



Final Product/Process Change Notification

Document #:FPCN26212Z

Issue Date:20 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 Changed Material First Ship Date:	01 Jul 2025 or earlier if approved by customer
Current Material Last Order Date:	N/A <i>Orders received after the Current Material Last Order Date expiration are to be considered as orders for new changed material as described in this PCN. Orders for current (unchanged) material after this date will be per mutual agreement and current material inventory availability.</i>
Current Material Last Delivery Date:	N/A <i>The Current Material Last Delivery Date may be subject to change based on build and depletion of the current (unchanged) material inventory</i>
Product Category:	Active components – Discrete components
Contact information:	Contact your local onsemi Sales Office
PCN Samples Contact:	Contact your local onsemi Sales Office to place sample order. Sample requests are to be submitted no later than 45 days after publication of this change notification. Samples delivery timing will be subject to request date, sample quantity and special customer packing/label requirements.
Sample Availability Date:	13 Dec 2024
PPAP Availability Date:	18 Jan 2025
Additional Reliability Data:	Contact your local onsemi Sales Office
Type of Notification:	This is a Final Product/Process Change Notification (FPCN) sent to customers. The change will be implemented at 'Proposed Change Material First Ship Date' in compliance to J-STD-46 or ZVEI, or earlier upon customer approval, or per our signed agreements. onsemi will consider this proposed change and it's conditions acceptable, unless an inquiry is made in writing within 45 days of delivery of this notice. To do so, contact PCN.Support@onsemi.com .
Change Category	
Category	Type of Change
Packing/Shipping	Packing/shipping specification change
Process - Wafer Production	New/change of backside operation (grinding/metallization) New / change of metallization /vias/contacts Move of all or part of wafer fab to a different location/site/subcontractor
Test Flow	Move of all or part of electrical wafer test and/or final test to a different location/site/subcontractor
Equipment	Production from a new equipment/tool which uses the same basic technology (replacement equipment or extension of existing equipment pool) without change of process.
Process - Assembly	Move of all or part of assembly to a different location/site/subcontractor., Change of mold compound, Change in critical dimensions of package, Change of leadframe base material, Change of lead frame finishing material / area (internal), Change of wire bonding, Change of lead and heat slug plating material/plating thickness (external), Change of product marking

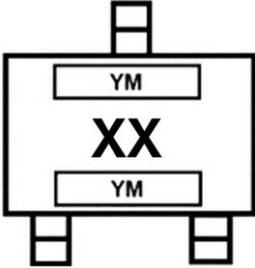
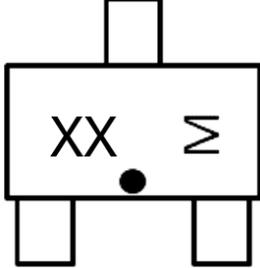
Description and Purpose:

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 dimation	<p>A1: 0 mm – 0.08mm L: typ 0.425mm He: 2.0 mm - 2.2mm</p> <p>TOP VIEW</p> <p>SIDE VIEW</p> <p>END VIEW</p>	<p>A1: 0mm – 0.1mm L: 0.20mm - 0.56mm He: 2.0mm - 2.4mm</p> <p>TOP VIEW</p> <p>SIDE VIEW</p> <p>END VIEW</p>
Product Packing	Full Box Container Quantity: 15,000	Full Box Container Quantity: 30,000

<p>Product marking change for SC70 package</p>	<p style="text-align: center;">From</p>  <p style="text-align: center;">XX = Specific Device code YM = Date code</p>	<p style="text-align: center;">To</p>  <p style="text-align: center;">XX = specific Device code M = Date code</p>																											
<p>Reason / Motivation for Change:</p>	<p>Source/Supply/Capacity Changes Process/Materials Change</p>																												
<p>Anticipated impact on fit, form, function, reliability, product safety or manufacturability:</p>	<p>The device has been qualified and validated based on the same Product Specification. The device has successfully passed the qualification tests. Potential impacts can be identified, but due to testing performed by onsemi in relation to the PCN, associated risks are verified and excluded.</p> <p>No anticipated impacts.</p>																												
<p>Sites Affected:</p>																													
<p>onsemi Sites</p>	<p>External Foundry/Subcon Sites</p>																												
<p>onsemi Leshan, China</p>	<p>None</p>																												
<p>onsemi, ISMF Malaysia</p>																													
<p>Marking of Parts/ Traceability of Change:</p>	<p>Changed material can be identified through assembly plant code and lot code which follow onsemi marking format.</p>																												
<p>Reliability Data Summary:</p>																													
<p>QV DEVICE NAME</p>	<p>: NSVP249SDSF3T1G</p>																												
<p>RMS</p>	<p>: L96833</p>																												
<p>PACKAGE</p>	<p>: SC70</p>																												
<table border="1"> <thead> <tr> <th>Test</th> <th>Specification</th> <th>Condition</th> <th>Interval</th> <th>Results</th> </tr> </thead> <tbody> <tr> <td>High Temperature Reverse Bias</td> <td>JESD22-A108</td> <td>Ta=150°C, 100% max rated V</td> <td>1008 hrs</td> <td>0/231</td> </tr> <tr> <td>High Temperature Storage Life</td> <td>JESD22-A103</td> <td>Ta= 150°C</td> <td>1008 hrs</td> <td>0/231</td> </tr> <tr> <td>Preconditioning</td> <td>J-STD-020 / JESD-A113</td> <td>MSL 1@260°C, Pre IOL, TC, uHAST, HAST for surface mount pkgs only</td> <td>-</td> <td>0/924</td> </tr> <tr> <td>Intermittent Operating Life</td> <td>MIL-STD-750 (M1037) AEC-Q101</td> <td>Ta=+25°C, delta Tj=100°C On/off = 2 min</td> <td>15,000 cyc</td> <td>0/231</td> </tr> </tbody> </table>	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				
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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

Note: AEC-1pager is attached.

To view attachments:

1. Download pdf copy of the PCN to your computer
2. Open the downloaded pdf copy of the PCN
3. Click on the paper clip icon available on the menu provided in the left/bottom portion of the screen to reveal the Attachment field
4. Then click on the attached file

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**.

Current Part Number	New Part Number	Qualification Vehicle
NSVP264SDSF3T1G	#NONE	NSVP249SDSF3T1G
NSVP249SDSF3T1G	#NONE	NSVP249SDSF3T1G