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Control No. PCN-21282

October 16, 2021

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

Add Hitachi EN-4900LC-18 and Yongoo Technology S920P conductive die attach materials as alternate qualified die attach to the products in InSOP-24D package listed in the table below.

REASON FOR CHANGE

Additional source to enhance flexibility of supply line and supply assurance.

PRODUCTS AFFECTED

Product Family	Part Numbers
InnoSwitch3-CE	INN3162C-H101-TL, INN3162C-H102-TL, INN3162C-H113-TL, INN3162C-H114-TL, INN3163C-H101-TL, INN3163C-H102-TL, INN3163C-H113-TL, INN3163C-H114-TL, INN3164C-H101-TL, INN3164C-H102-TL, INN3164C-H107-TL, INN3164C-H111-TL, INN3164C-H113-TL, INN3164C-H114-TL, INN3165C-H101-TL, INN3165C-H102-TL, INN3165C-H103-TL, INN3165C-H104-TL, INN3165C-H105-TL, INN3165C-H109-TL, INN3165C-H113-TL, INN3165C-H114-TL, INN3165C-H122-TL, INN3166C-H101-TL, INN3166C-H102-TL, INN3166C-H105-TL, INN3166C-H106-TL, INN3166C-H109-TL, INN31656-H110-TL, INN3166C-H113-TL, INN3166C-H114-TL, INN3167C-H101-TL, INN3167C-H105-TL, INN3167C-H107-TL, INN3167C-H109-TL, INN3167C-H114-TL, INN3167C-H115-TL, INN3167C-H122-TL, INN3168C-H035-TL, INN3168C-H101-TL, INN3168C-H105-TL, INN3168C-H106-TL, INN3168C-H107-TL, INN3168C-H109-TL, INN3168C-H110-TL, INN3168C-H111-TL, INN3168C-H114-TL, INN3168C-H116-TL, INN3168C0234-TL, SC1513C-TL, SC1513C-H060-TL, SC1513C-H074-TL, SC1518C-H069-TL, SC1532C-TL, SC1533C-TL, SC1534C-TL, SC1543C-HC10-TL, SC1545C-TL
InnoSwitch3-CP	INN3264C-H201-TL, INN3264C-H202-TL, INN3264C-H220-TL, INN3265C-H201-TL, INN3265C-H202-TL, INN3265C-H211-TL, INN3265C-H214-TL, INN3265C-H216-TL, INN3266C-H203-TL, INN3266C-H204-TL, INN3266C-H206-TL, INN3266C-H207-TL, INN3266C-H210-TL, INN3266C-H214-TL, INN3266C-H217-TL, INN3266C-H219-TL, INN3267C-H205-TL, INN3267C-H214-TL, INN3267C-H217-TL, INN3268C-H202-TL, INN3268C-H207-TL, INN3268C-H208-TL, INN3268C-H209-TL, INN3268C-H210-TL, INN3268C-H212-TL, INN3268C-H214-TL, INN3268C-H215-TL, INN3268C-H221-TL, INN3268C-H233-TL, INN3270C-H114-TL, INN3270C-H203-TL, INN3270C-H215-TL, INN3270C-H217-TL, INN3270C0255-H114-TL, INN3270C0255-H215-TL, INN3274C-H201-TL, INN3274C-H202-TL, INN3275C-H122-TL, INN3275C-H201-TL, INN3275C-H202-TL, INN3275C-H211-TL, INN3275C-H213-TL, INN3276C-H203-TL, INN3276C-H204-TL, INN3276C-H206-TL, INN3276C-H210-TL, INN3276C-H214-TL, INN3277C-H205-TL, INN3278C-H114-TL, INN3278C-H215-TL, INN3278C-H217-TL, INN3278C-H232-TL, INN3279C-H114-TL, INN3279C-H215-TL, INN3279C-H217-TL, INN3279C-H218-TL, INN3279C-H222-TL, SC1540C-TL, SC1544C-

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	TL, SC1544C-H010-TL, SC1548C-H016-TL, SC1548C-H023-TL, SC1548C-HC32-TL, SC1549C-HC30-TL, SC1550C-TL, SC1551C-HC26-TL, SC1555C-TL, SC1557C-TL, SC1557C-H071-TL, SC1558C-TL, SC1603C-TL, SC1605C-TL, SC1606C-TL, SC1606C-H016-TL, SC1910C-TL, SC1910C-H056-TL, SC1933C-H114-TL, SC1933C-H215-TL, SC1933C-H217-TL, SC1933C-H218-TL, SC1936C-H114-TL, SC1936C-H215-TL, SC1936C-H217-TL, SC1957C-H004-TL, SC1957C-H005-TL, SC1972C-H058-TL
InnoSwitch3-EP	INN3670C-H605-TL, INN3670C-H606-TL, INN3670C-H615-TL, INN3678C-H605-TL, INN3678C-H606-TL, INN3679C-H605-TL, INN3679C-H606-TL, INN3672C-H601-TL, INN3672C-H602-TL, INN3672C-H606-TL, INN3673C-H601-TL, INN3673C-H602-TL, INN3673C-H606-TL, INN3674C-H601-TL, INN3674C-H602-TL, INN3674C-H606-TL, INN3675C-H601-TL, INN3675C-H602-TL, INN3675C-H603-TL, INN3675C-H604-TL, INN3675C-H605-TL, INN3675C-H606-TL, INN3676C-H601-TL, INN3676C-H602-TL, INN3676C-H603-TL, INN3676C-H604-TL, INN3676C-H605-TL, INN3676C-H606-TL, INN3677C-H601-TL, INN3677C-H602-TL, INN3677C-H603-TL, INN3677C-H604-TL, INN3677C-H605-TL, INN3677C-H606-TL, INN3692C-H606-TL, INN3694C-H606-TL, INN3696C-H606-TL, SC1607C-H019-TL, SC1616C-TL, SC1616C-H063-TL, SC1821C-H021-TL, SC1864C-H054-TL, SC1893C-H065-TL, SC1933C-H025-TL, SC1933C-H605-TL, SC1933C-H606-TL, SC1936C-H605-TL, SC1936C-H606-TL
InnoSwitch3-MX	INN3464C-TL, INN3464C0245-TL, INN3465C-TL, INN3465C0245-TL, INN3466C-TL, INN3467C-TL, INN3468C-TL, INN3470C-TL, INN3475C-TL, INN3476C-TL, INN3477C-TL, INN3478C-TL, INN3479C-TL, SC1881C-TL, SC1883C-TL
InnoSwitch3-PD	INN3865C-H801-TL, INN3866C-H801-TL, INN3867C-TL, INN3870C-H801-TL, INN3878C-H801-TL, INN3878C-H802-TL, INN3879C-H801-TL, INN3879C-H803-TL, SC2202C-H067-TL, SC2202C-H070-TL, SC2203C-H068-TL, SC2204C-H072-TL, SC2205C-H073-TL
InnoSwitch3-Pro	INN3365C-H301-TL, INN3365C-H302-TL, INN3366C-H301-TL, INN3366C-H302-TL, INN3367C-H301-TL, INN3367C-H302-TL, INN3368C-H301-TL, INN3368C-H302-TL, INN3368C-H312-TL, INN3370C-H302-TL, INN3370C-H309-TL, INN3370C-H310-TL, INN3370C-H313-TL, INN3370C0255-H302-TL, INN3375C-H301-TL, INN3375C-H302-TL, INN3376C-H301-TL, INN3376C-H302-TL, INN3377C-H301-TL, INN3377C-H302-TL, INN3378C-H302-TL, INN3378C-H311-TL, INN3378C0255-H302-TL, INN3379C-H302-TL, INN3379C-H308-TL, SC1702C-TL, SC1702C-H051-TL, SC1703C-H009-TL, SC1707C-TL, SC1709C-TL, SC1710C-TL, SC1711C-H007-TL, SC1711C-H026-TL, SC1712C-H014-TL, SC1713C-H015-TL, SC1715C-H059-TL, SC1716C-H061-TL, SC1738C-TL, SC1738C-H034-TL, SC1750C-H031-TL, SC1751C-H009-TL, SC1800C-H064-TL, SC1810C-H076-TL, SC1919C-TL, SC1920C-TL, SC1922C-TL, SC1923C-H006-TL, SC1951C-H302-TL, SC1952C-H302-TL, SC1981C-TL, SC1992C-H055-TL, SC1998C-H057-TL, SC2375C-H036-TL
InnoSwitch4-CZ	INN4073C-H181-TL, INN4073C-H182-TL, INN4073C-H183-TL, INN4073C-H184-TL, INN4073C-H185-TL, INN4073C-H186-TL, INN4074C-H181-TL, INN4074C-H182-TL, INN4074C-H183-TL, INN4074C-H184-TL, INN4074C-H185-TL, INN4074C-H186-TL, INN4075C-H181-TL, INN4075C-H182-TL, INN4075C-H183-TL, INN4075C-H184-TL, INN4075C-H185-TL, INN4075C-H186-TL
LYTSwitch-6	LYT6063C-TL, LYT6065C-TL, LYT6067C-TL, LYT6068C-TL, LYT6070C-TL, LYT6070C-H125-TL, LYT6070C-H127-TL, LYT6070C-H129-TL, LYT6070C-H131-TL, LYT6073C-TL, LYT6075C-TL, LYT6077C-TL, LYT6078C, LYT6079C, LYT6079C-H125-TL, LYT6079C-H127-TL, LYT6079C-H129-TL, LYT6079C-H131-TL, SC1958C-TL, SC1970C-TL, SC1971C-TL

QUALIFICATION STATUS

See Appendix 1 for the qualification report.

EFFECT ON CUSTOMER

No adverse impact is expected in customers' applications. The product will be guaranteed to meet the datasheet limits.

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EFFECTIVE DATE

January 17, 2022. This date is subject to change. Products assembled with the existing die attach materials will continue to be shipped after the addition.

SAMPLE AVAILABILITY

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

Qualification Project: P212301, P212302

Project Title: InSOP-24D Mold Compound and Die Attach Epoxy Options Qualification for InnoSwitch3 and LYTSwitch-6 Products
Qual Summary: Reliability testing was performed to qualify Hitachi EN-4900LC-18 mold compound and Changchun Yonggu Technology Y-Bond S220 conductive die attach epoxy as alternative options for the InSOP-24D package. Four InnoSwitch3 lots to were subjected to reliability teting to qualify the alternative materials and all tests were completed with passing results. Yield analysis and assembly-level testing were completed with acceptable results. Based on these results, EN-4900LC-18 mold compound and Yongoo Technology S920P die attach epoxy are qualified as alternative materials for InSOP-24D package assembly.
Qualification Vehicles: INN3670C-H605-TL, INN3377C-H301-TL

Reliability Test Descriptions and Conditions

Test Name	Conditions	Reference Specification
HTRB (High Temperature Reverse Bias Life)	Ta=150°C, Vd=520V for INN3670C-H605-TL , Vd=580V for INN3377C-H301-TL, static off-state bias	EIA/JESD22-A108
THBT (Temperature Humidity Bias Test)	Ta=85°C, 85% RH, Vc12V, Vf=30V, Vd=30V (INN3377C-H301-TL) Ta=85°C, 85% RH, Vc10V, Vf=100V, Vd=100V (INN3670C-H605-TL)	EIA/JESD22-A101
TMCL (Temperature Cycling, 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
MSL3 Preconditioning	24-hr 150°C Bake +40-hr 60°C, 60% RH Moisture Soak + 3 Passes 260°C Solder Reflow	IPC/JEDEC J-STD-020

HTRB (High Temperature Reverse Bias Life)

Product	Lot #	Package	Test Duration	Failures/Sample Size
INN3670C-H605-TL	M9W734C	InSOP-24D	MSL3 + 1000 hours	0 / 45
INN3670C-H605-TL	M9W734E	InSOP-24D	MSL3 + 1000 hours	0 / 45
INN3377C-H301-TL	MAI990C	InSOP-24D	MSL3 + 1000 hours	0 / 45
INN3377C-H301-TL	MAI990E	InSOP-24D	MSL3 + 1000 hours	0 / 45

TMCL (Temperature Cycling)

Product	Lot #	Package	Test Duration	Failures/Sample Size
INN3670C-H605-TL	M9W734C	InSOP-24D	MSL3 + 850 cycles	0 / 45
INN3670C-H605-TL	M9W734E	InSOP-24D	MSL3 + 850 cycles	0 / 45
INN3377C-H301-TL	MAI990C	InSOP-24D	MSL3 + 850 cycles	0 / 45
INN3377C-H301-TL	MAI990E	InSOP-24D	MSL3 + 850 cycles	0 / 45

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HTSL (High Temperature Storage Life)

Product	Lot #	Package	Test Duration	Failures/Sample Size
INN3670C-H605-TL	M9W734C	InSOP-24D	MSL3 + 1000 hours	0 / 45
INN3670C-H605-TL	M9W734E	InSOP-24D	MSL3 + 1000 hours	0 / 45
INN3377C-H301-TL	MAI990C	InSOP-24D	MSL3 + 1000 hours	0 / 45
INN3377C-H301-TL	MAI990E	InSOP-24D	MSL3 + 1000 hours	0 / 45

Conclusion:

Based on passing qualification results, EN-4900LC-18 mold compound and Yongoo Technology S920P die attach epoxy are qualified as alternative materials for InSOP-24D package assembly of InnoSwitch3 and LYTSwitch-6 products.

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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

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

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