Final Product/Process Change Notification

Document #:FPCN26212XB
Issue Date:23 Dec 2024

Title of Change:	Qualification of onsemi ISMF FAB (Malaysia) for PIN diode housed in X2DFN package design with Cu wire at onsemi Leshan (China).
Proposed First Ship date:	31 Mar 2025 or earlier if approved by customer
Contact Information:	Contact your local onsemi Sales Office
PCN Samples Contact:	Contact your local onsemi Sales Office. Sample requests are to be submitted no later than 30 days from the date of first notification, Initial PCN or Final PCN, for this change. Samples delivery timing will be subject to request date, sample quantity and special customer packing/label requirements.
Additional Reliability Data:	Contact your local onsemi Sales Office
Type of Notification:	This is a Final Product/Process Change Notification (FPCN) sent to customers. FPCNs are issued 90 days prior to implementation of the change. onsemi will consider this change accepted, unless an inquiry is made in writing within 30 days of delivery of this notice. To do so, contact PCN.Support@onsemi.com
Marking of Parts/ Traceability of Change:	Changed material can be identified by assembly plant code and lot code which follow onsemi marking format.
Change Category:	Assembly Change, Wafer Fab Change
Change Sub-Category(s):	Material Change, Manufacturing Process Change, Manufacturing Site Transfer

Sites Affected:

onsemi Sites	**External Foundry/Subcon Sites**
onsemi Leshan, China	None
onsemi, ISMF Malaysia	

Description and Purpose:

This final notification by onsemi informs customers of its plan to transfer PIN diode products produced at JS Foundry, Japan (formerly onsemi Niigata).

The transfer stems from the onsemi Fab Liter strategy and the resulting sale of the Niigata factory. The parts identified in this notification are currently solely sourced from this site and will be transferred to the onsemi ISMF fab, Malaysia, to ensure supply continuity. The onsemi ISMF fab is an existing qualified manufacturing site for onsemi and is certified with IATF16949:2016.

Included in the change are several bill of material changes to standardize the BOM, aligning it with the existing onsemi product family. These changes include top metal standardization to AlSi and wafer back metal change from Au to TiNiVAg for devices in the X2DFN package.

In addition, onsemi Leshan (China) is making changes from Au wire to Cu wire for devices in the X2DFN package.

X2DFN package design

	From	To
Fab Site	JS Foundry, Japan	onsemi, ISMF Malaysia
Backgrind process site	JS Foundry, Japan	onsemi, ISMF Malaysia
Wafer probe site	JS Foundry, Japan	onsemi, ISMF Malaysia
Wafer front metal	2.5 um Al	2um AiSi
Wafer back metal	8kA Au	11.5kA TiNiVAg
Bond Wire	0.8 mils Au wire	0.8 mils Cu wire

There is no product marking change as a result of this change.

Reliability Data Summary:

QV DEVICE NAME : NSVDP301MX2WT5G
RMS : S96829 / L97789
PACKAGE : X2DFN

Test	Specification	Condition	Interval	Results
High Temperature Storage Life	JESD22-A103	Ta=150°C	1008 hrs	0/231
Preconditioning	J-STD-020 / JESD-A113	MSL 1 @ 260°C, Pre IOL, TC, uHAST, HAST for surface mount pkgs only	-	0/231
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/77
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/77
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/77
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec	-	0/10

QV DEVICE NAME : SNSDP301MX3T5G
RMS : S96826 / L101781
PACKAGE : X3DFN

Test	Specification	Condition	Interval	Results
High Temperature Reverse Bias	JESD22-A108	Ta=150°C, 100% max rated V	1008 hrs	0/231
High Temperature Storage Life	JESD22-A103	Ta= 150°C	1008 hrs	0/231
Preconditioning	J-STD-020 / JESD-A113	MSL 1@260°C, Pre IOL, TC, uHAST, HAST for surface mount pkgs only	-	0/924
Intermittent Operating Life	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 min	15,000 cyc	0/231
Temperature Cycling	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/231
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/231
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/231
Resistance to Solder Heat	JESD22- B106	Ta = 265°C, 10 sec	-	0/30

Electrical Characteristics Summary:

Electrical characteristics are not impacted.

List of Affected Parts:

Note: *Only the standard (off the shelf) part numbers are listed in the parts list. Any custom parts affected by this PCN are shown in the customer specific PCN addendum in the PCN email notification, or on the* ***PCN Customized Portal****.*

Part Number	Qualification Vehicle
NSDP301MX2WT5G	NSVDP301MX2WT5G and SNSDP301MX3T5G