

Control No. PCN-18381

November 9, 2018

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

Hana Semiconductor Co. Limited, located in Ayutthaya, Thailand will be added as a qualified manufacturing facility for assembly and testing of the products listed in this notification. Hana Semiconductors assembly process will use the same bills of materials (BOM) and test program as the current assembly/test contract manufacturer for the affected part numbers.

Die 2 of all the products in the Scale-iDriver Family in eSOP-R16B will be slightly rotated for manufacturing flexibility as shown in Figure 2.

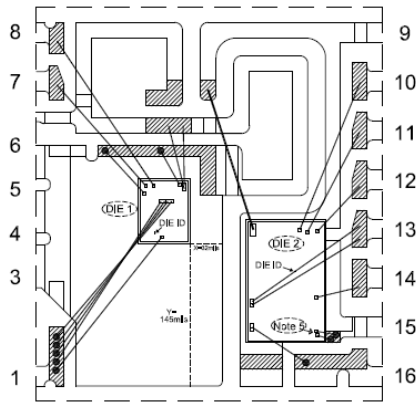


Figure 1: Current Bonding Diagram

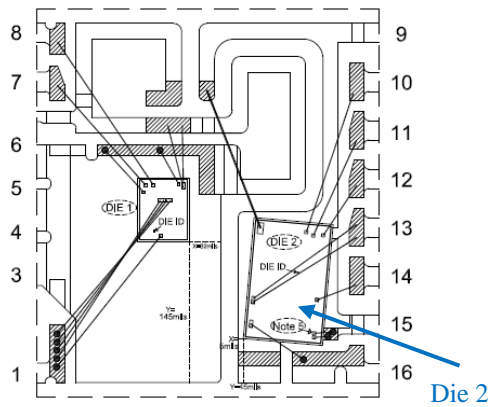


Figure 2: New Bonding Diagram

REASON FOR CHANGE

The addition of Hana is to improve manufacturing flexibility and diversification of manufacturing sites and the change to the die layout is part of the assembly process improvement activities.

PRODUCTS AFFECTED

SID1102K, SID1112K, SID1132K, SID1151K, SID1152K, SID1181K, SID1182K and SID1183K

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QUALIFICATION STATUS

Refer to Appendix 1 for the qualification data.

EFFECT ON CUSTOMER

The slight rotation of die 2 does not affect form, fit, function of the Scale-iDriver products in the eSOP-R16B package and no adverse impact is expected in manufacturers' applications. There will be no change in the functionality of the product and the product will be guaranteed to meet the same data sheet limits.

EFFECTIVE DATE

Immediate. Products built before the change may continue to be shipped until the stock runs out.

SAMPLE AVAILABILITY

Not required. 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: E180104

Project Title: Hana eSOP-R16B Package Qualification
Qual Summary: Reliability testing was performed on three InnoSwitch-CP lots to qualify the eSOP-R16B package for assembly at Hana Semiconductor Company Limited. All required reliability tests were completed on the three required qualification lots with passing results. Yield analysis and assembly-level testing were completed with acceptable results. Based on these results, Hana is approved for assembly of all Power Integrations products in the eSOP-R16B package.
Qualification Vehicles: INN2215K

Reliability Test Descriptions and Conditions

Test Name	Conditions	Reference Specification
DOPL (Dynamic Operating Life Test)	T _j =125°C, V _{d(peak)} =580V	EIA/JESD22-A108-D
HTRB (High Temperature Reverse Bias Test)	T _a =150°C; V _d =580V, V _{bp} = 5.3V	EIA/JESD22-A108-D
THBT (Temperature Humidity Bias Test)	85°C, 85% RH, V _d =30V, V _{bp} = 5.3V	EIA/JESD22-A101-C
TMCL (Temperature Cycle, Air to Air)	-40°C to +125°C, air to air, unbiased	EIA/JESD22-A104-E
HTSL (High Temperature Storage Life)	T _a =150°C, unbiased	EIA/JESD22-A103-D
HALT (Humidity Accelerated Life Test)	DOPL T _j =115°C, 85% RH, V _{d(peak)} =580V	Internal Standard
MSL3 Preconditioning	24-hr 150C bake → 40-hr 60°C, 60% RH soak → 3 passes 260C solder reflow	IPC/JEDEC J-STD-020E

DOPL (Dynamic Operating Life)

Product	Lot #	Qualification Project	Test Duration	No. Failures/Sample Size
INN2215K	M6N336E	E180404	MSL3 + 1000 hours	0/47
INN2215K	M6P279B	E180404	MSL3 + 1000 hours	0/47
INN2215K	M6Q144B	E180404	MSL3 + 1000 hours	0/47

HTRB (High Temperature Reverse Bias)

Product	Lot #	Qualification Project	Test Duration	No. Failures/Sample Size
INN2215K	M6N336E	E180404	MSL3 + 1000 hours	0/47
INN2215K	M6P279B	E180404	MSL3 + 1000 hours	0/47
INN2215K	M6Q144B	E180404	MSL3 + 1000 hours	0/47

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THBT (Temperature Humidity Bias)

Product	Lot #	Qualification Project	Test Duration	No. Failures/Sample Size
INN2215K	M6N336E	E180404	MSL3 + 1000 hours	0/47
INN2215K	M6P279B	E180404	MSL3 + 1000 hours	0/47
INN2215K	M6Q144B	E180404	MSL3 + 1000 hours	0/47

TMCL (Temperature Cycling)

Product	Lot #	Qualification Project	Test Duration	No. Failures/Sample Size
INN2215K	M6N336E	E180404	MSL3 + 850 cycles	0/47
INN2215K	M6P279B	E180404	MSL3 + 850 cycles	0/47
INN2215K	M6Q144B	E180404	MSL3 + 850 cycles	0/47

HTSL (High Temperature Storage Life)

Product	Lot #	Qualification Project	Test Duration	No. Failures/Sample Size
INN2215K	M6N336E	E180404	MSL3 + 1000 hours	0/47
INN2215K	M6P279B	E180404	MSL3 + 1000 hours	0/47
INN2215K	M6Q144B	E180404	MSL3 + 1000 hours	0/47

HALT (Humidity Accelerated Life Test)

Product	Lot #	Qualification Project	Test Duration	No. Failures/Sample Size
INN2215K	M6N336E	E180709	MSL3 + 1000 hours	0/20
INN2215K	M6P279B	E180709	MSL3 + 1000 hours	0/20
INN2215K	M6Q144B	E180709	MSL3 + 1000 hours	0/20

Conclusion: Based on acceptable results, Hana is approved for assembly of all Power Integrations products in the eSOP-R16B package.

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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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