



Final Product/Process Change Notification

Document #:FPCN25572X38

Issue Date:12 Nov 2024

Title of Change:	Update to FPCN25572X - To include the reliability data of UQFN12 Package Parts for the Qualification of Vanguard Fab and Assembly related changes for Logic Part.
Proposed First Ship date:	19 Feb 2025 or earlier if approved by customer
Contact Information:	Contact your local onsemi Sales Office or logic.fpcn@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 ChangKit.Mok@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:	Custom source on label will show TW instead of US/JP to indicate new die source from Vanguard. Changed material may be identified by plant code or lot code too.
Change Category:	Test Change, Assembly Change, Wafer Fab Change
Change Sub-Category(s):	Shipping/Packaging/Marking, Manufacturing Site Transfer, Datasheet/Product Doc change, Material Change

Sites Affected:

onsemi Sites	External Foundry/Subcon Sites
onsemi Tarlac, Philippines	UTAC, Thailand
	Vanguard International Semiconductor, Taiwan

Description and Purpose:

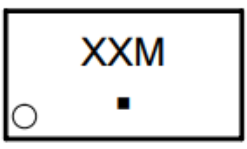
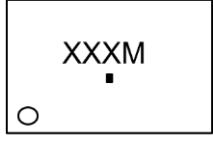
With reference to **FPCN25572X**, this FPCN presents the information solely for UQFN12 package parts the pertinent reliability data.

	From		To
Fab Site	TPSCO	Tower	Vanguard International
Wafer Diameter	200 mm	150mm	200mm

Assembly Related Changes

	From				To	
Assy Site	Utac 1	Stars	onsemi Seremban	onsemi Tarlac	onsemi Tarlac	Utac 3
Test Site	onsemi Seremban	Stars	onsemi Seremban	onsemi Tarlac	onsemi Tarlac	Utac 3
Leadframe	PPF(EFTEC)	PPF(C7025)	PPF (EFTEC)	PPF(EFTEC)	PPF (C7025)	PPF (C7025)
Die Attach	AB 8006NS	HR-5104	AB 8006NS	AB 8006NS	AB 8006NS	HR-5104
Wire	1 mil Au	1 mil Au	0.8 mil PCC	0.8 mil PCC	0.8 mil PCC	0.8 mil CuPdAu
Mold	G770HCD	G700LTD	G770HM Type D	G760	G760	G700LTD

Marking Related Changes

	From	To
Marking	 XX = Device Code M = Date Code ■ or G = Pb-Free Package (Pb Free indication "G" or Microdot "■", may or may not be present)	 XXX = Device Code M = Date Code ■ or G = Pb-Free Package (Pb Free indication "G" or Microdot "■", may or may not be present)

Reliability Data Summary:

QV DEVICE NAME : NL3X5004MU2TAG

RMS : O93553 / O95336

PACKAGE : uQFN12 (Tarlac)

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
Early Life Failure Rate	JESD22-A108	Ta=125°C, 100 % max rated Vcc	48 hrs	0/2400
Preconditioning	J-STD-020 JESD-A113	MSL 1@260°C, Pre TC, uHAST, HAST for surface mount pkgs only	-	0/693
Temperature Cycling	JESD22-A104	Ta= -65°C to +150°C	500 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

QV DEVICE NAME : NL3X5004MU2TAG

RMS : O95481

PACKAGE : uQFN12 (UTL)

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
Early Life Failure Rate	JESD22-A108	Ta=125°C, 100 % max rated Vcc	48 hrs	0/2400
Preconditioning	J-STD-020 JESD-A113	MSL 1@260°C, Pre TC, uHAST, HAST for surface mount pkgs only	-	0/693
Temperature Cycling	JESD22-A104	Ta= -65°C to +150°C	500 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



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Electrical Characteristics Summary:

See embedded electrical characteristic changes:

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.

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	Replacement Part Number	Qualification Vehicle
NLSX5014MUTAG	NL3X5004MU2TAG	NL3X5004MU2TAG
NLSX5004MUTAG	NL3X5004MU2TAG	NL3X5004MU2TAG
NLSX3014MUTAG	NL3X5004MU2TAG	NL3X5004MU2TAG