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Product Change Notification

Control No. PCN-09361 **September 4, 2009**

Type of Change: ☐ **Design:** ☒ **Manufacturing** ☐ **Other**

We are providing you this notification in accordance with Power Integrations policy of critical change notification. If you have any questions or need further assistance, please contact PI Sales office serving your geographic location.

DESCRIPTION OF THE CHANGES:

(1) Silicon wafers will be fabricated at the Oki six-inch wafer fabrication facility located in Miyazaki, Japan in addition to the wafer fabrication facilities presently qualified. The Oki six-inch wafer fab is a qualified wafer fab for other Power Integrations products.

(2) CK6000HV molding compound is being added as an alternative to the existing MG15F for products with part numbers ending in "N." CK6000HV is a qualified green molding compound that has been used in high-volume production of other PI products for more than two years.

EFFECT ON CUSTOMER: No adverse impact is expected in any of the existing applications. There is no change in any of the specified datasheet parameter limits.

EFFECT ON PRODUCT QUALITY: None. The new silicon has been verified and qualified through parameter characterization and reliability verification. See Appendix 1 for the qualification report.

PRODUCTS AFFECTED: All members of the *TinySwitch-III*™, product family. Please see Appendix 2 for a schedule of implementation by part number.

REASON FOR CHANGE:

Manufacturing capacity and flexibility.

EFFECTIVE DATES: Please see Appendix 2 for a schedule of implementation by part number.

Please note that products with the above changes may begin to be shipped after the effective date without further notice.

Project Title: **TinySwitch-III Qualification at OKI Electric Wafer Fab Six-Inch Line**	
Summary: Reliability testing was conducted to qualify the TinySwitch-III products at OKI Electric six-inch wafer fabrication facility. A total on eight product lots built from six-inch line were subjected to a full suite of reliability stress tests with acceptable results. Comprehensive parameter analysis and temperature characterization was performed with acceptable results. Based on these results, the OKI Electric six-inch wafer fab is now fully qualified and approved for production of TinySwitch-III products.	
Qualification Vehicles: TNY278PN, TNY278PG, TNY280PN, and TNY280PG	
Wafer Fab: Oki Electric Wafer Fab, Six Inch line	Fab Location: Miyazaki, Japan

Reliability Test Descriptions and Conditions

Test Name	Conditions	Reference Specification
DOPL (Dynamic Operating Life Test)	Tj=150°C, $Vd_{(peak)}$=560V	EIA/JESD22-A108-C
HTRB (High Temperature Reverse Bias Test)	Ta=150°C, Vd=560V, Vbp or Vc=6.2V	EIA/JESD22-A108-C
THBT (Temperature Humidity Bias Test)	85°C, 85% RH, Vd=30V, Vc=6.2V	EIA/JESD22-A101-B
TMCL (Temperature Cycle, Air to Air)	-65°C to +150°C, air to air, unbiased	EIA/JESD22-A104-A

DOPL (Dynamic Operating Life)

Product	Lot #	Preconditioning	Test Duration	Rejects/Sample Size
TNY278PN	54580A	none	1000 hours	0/47
TNY278PN	54580B	none	1000 hours	0/47
TNY278PN	55204A	260C Pb-free MSL4	1000 hours	0/47
TNY278PN	55204B	none	1000 hours	0/47
TNY278PN	55681B	260C Pb-free MSL4	1000 hours	0/47
TNY278PG	55681E	None	1000 hours	0/47
TNY280PN	57482B	260C Pb-free MSL4	1000 hours	0/47
TNY280PG	57482C	None	1000 hours	0/47

HTRB (High Temperature Reverse Bias)

Product	Lot #	Preconditioning	Test Duration	Rejects/Sample Size
TNY278PN	54580A	none	1000 hours	0/47
TNY278PN	54580B	none	1000 hours	0/47
TNY278PN	55204A	260C Pb-free MSL4	1000 hours	0/47
TNY278PN	55204B	none	1000 hours	0/47
TNY278PN	55681B	260C Pb-free MSL4	1000 hours	0/47
TNY278PG	55681E	None	1000 hours	0/47
TNY280PN	57482B	260C Pb-free MSL4	1000 hours	0/47
TNY280PG	57482C	None	1000 hours	0/47

THBT (Temperature Humidity Bias)

Product	Lot #	Preconditioning	Test Duration	Rejects/Sample Size
TNY278PN	54580A	none	1000 hours	0/47
TNY278PN	54580B	none	1000 hours	0/47
TNY278PN	55204A	260C Pb-free MSL4	1000 hours	0/47
TNY278PN	55204B	none	1000 hours	0/47
TNY278PN	55681B	260C Pb-free MSL4	1000 hours	0/47
TNY278PG	55681E	None	1000 hours	0/47
TNY280PN	57482B	260C Pb-free MSL4	1000 hours	0/47
TNY280PG	57482C	None	1000 hours	0/47

TMCL (Temperature Cycling)

Product	Lot #	Preconditioning	Test Duration	Rejects/Sample Size
TNY278PN	54580A	none	1000 cycles	0/47
TNY278PN	54580B	none	1000 cycles	0/47
TNY278PN	55204A	260C Pb-free MSL4	1000 cycles	0/47
TNY278PN	55204B	none	1000 cycles	0/47
TNY278PN	55681B	260C Pb-free MSL4	1000 cycles	0/47
TNY278PG	55681E	None	1000 cycles	0/47
TNY280PN	57482B	260C Pb-free MSL4	1000 cycles	0/47
TNY280PG	57482C	None	1000 cycles	0/47

Conclusion: Based on acceptable reliability test results for all qualification lots, the OKI Electric wafer fab six-inch line is now fully qualified and approved for production of TinySwitch-III products.

Approvals

Approved By	Signature	Date
Reliability Engineer:	On File	On File
Product Engineering Manager:	On File	On File
Assembly Engineering Manager:	On File	On File
Director of Technology Development:	On File	On File
Reliability Engineering Manager:	On File	On File
Director of Quality:	On File	On File

Appendix 2

Implementation Schedule by Part Numbers*

(*Dates more than three months from the date of this report are approximate and subject to change.)

Report Date: September 4, 2009 Report Last Updated On: NA

Part No.	Sample Availability	Estimated Shipment	Note
TNY274PN	30-Sep-09	15-Oct-09	
TNY274PG	30-Sep-09	15-Oct-09	
TNY274GN	30-Sep-09	15-Oct-09	
TNY275PN	30-Sep-09	15-Oct-09	
TNY275PG	30-Sep-09	15-Oct-09	
TNY275GN	30-Sep-09	15-Oct-09	
TNY276PN	30-Sep-09	15-Oct-09	
TNY276PG	30-Sep-09	15-Oct-09	
TNY276GN	30-Sep-09	15-Oct-09	
TNY277PN	15-Oct-09	30-Oct-09	
TNY277PG	15-Oct-09	30-Oct-09	
TNY277GN	15-Oct-09	30-Oct-09	
TNY278PN	15-Oct-09	30-Oct-09	
TNY278PG	15-Oct-09	30-Oct-09	
TNY278GN	15-Oct-09	30-Oct-09	
TNY279PN	15-Oct-09	30-Oct-09	
TNY279PG	15-Oct-09	30-Oct-09	
TNY279GN	15-Oct-09	30-Oct-09	
TNY280PN	15-Oct-09	30-Oct-09	
TNY280PG	15-Oct-09	30-Oct-09	
TNY280GN	15-Oct-09	30-Oct-09	