Final Product/Process Change Notification
Document #:FPCN25232X
Issue Date:21 Jul 2023

Title of Change:	Qualification of onsemi Aizu as an additional wafer fab facility for ONC25 technology, bonding wire material change for SC88A and TSOP5 packages, lead frame and die attach material change for TSOP5 package assembled in onsemi, Seremban, Malaysia – NCS333A and NCS21871 family.
Proposed First Ship date:	18 Nov 2023 or earlier if approved by customer
Contact Information:	Contact your local onsemi Sales Office or CheePan.Foo@onsemi.com
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 or Vladislav.Hrachovec@onsemi.com
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:	The affected products will be identified with date code and custom source
Change Category:	Wafer Fab Change, Assembly Change
Change Sub-Category(s):	Manufacturing Site Addition, Material Change

Sites Affected:

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

Description and Purpose:

This notification is to announce wafer fab capacity expansion to onsemi Aizu wafer fab, located in Aizuwakamatsu, Japan, for the NCS333A product family. 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.

This is an expansion to supplement the existing onsemi wafer fab capacity. The parts being qualified will be dual sourced and may be processed at either wafer fab in the future depending on supply chain requirements.

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. All changes are detailed in the following change table, otherwise noted.

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 Gresham, Oregon, USA	onsemi Aizu, Aizuwakamatsu, Japan
LeadFrame – TSOP5	Ag Stripe	No change	roughened ppf
Die Attach – TSOP5	CRM1084P	No change	Ablestick 8006NS
Bond Wire – TSOP5/SC88A	0.8mil Au	No change	0.8mil AuFlash PCC

Reliability Data Summary:

QV1 DEVICE NAME: NCS333ASQ3T2G
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

QV2 DEVICE NAME: NCS20231SN2T1G
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

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
NCS21871SN2T1G	NCS333ASQ3T2G, NCS20231SN2T1G
NCS21871SQ3T2G	NCS333ASQ3T2G
NCS333ASN2T1G	NCS333ASQ3T2G, NCS20231SN2T1G
NCS333ASQ3T2G	NCS333ASQ3T2G