



Final Product/Process Change Notification

Document #:FPCN25232Z

Issue Date:19 Sep 2023

Title of Change:	Transfer of ONC25 technology to onsemi Aizu, Japan from current site onsemi Gresham, United States and bonding wire material change for SC88A and TSOP5 packages, lead frame and die attach material change for TSOP5 package assembled in onsemi, Seremban, Malaysia – NCV333A and NCV21871 family.
Proposed Changed Material First Ship Date:	29 Mar 2024 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 – Integrated circuits
Contact information:	Contact your local onsemi Sales Office or CheePan.Foo@onsemi.com
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:	29 Sep 2023
PPAP Availability Date:	29 Sep 2023
Additional Reliability Data:	Contact your local onsemi Sales Office or Vladislav.Hrachovec@onsemi.com
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
Test Flow	Move of all or part of electrical wafer test and/or final test to a different location/site/subcontractor
Process - Wafer Production	Move of all or part of wafer fab to a different location/site/subcontractor
Process - Assembly	Die attach material, Change of lead frame finishing material / area (internal), Change of wire bonding
Description and Purpose:	
This notification is to announce transfer of wafer fab capacity to onsemi Aizu wafer fab, located in Aizuwakamatsu, Japan, for the NCV333A and NCV21871 product families. The same process technology has been transferred as is currently running in the onsemi wafer fab located at Gresham, Oregon, USA. Tool sets are different but the exact same masking layers and steps are being used in onsemi Aizu. Additionally, the assembly of these packages has changed bonding material from 0.8mil Au wire to 0.8mil Au flash, Pd coated Cu apply to both packages. Lead frame and die attach material change for TSOP5 package. Probe removed from the flow, no change in the test coverage. All changes are detailed in the following change table, otherwise noted.	



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There is no change to the orderable part number, and there is no product marking change because of this notification. Fab source and BOM material information will be identified using the encoded traceability.

	Before Change Description	After Change Description
Fab Site	onsemi Gresham, Oregon, USA	onsemi Aizu, Aizuwakamatsu, Japan,
Probe site	onsemi Seremban, Malaysia	none
LeadFrame – TSOP5	Ag Stripe	roughened ppf
Die Attach – TSOP5	CRM1084P	Ablestick 8006NS
Bond Wire – TSOP5/SC88A	0.8mil Au	0.8mil AuFlash PCC

Reason / Motivation for Change: Capacity improvement

Anticipated impact on fit, form, function, reliability, product safety or manufacturability: 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.
No anticipated impacts.

Sites Affected:

onsemi Sites	External Foundry/Subcon Sites
onsemi Aizu, Japan	None
onsemi Seremban, Malaysia	

Marking of Parts/ Traceability of Change: The affected products will be identified with date code and custom source

Reliability Data Summary:

QV DEVICE NAME: NCV333ASQ3T2G

RMS: S89520

PACKAGE: SC-88A-5

Test	Specification	Condition	Interval	Results
High Temperature Operating Life	JESD22-A108	Ta=125°C, 100 % max rated Vcc	1008 hrs	0/238
Early Life Failure Rate	JESD22-A108	Ta=125°C, 100 % max rated Vcc	48 hrs	0/2398
High Temperature Storage Life	JESD22-A103	Ta= 150°C	1008 hrs	0/240
ESD-HBM	JS-001-2017	3000V	-	pass
LU Class II	JESD-78	100mA		pass
Electrical Distribution / Thermal Characterization	onsemi DataSheet	Test @ Cold & Room & Hot Cpk ≥ 1.67	-	pass

QV DEVICE NAME: NCV20231SN2T1G

RMS #: S77035

PACKAGE: TSOP5

Test	Specification	Condition	Interval	Results
High Temperature Operating Life	JESD22-A108	Ta=125°C, 100 % max rated Vcc	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 TC, uHAST, HAST for surface mount pkgs only		0/all
Temperature Cycling	JESD22-A104	Ta= -40°C to +125°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
ESD - HBM	JS-001-2017	2000V	-	pass
LU Class II	JESD-78	100mA	-	pass
Electrical Distribution / Thermal Characterization	onsemi DataSheet	Test @ Cold & Room & Hot, Cpk ≥ 1.67	-	pass

NOTE: AEC-1 pager are 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
NCV333ASQ3T2G	NA	NCV333ASQ3T2G
NCV333ASN2T1G	NA	NCV333ASQ3T2G, NCV20231SN2T1G
NCV21871SQ3T2G	NA	NCV333ASQ3T2G
NCV21871SN2T1G	NA	NCV333ASQ3T2G, NCV20231SN2T1G

Appendix A: Changed Products

PCN#: FPCN25232Z
Issue Date: Sep 19, 2023

DIKG: DIGI-KEY

Product	Customer Part Number	Qualification Vehicle	New Part Number	Replacement Supplier
NCV333ASQ3T2G		NCV333ASQ3T2G	NA	
NCV21871SQ3T2G		NCV333ASQ3T2G	NA	
NCV21871SN2T1G		NCV333ASQ3T2G, NCV20231SN2T1G	NA	
NCV333ASN2T1G		NCV333ASQ3T2G, NCV20231SN2T1G	NA	