Final Product/Process Change Notification

Document #:FPCN26212XA
Issue Date:23 Dec 2024

Title of Change:	Qualification of onsemi ISMF FAB (Malaysia) and ATO site onsemi Leshan (China) for PIN diode housed in SC70 package.
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, Shipping/Packaging/Marking

Sites Affected:

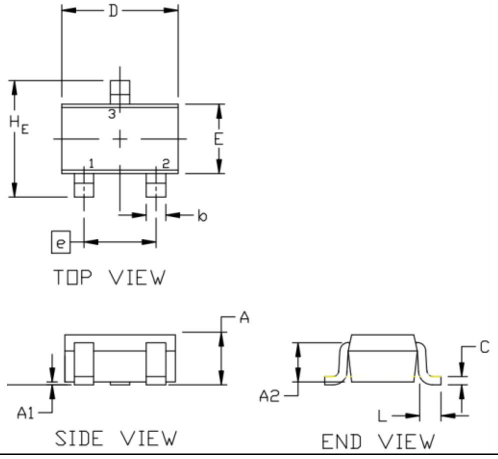
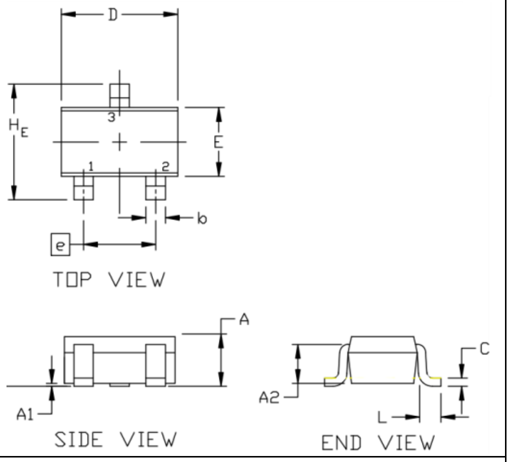
onsemi Sites	**External Foundry/Subcon Sites**
onsemi Leshan, China	None
onsemi, ISMF Malaysia	

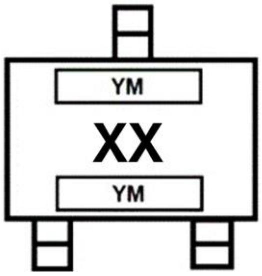
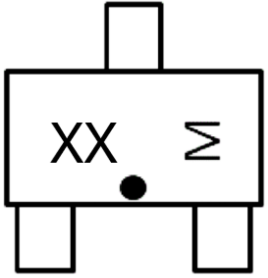
Description and Purpose:

This is the notification by onsemi notifying customers of its plan to qualify PIN diode devices at onsemi ISMF fab (Malaysia) housed in SC70 package design which will be manufactured in assembly and test site, onsemi Leshan (China). onsemi ISMF fab and onsemi Leshan (China) have been an existing qualified manufacturing site for onsemi and certified with IATF16949:2016 for the wafer fabrication site and ISO/TS 16949:2009 for the assembly and Test site.

These qualification stems from the onsemi Fab Liter strategy and the resulting sale of Niigata factory; the parts identified in this notification are currently sole sourced from JS Foundry, Japan (former onsemi Niigata) and will be transferred to onsemi ISMF fab, Malaysia to ensure supply continuity. Included in the change are several bill of material changes to standardize BOM aligning to the existing onsemi diode product family and SC70 package design.

SC70 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 Top Metal	1.1um Al	2um AlSi
Wafer back metal	NiCr-AuSB	8kA Au
Assembly and Test Site	onsemi ShenZhen, China	onsemi Leshan, China
Bond Wire	1 mils Au wire	0.8 mils Cu wire
Leadframe	A194+ Ag Plating	A42+Cu plating
Mold compound	E500D	GR640HV
Plating	SnBi (e6)	100% Sn plating (e3)
Physical dimension	A1: 0 mm – 0.08mm L: typ 0.425mm He: 2.0 mm - 2.2mm 	A1: 0mm – 0.1mm L: 0.20mm - 0.56mm He: 2.0mm - 2.4mm 
Product Packing	Full Box Container Quantity: 15,000	Full Box Container Quantity: 30,000

	From	To
Product marking change for SC70 package	 XX = Specific Device code YM = Date code	 XX = specific Device code M = Date code

Reliability Data Summary:

QV DEVICE NAME : NSVP249SDSF3T1G
RMS : L96833
PACKAGE : SC70

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
1SV264-TL-E	NSVP249SDSF3T1G