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Control No. PCN-16361

September 28, 2016

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

Unisem (M) Berhad, Ipoh, Malaysia is added as an alternative assembly and test site for the eSOP-R16B package.
 Unisem (M) Berhad, Ipoh, Malaysia is one of the qualified assembly and test sites of Power Integrations products.

REASON FOR CHANGE

Addition of assembly and test site for increased manufacturing capacity and flexibility.

PRODUCTS AFFECTED

Product Family	Part Numbers
InnoSwitch™	SC1205K1, SC1221K, SC1222K, SC1223K, SC1224K, SC1225K, SC1226K, SC1229K, SC1229K1, SC1251K, SC1252K0184, SC1252K1, SC1253K, SC1255K, SC1259K, SC1262K, SC1262K0191, SC1271K
InnoSwitch™-CH	INN2003K, INN2004K, INN2005K, INK2005K0044, INN2023K, INN2024K, INN2025K
InnoSwitch™-CE	INN2103K, INN2104K, INN2105K, INN2123K, INN2124K, INN2125K
InnoSwitch™-CP	INN2214K, INN2215K
InnoSwitch™-EP	INN2603K, INN2604K, INN2605K, INN2904K

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 2, 2017. This date is subject to change. Products assembled at the current assembly site will continue to be shipped after implementation of the above change.

SAMPLE AVAILABILITY

Samples will be available 6 weeks from the date of request. Please send requests for samples to the local Power Integrations sales office.

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Appendix 1
Reliability Engineering
Qualification Report

Qualification Project: E162402
Prepared By: Nick Stanco
Manager, Reliability Engineering

Project Title: eSOP-R16 Unisem Assembly Site Qualification
Summary: Reliability testing was conducted to qualify Unisem (M) Berhad, Ipoh, Malaysia for assembly of the eSOP-R16B package. Reliability qualification was performed and all of the required reliability stress tests were completed with acceptable results. Yield and temperature characterization were completed with acceptable results for all affected products. Based on these qualification results, the eSOP-R16 package is now qualified for assembly at Unisem.
Qualification Vehicles: INN2005K, INN2103K, INN2214K

Reliability Test Descriptions and Conditions

Test Name	Conditions	Reference Specification
DOPL (Dynamic Operating Life Test)	T _j =125°C, V _{d(peak)} = 580V, switching power supply configuration	EIA/JESD22-A108D
HTRB (High Temp Reverse Bias Test)	T _a =150°C, V _d =580V, biased in off-state	EIA/JESD22-A108D
THBT (Temperature Humidity Bias Test)	85°C, 85% RH, V _d =30V, , biased in off-state	EIA/JESD22-A101C
TMCL (Temperature Cycle, Air to Air)	-40°C to +125°C, air-to-air	EIA/JESD22-A104D
HALT (Humidity Accelerated Life Test)	DOPL at T _a =85°C, 85% RH, T _j =115°C, V _{d(peak)} = 580V, switching power supply configuration	Internal Standard
HTSL (High Temperature Storage Life)	T _a =175°C, unbiased	EIA/JESD22-A103D
MSL3 (preconditioning)	24 hour 150°C bake + 192 hour 30°C, 60% RH moisture soak + 3 passes 260°C solder reflow	EIA/JESD22-A113F

DOPL (Dynamic Operating Life)

Product	Lot Description	Lot No.	Test Duration	No. Failures/Sample Size
INN2005K	Unisem Qual Lot 1	M4H767F	MSL3 + 1000 hours	0/47
INN2103K	Unisem Qual Lot 2	M4W915A	MSL3 + 1000 hours	0/47
INN2214K	Unisem Qual Lot 3	M4X871A	MSL3 + 1000 hours	0/47

HTRB (High Temperature Reverse Bias)

Product	Lot Description	Lot No.	Test Duration	No. Failures/Sample Size
INN2005K	Unisem Qual Lot 1	M4H767F	MSL3 + 1000 hours	0/47
INN2103K	Unisem Qual Lot 2	M4W915A	MSL3 + 1000 hours	0/47
INN2214K	Unisem Qual Lot 3	M4X871A	MSL3 + 1000 hours	0/47

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THBT (Temperature Humidity Bias)

Product	Lot Description	Lot No.	Test Duration	No. Failures/Sample Size
INN2005K	Unisem Qual Lot 1	M4H767F	MSL3 + 1000 hours	0/47
INN2103K	Unisem Qual Lot 2	M4W915A	MSL3 + 1000 hours	0/47
INN2214K	Unisem Qual Lot 3	M4X871A	MSL3 + 1000 hours	0/47

TMCL (Temperature Cycling)

Product	Lot Description	Lot No.	Test Duration	No. Failures/Sample Size
INN2005K	Unisem Qual Lot 1	M4H767F	MSL3 + 850 cycles	0/47
INN2103K	Unisem Qual Lot 2	M4W915A	MSL3 + 850 cycles	0/47
INN2214K	Unisem Qual Lot 3	M4X871A	MSL3 + 850 cycles	0/47

HALT (Humidity Accelerated Life Test)

Product	Lot Description	Lot No.	Test Duration	No. Failures/Sample Size
INN2005K	Unisem Qual Lot 1	M4H767F	MSL3 + 1000 hours	0/18 (see Note 1)
INN2103K	Unisem Qual Lot 2	M4W915A	MSL3 + 1000 hours	0/20
INN2214K	Unisem Qual Lot 3	M4X871A	MSL3 + 1000 hours	0/20

HTSL (High Temperature Storage Life)

Product	Lot Description	Lot No.	Test Duration	No. Failures/Sample Size
INN2005K	Unisem Qual Lot 1	M4H767F	MSL3 + 1000 hours	0/47
INN2103K	Unisem Qual Lot 2	M4W915A	MSL3 + 1000 hours	0/47
INN2214K	Unisem Qual Lot 3	M4X871A	MSL3 + 1000 hours	0/47

Note 1: Two units failed in the first 24 hours of HALT due to shorts in the HALT burn-in board; the units suffered EOS damage and are invalid failures. The original 20 unit sample sizes were reduced accordingly.

Conclusion: Based on acceptable qualification results, the eSOP-R16B package is now fully qualified for assembly at Unisem (M) Berhad, Ipoh, Malaysia.

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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 until the inventory of the earlier version has been depleted.

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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