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Control No. PCN-16231

September 14, 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**

Power Integrations is pleased to announce an addition of Huatian Technology Company Limited (TSHT), located in Gansu, China; to assemble and test its products listed in the table below.

TSHT is the parent company of Millennium Microtech (Shanghai) Company Limited, an existing qualified long standing assembly and test service provider of Power Integrations.

**REASON FOR CHANGE**

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

**PRODUCTS AFFECTED**

Product Family	Part Numbers
CAPZero™	CAP002DG, CAP003DG, CAP004DG, CAP005DG, CAP006DG, CAP007DG, CAP008DG, CAP009DG, CAP012DG, CAP013DG, CAP014DG, CAP015DG, CAP016DG, CAP017DG, CAP017DGAU, CAP017DG0166, CAP018DG, CAP019DG, CAP200DG , SC1143DG
ChiPhy™	CHY100D, CHY101D, CHY103D, SC0160D, SC0163D
SENZero™	SEN012DG, SEN013DG

**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**

December 14, 2016. 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.

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Appendix 2  
Reliability Engineering  
Qualification Report

Qualification Project: E162603  
Date of Report: 12-Aug-2016

**Project Title: TSHT SO-8 Package Assembly Site Qualification**

**Summary:**

Reliability testing was conducted to qualify Huatian Technology Company Limited (TSHT) as an alternative assembly site for the SO-8 package used for CAPZero™, ChiPhy™ and SENZero™ products.

A full suite of reliability stress tests were conducted on a total of eleven TSHT-assembled qualification lots from the three affected product families with passing results obtained for all qualification lots.

Yield and temperature characterization was completed for each product family with acceptable results obtained.

Based on these qualification results, TSHT is now qualified and approved for assembly of all products using the SO-8 package.

Qualification Vehicles: CHY103D, CAP012DG, SEN013DG

**Reliability Test Descriptions and Conditions**

Test Name	Conditions	Reference Specification
DOPL (Dynamic Operating Life Test)	Tj=125°C, Vc=6.3V	EIA/JESD22-A108D
HTRB (High Temp Reverse Bias Test)	Ta=150°C; SEN013DG Vd= 520V, Vs= 6V; CAP012DG Vd= 560V, Vs= 6.2V	EIA/JESD22-A108D
THBT (Temperature Humidity Bias Test)	85°C, 85% RH; SEN013DG Vd= 30V, Vs= 6V; CAP012DG Vd= 30V, Vs= 6.2V	EIA/JESD22-A101C
TMCL (Temperature Cycle, Air to Air)	-65°C to +150°C, air to air	EIA/JESD22-A104D
HTSL (High Temperature Storage Life)	Ta=175°C, unbiased	EIA/JESD22-A103D
MSL1 Preconditioning	24-hr 150°C Bake + 168-hr 85°C, 85% RH Moisture Soak + 3 Passes 260C Solder Reflow	EIA/JESD22-A113D

**DOPL (Dynamic Operating Life)**

Product	Description	Assy Lot	Fab Lot	Test Duration	Failures/Sample Size
CHY103D	TSHT Qual Lot 1	4V947A	SFMST1-0046B	MSL1 + 1000 hours	0/47
CHY103D	TSHT Qual Lot 2	4V947B	SFMST1-0046B	MSL1 + 1000 hours	0/47
CHY103D	TSHT Qual Lot 3	4V999A	SFMST1-0052B	MSL1 + 1000 hours	0/47
CHY103D	TSHT Qual Lot 4	4V999B	SFMST1-0052B	MSL1 + 1000 hours	0/47

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**HTRB (High Temperature Reverse Bias)**

Product	Description	Assy Lot	Fab Lot	Test Duration	Failures/Sample Size
CAP012DG	TSHT Qual Lot 5	4W538A	CTL9-0206	MSL1 + 1000 hours	0/47
CAP012DG	TSHT Qual Lot 6	4Y669F	CTL9-B210	MSL1 + 1000 hours	0/47
CAP012DG	TSHT Qual Lot 7	4Y669G	CTL9-B210	MSL1 + 1000 hours	0/47
SEN013DG	TSHT Qual Lot 8	4U408X	CACK-0022	MSL1 + 1000 hours	0/47
SEN013DG	TSHT Qual Lot 9	4U408Y	CACK-0022	MSL1 + 1000 hours	0/47
SEN013DG	TSHT Qual Lot 10	4U885X	CACK-0023	MSL1 + 1000 hours	0/47
SEN013DG	TSHT Qual Lot 11	4U885Y	CACK-0023	MSL1 + 1000 hours	0/47

**THBT (Temperature Humidity Bias)**

Product	Description	Assy Lot	Fab Lot	Test Duration	Failures/Sample Size
CAP012DG	TSHT Qual Lot 6	4Y669F	CTL9-B210	MSL1 + 1000 hours	0/47
CAP012DG	TSHT Qual Lot 7	4Y669G	CTL9-B210	MSL1 + 1000 hours	0/47
SEN013DG	TSHT Qual Lot 10	4U885X	CACK-0023	MSL1 + 500 hours	0/47
SEN013DG	TSHT Qual Lot 11	4U885Y	CACK-0023	MSL1 + 500 hours	0/47

**TMCL (Temperature Cycling)**

Product	Description	Assy Lot	Fab Lot	Test Duration	Failures/Sample Size
CHY103D	TSHT Qual Lot 1	4V947A	SFMST1-0046B	MSL1 + 1000 cycles	0/47
CHY103D	TSHT Qual Lot 2	4V947B	SFMST1-0046B	MSL1 + 1000 cycles	0/47
CHY103D	TSHT Qual Lot 3	4V999A	SFMST1-0052B	MSL1 + 1000 cycles	0/47
CHY103D	TSHT Qual Lot 4	4V999B	SFMST1-0052B	MSL1 + 1000 cycles	0/47
CAP012DG	TSHT Qual Lot 5	4W538A	CTL9-0206	MSL1 + 1000 cycles	0/47
CAP012DG	TSHT Qual Lot 6	4Y669F	CTL9-B210	MSL1 + 1000 cycles	0/47
CAP012DG	TSHT Qual Lot 7	4Y669G	CTL9-B210	MSL1 + 1000 cycles	0/47
SEN013DG	TSHT Qual Lot 8	4U408X	CACK-0022	MSL1 + 1000 cycles	0/47
SEN013DG	TSHT Qual Lot 9	4U408Y	CACK-0022	MSL1 + 1000 cycles	0/47
SEN013DG	TSHT Qual Lot 10	4U885X	CACK-0023	MSL1 + 1000 cycles	0/47
SEN013DG	TSHT Qual Lot 11	4U885Y	CACK-0023	MSL1 + 1000 cycles	0/47

**HTSL (High Temperature Storage Life)**

Product	Description	Assy Lot	Fab Lot	Test Duration	Failures/Sample Size
CHY103D	TSHT Qual Lot 3	4V999A	SFMST1-0052B	MSL1 + 1000 hours	0/47
CHY103D	TSHT Qual Lot 4	4V999B	SFMST1-0052B	MSL1 + 1000 hours	0/47
CAP012DG	TSHT Qual Lot 6	4Y669F	CTL9-B210	MSL1 + 1000 hours	0/47
CAP012DG	TSHT Qual Lot 7	4Y669G	CTL9-B210	MSL1 + 1000 hours	0/47
SEN013DG	TSHT Qual Lot 10	4U885X	CACK-0023	MSL1 + 1000 hours	0/47
SEN013DG	TSHT Qual Lot 11	4U885Y	CACK-0023	MSL1 + 1000 hours	0/47

**Conclusion:** Based on these qualification results, TSHT is now qualified and approved for assembly of all products using the SO-8 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**

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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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