

Control No. PCN-23151

June 8, 2023

PRODUCT/PROCESS CHANGE NOTIFICATION

TYPE OF CHANGE:

☐ Design

☒ Manufacturing

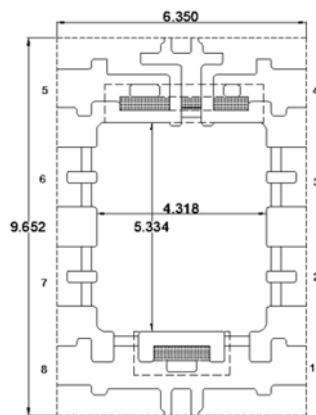
☐ Other

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.

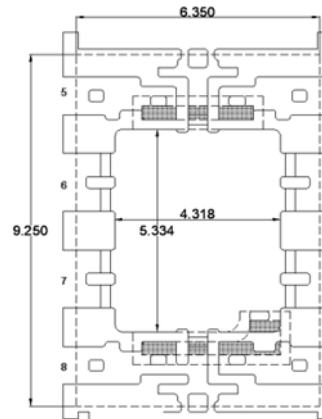
DESCRIPTION OF CHANGE

An existing qualified leadframe supplier, Hua Yang, will be added as an alternative leadframe supplier for 170x210 mil SMD-8 package for the TOPSwitch-II products listed in the table below.

There will be some small dimensional changes to the inner lead features that will not affect form, fit, electrical performance but may have some impact on the thermal performance of the product as shown in the “Effect on Customer” section. The plastic body length will also change as shown in the figure, but the new dimensions are still within our datasheet package drawing tolerances.



Existing Leadframe Design (mm)



New Leadframe Design (mm)

REASON FOR CHANGE

For increased manufacturing capacity and flexibility.

PRODUCTS AFFECTED

TOP221GN-TL, TOP222GN-TL, TOP223GN, TOP223GN-TL, TOP224GN, TOP224GN-TL

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.

QUALIFICATION STATUS

Please refer to Appendix 1 for the qualification data.

EFFECT ON CUSTOMER

The new leadframe design may affect the thermal performance depending on the heatsink configuration as shown below.

Package Pins Connected to Heatsinking Area	Effect On Thermal Performance (Rth-JA)
1, 8	Major
1, 2, 7, 8	Minor
3, 6, 7, 8	None
1, 2, 3, 6, 7, 8	None

EFFECTIVE DATE

August 8, 2023. This date is subject to change and both leadframe versions will be shipped during the transition period.

SAMPLE AVAILABILITY

Samples will be available 8 weeks from the date of request. Please send the request for samples within two weeks after receipt of this notification to the local Power Integrations sales office.

CONFIDENTIAL



Appendix 1
Reliability Engineering
Qualification Report

Qualification Project: P223603

Project Title: TOPSwitch-II Products Hua Yang SMD-8 170x210 Lead frame Qualification

Summary:

Reliability testing was performed to qualify the 170x210 mil SMD-8 package for assembly of TOPSwitch-II products. Three TOP221GN qualification lots using the Hua Yang 170x210 mil SMD-8 leadframe were subjected to MSL4 + TMCL for qualification with passing results obtained.

CSAM, Lead Integrity (Tension & Fatigue), Solderability and Construction Analysis were all completed with passing results. Yield analysis was completed on each product with acceptable results.

Based on these results, the Hua Yang 170x210 SMD-8 lead frame is qualified for use with TOPSwitch-II products (see above Products Affected list).

Reliability Test Descriptions and Conditions

Test Name	Conditions	Reference Specification
TMCL (Temperature Cycle, Air to Air)	-65°C to +150°C, air to air	EIA/JESD22-A104-E
MSL4 Preconditioning	24-hr 150°C Bake + 96-hr 30°C, 60% RH Soak + 3 Passes 260°C Solder Reflow	IPC/JEDEC J-STD-020

TMCL (Temperature Cycling)

Product	Lot #	Leadframe	Test Duration	Failures/Sample Size
TOP221GN	CC335M	Hua Yang 170x210 mil SMD-8	MSL4 + 1000 cycles	0 / 45
TOP221GN	CC335N	Hua Yang 170x210 mil SMD-8	MSL4 + 1000 cycles	0 / 45
TOP221GN	CC335O	Hua Yang 170x210 mil SMD-8	MSL4 + 1000 cycles	0 / 45

Conclusion: Based on passing results, the Hua Yang 170x210 mil SMD-8 lead frame is qualified for use with TOPSwitch-II products (see above Products Affected list).

CONFIDENTIAL

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

Please email this signed form to pcn@power.com specifying the PCN# in the subject.

CONFIDENTIAL
