



Initial Product/Process Change Notification

Document #: IPCN21520XG

Issue Date: 11 Aug 2023

Title of Change:	Qualification of onsemi Aizu as an additional Wafer Fab facility for ONC25 Technology - NCP176 & NCP177 family.	
Proposed First Ship date:	01 Feb 2024 or earlier if approved by customer	
Contact Information:	Contact your local onsemi Sales Office or Milos.Dvorak@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.	
Type of Notification:	This is an Initial Product/Process Change Notification (IPCN) sent to customers. An IPCN is an advance notification about an upcoming change and contains general information regarding the change details and devices affected. It also contains the preliminary reliability qualification plan. The completed qualification and characterization data will be included in the Final Product/Process Change Notification (FPCN). This IPCN notification will be followed by a Final Product/Process Change Notification (FPCN) at least 90 days prior to implementation of the change. In case of questions, 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	
Change Sub-Category(s):	Manufacturing Site Addition	
Sites Affected:		
onsemi Sites	External Foundry/Subcon Sites	
onsemi Aizu, Japan	None	
Description and Purpose:		
<p>The onsemi Aizu Wafer Fab located in Aizuwakamatsu, Japan has been qualified to process the ONC25 CMOS process.</p> <p>The exact 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 the onsemi Aizu.</p> <p>This is a capacity expansion to supplement the existing onsemi wafer fab. The parts being qualified are dual sourced and may be processed at either wafer fab in the future depending on capacity requirements.</p> <p>There is no change to the orderable part number. There is no product marking change as a result of this change.</p>		
Site / Location	Current:	Proposed:
Wafer Fab	onsemi Gresham, North America United States Oregon	onsemi Aizu, Asia Japan Fukushima onsemi Gresham, North America United States Oregon

Qualification plan:

QV DEVICE NAME: NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG

PACKAGE: UDFN-4

Test	Specification	Condition	Interval
High Temperature Operating Life	JESD22-A108	Ta=125°C, 100 % max rated Vcc	1008 hrs
High Temperature Storage Life	JESD22-A103	Ta= 150°C	1008 hrs
Preconditioning	J-STD-020 JESD-A113	MSL 1 @ 260°C, Pre TC, uHAST, HAST for surface mount pkgs only	
Temperature Cycling	JESD22-A104	Ta= -65°C to +150°C	500 cyc
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs

QV DEVICE NAME: NCP161AFCT180T2G

PACKAGE: WLCSP-4

Test	Specification	Condition	Interval
High Temperature Operating Life	JESD22-A108	Ta=125°C, 100 % max rated Vcc	1008 hrs
High Temperature Storage Life	JESD22-A103	Ta= 150°C	1008 hrs
Early Life Failure Rate	JESD22-A108	Ta=125°C, 100 % max rated Vcc	48 hrs
Preconditioning	J-STD-020 JESD-A113	MSL 1 @ 260°C, Pre TC, uHAST, HAST for surface mount pkgs only	
Temperature Cycling	JESD22-A104	Ta= -40°C to +125°C	1000 cyc
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs

QV DEVICE NAME: NCV8170AXV300T2G

PACKAGE: SOT-563

Test	Specification	Condition	Interval
High Temperature Operating Life	JESD22-A108	Ta=125°C, 100 % max rated Vcc	1008 hrs
High Temperature Storage Life	JESD22-A103	Ta= 150°C	1008 hrs
Early Life Failure Rate	JESD22-A108	Ta=125°C, 100 % max rated Vcc	48 hrs
Preconditioning	J-STD-020 JESD-A113	MSL 1 @ 260°C, Pre TC, uHAST, HAST for surface mount pkgs only	
Temperature Cycling	JESD22-A104	Ta= -65°C to +150°C	1000 cyc
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs



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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
NCP176AMX120TCG	NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG, NCP161AFCT180T2G, NCV8170AXV300T2G
NCP176AMX180TCG	NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG, NCP161AFCT180T2G, NCV8170AXV300T2G
NCP176AMX330TCG	NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG, NCP161AFCT180T2G, NCV8170AXV300T2G
NCP176BMX100TCG	NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG, NCP161AFCT180T2G, NCV8170AXV300T2G
NCP176BMX120TCG	NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG, NCP161AFCT180T2G, NCV8170AXV300T2G
NCP177BMX330TCG	NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG, NCP161AFCT180T2G, NCV8170AXV300T2G
NCP177BMX180TCG	NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG, NCP161AFCT180T2G, NCV8170AXV300T2G
NCP177BMX150TCG	NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG, NCP161AFCT180T2G, NCV8170AXV300T2G
NCP177BMX135TCG	NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG, NCP161AFCT180T2G, NCV8170AXV300T2G
NCP177BMX125TCG	NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG, NCP161AFCT180T2G, NCV8170AXV300T2G
NCP177BMX110TCG	NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG, NCP161AFCT180T2G, NCV8170AXV300T2G
NCP177BMX070TCG	NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG, NCP161AFCT180T2G, NCV8170AXV300T2G
NCP177AMX330TCG	NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG, NCP161AFCT180T2G, NCV8170AXV300T2G
NCP177AMX180TCG	NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG, NCP161AFCT180T2G, NCV8170AXV300T2G
NCP177AMX125TCG	NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG, NCP161AFCT180T2G, NCV8170AXV300T2G
NCP177AMX120TCG	NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG, NCP161AFCT180T2G, NCV8170AXV300T2G
NCP177AMX090TCG	NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG, NCP161AFCT180T2G, NCV8170AXV300T2G
NCP177AMX070TCG	NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG, NCP161AFCT180T2G, NCV8170AXV300T2G
NCP176BMX280TCG	NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG, NCP161AFCT180T2G, NCV8170AXV300T2G
NCP176BMX180TCG	NCP114AMX120TCG, NCP114AMX180TCG, NCP114AMX280TCG, NCP161AFCT180T2G, NCV8170AXV300T2G