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Control No. PCN-22121

April 11, 2022

### PRODUCT/PROCESS CHANGE NOTIFICATION

**TYPE OF CHANGE:**       Design       Manufacturing       Other

This notification is provided in accordance with Power Integrations policy of major 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 will be added as an alternative assembly and test site for the BridgeSwitch products listed below. Unisem (M) Berhad, Ipoh, Malaysia is a qualified assembly and test site of Power Integrations products.

There is neither change in the Bill of Materials nor a change to the data sheet.

#### REASON FOR CHANGE

Improve manufacturing flexibility and diversification of manufacturing sites.

#### PRODUCTS AFFECTED

BRD1160C-TL, BRD1161C-TL, BRD1163C-TL, BRD1165C-TL, BRD1167C-TL, BRD1260C-TL, BRD1261C-TL, BRD1263C-TL, BRD1265C-TL, BRD1267C-TL, SC3500C-TL

#### QUALIFICATION STATUS

Please refer to Appendix 1 for the qualification data.

#### EFFECT ON CUSTOMER

There will be no adverse impact in manufacturers' applications.

#### EFFECTIVE DATE

July 4, 2022. This date is subject to change. Current products from the existing assembly and test sites will continue to be shipped after implementation of the above changes.

#### SAMPLE AVAILABILITY

Samples will be available on May 16, 2022. Please send requests for samples within two weeks after receipt of this notification to the local Power Integrations sales office.

### CONFIDENTIAL

The information in this report contains confidential and proprietary information of Power Integrations and its manufacturing partners. By receiving this report, the customer agrees to use this information for the sole purpose of addressing the issues reviewed in this report and to keep the contents confidential. If it becomes necessary for the customer to disclose this information to a third party, a non-disclosure agreement, which provides reasonable and customary protection for the disclosed information, must be executed.



*Appendix 1*  
*Reliability Engineering*  
*Qualification Report*

Qualification Project: E220202

**Project Title: BridgeSwitch Unisem InSOP-24C Package Qualification****Qual Summary:**

Reliability testing was performed on BridgeSwitch product lots to qualify Unisem for assembly of the InSOP-24B package. The InSOP-24B is highly similar to the InSOP-24D which has been in production at Unisem for several years; qualification of the BridgeSwitch InSOP-24C was partially based on qualification data from the InSOP-24D and data from both packages are included here. All required reliability tests were completed with passing results. Yield analysis and assembly-level testing on BridgeSwitch products were completed with acceptable results. Based on these results, Unisem is qualified for assembly of all BridgeSwitch products in the InSOP-24C package.

Qualification Vehicles: BRD1267C, INN3368C, INN3168C, SC1933C

**Reliability Test Descriptions and Conditions**

Test Name	Conditions	Reference Specification
DOPL (Dynamic Operating Life Test)	Tj=125°C, Vd <sub>(peak)</sub> =520V for INN3168C/INN3368C, 650V for SC1933C	EIA/JESD22-A108
HTRB (High Temperature Reverse Bias Test)	85°C, 85% RH, Vd=520 for InSOP-24D InnoSwitch3 lots, VD=480V for BridgeSwitch InSOP-24C lots, Vbp = Vshunt	EIA/JESD22-A108
THBT (Temperature Humidity Bias Test)	85°C, 85% RH, Vd=30V (100V for SC1933C), Vbp = Vshunt	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
HALT (Humidity Accelerated Life Test)	DOPL at Tj=115°C, 85% RH, Vd(peak)=520V	Internal Standard
MSL3 Preconditioning	24-hr 150C bake → 40-hr 60°C, 60% RH soak → 3 passes 260C solder reflow	IPC/JEDEC J-STD-020

**DOPL (Dynamic Operating Life)**

Product	Lot #	Package	Test Duration	No. Failures/Sample Size
INN3368C	M7S929A	InSOP-24D	MSL3 +1000 hours	0/45
INN3168C	M8G068A	InSOP-24D	MSL3 +1000 hours	0/45
SC1933C	M7A441P	InSOP-24D	MSL3 +1000 hours	0/45

**HTRB (High Temperature Reverse Bias)**

Product	Lot #	Package	Test Duration	No. Failures/Sample Size
BRD1267C	MBA249B	InSOP-24C	MSL3 +1000 hours	0/45
BRD1267C	MBA249C	InSOP-24C	MSL3 +1000 hours	0/45
INN3368C	M7S929A	InSOP-24D	MSL3 +1000 hours	0/45
INN3168C	M8G068A	InSOP-24D	MSL3 +1000 hours	0/45
SC1933C	M7A441P	InSOP-24D	MSL3 +1000 hours	0/45

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**THBT (Temperature Humidity Bias)**

Product	Lot #	Package	Test Duration	No. Failures/Sample Size
BRD1267C	MBA249B	InSOP-24C	MSL3 +1000 hours	0/45
BRD1267C	MBA249C	InSOP-24C	MSL3 +1000 hours	0/45
INN3368C	M7S929A	InSOP-24D	MSL3 +1000 hours	0/45
INN3168C	M8G068A	InSOP-24D	MSL3 +1000 hours	0/45
SC1933C	M7A441P	InSOP-24D	MSL3 +1000 hours	0/45

**TMCL (Temperature Cycling)**

Product	Lot #	Package	Test Duration	No. Failures/Sample Size
BRD1267C	MBO341L	InSOP-24C	MSL3 + 850 cycles	0/45
BRD1267C	MBR168A	InSOP-24C	MSL3 + 850 cycles	0/45
BRD1267C	MBA249B	InSOP-24C	MSL3 + 850 cycles	0/45
BRD1267C	MBA249C	InSOP-24C	MSL3 + 850 cycles	0/45
INN3368C	M7S929A	InSOP-24D	MSL3 + 850 cycles	0/45
INN3168C	M8G068A	InSOP-24D	MSL3 + 850 cycles	0/45
SC1933C	M7A441P	InSOP-24D	MSL3 + 850 cycles	0/45

**HTSL (High Temperature Storage Life)**

Product	Lot #	Package	Test Duration	No. Failures/Sample Size
BRD1267C	MBA249B	InSOP-24C	MSL3 +1000 hours	0/45
INN3368C	M7S929A	InSOP-24D	MSL3 +1000 hours	0/45
INN3168C	M8G068A	InSOP-24D	MSL3 +1000 hours	0/45
SC1933C	M7A441P	InSOP-24D	MSL3 +1000 hours	0/45

**HALT (Humidity Accelerated Life Test)**

Product	Lot #	Package	Test Duration	No. Failures/Sample Size
INN3368C	M7S929A	InSOP-24D	MSL3 +1000 hours	0/20
INN3168C	M8G068A	InSOP-24D	MSL3 +1000 hours	0/20
SC1933C	M7A441P	InSOP-24D	MSL3 +1000 hours	0/19 (Note 1)

Note 1: Sample size reduced, one unit suffered EOS damage due to misalignment in the ATE test socket.

**Conclusion:** Based on acceptable qualification results, Unisem is qualified for assembly of all BridgeSwitch products in the InSOP-24C 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.

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**

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Please email this signed form to [pcn@power.com](mailto:pcn@power.com) specifying the PCN# in the subject.

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