589A	Lapis Miyazaki	1000 hours	0 / 45
TNY290PG	9D590A	Lapis Miyazaki	1000 hours	0 / 45

Conclusion: Based on acceptable results, Lapis Miyazaki is qualified for wafer fabrication of TinySwitch-LT 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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