



Initial Product/Process Change Notification

Document #: IPCN25661X

Issue Date: 16 Aug 2023

Title of Change:	Wafer Fab Capacity Expansion for Trench 6 MOSFET Technology at Powerchip in Taiwan	
Proposed First Ship date:	27 May 2024 or earlier if approved by customer	
Contact Information:	Contact your local onsemi Sales Office or guokun.yeng@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:	Material will be traceable with onsemi lot trace code & tracking	
Change Category:	Wafer Fab Change	
Change Sub-Category(s):	Manufacturing Site Addition	
Sites Affected:		
onsemi Sites	External Foundry/Subcon Sites	
None	Powerchip, Taiwan	
Description and Purpose:		
This initial notification is to inform the customer that onsemi is adding wafer fabrication capacity for 40V Trench 6 MOSFET technology products. This addition involves the Powerchip located in Taiwan, which will be used for the manufacturing of these products. There is no change to the orderable part number. There is no product marking change as a result of this change.		
	Before Change Description	After Change Description
Wafer Fabrication Site	onsemi Aizu, Japan onsemi Gresham, US Global Foundries, US	onsemi Aizu, Japan onsemi Gresham, US Global Foundries, US <u>Powerchip, Taiwan</u>



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Qualification Plan:

QV DEVICE NAME: NVMFS5C404NWF AFT1G

RMS: TBD

PACKAGE: SO8FL-HE

Test	Specification	Condition	Interval
HTRB	JESD22-A108	Ta=175°C, 100% max rated Vds	1008 hrs
HTGB	JESD22-A108	Ta=175°C, 100% max rated Vgs	1008 hrs
HTSL	JESD22 A103	Ta=175°C	
PC	J STD 020, JESD22-A113	IR reflow at 245C or 260C (pkg dependant)	
HAST+PC	JESD22-A110	Temp = 130C, 85% RH, ~ 18.8 psig, bias = 80% of rated V or 100V max	96 hours
TC+PC	JESD22-A104	Temp = -55°C to +150°C; for 1000 cycles	1000 cycles
UHAST+ PC	JESD22-A118	Temp = 130C, RH=85%, ~ 18.8 psig	96 hours
IOL + PC	MIL STD750, M 1037 AEC Q101	Ta=+25°C, deltaTj=100°C max, 2 min= Ton=Toff (pkg dependent)	15000 cycles
SAT	12MSB17722C	12MSB17722C	
Tri-Temp		Characterization of all 48A parameters	
Yield		per assembly MRB procedure	

QV DEVICE NAME: NVMFS5C404NLWFAFT3G

RMS: TBD

PACKAGE: SO8FL-HE

Test	Specification	Condition	Interval
HTGB	JESD22-A108	Ta=175°C, 100% max rated Vgs	1008 hrs
Tri-Temp		Characterization of all 48A parameters	
Yield		per assembly MRB procedure	

QV DEVICE NAME: NVMFS5C410NWF AFT1G

RMS: TBD

PACKAGE: SO8FL

Test	Specification	Condition	Interval
HTRB	JESD22-A108	Ta=175°C, 100% max rated Vds	1008 hrs
HTGB	JESD22-A108	Ta=175°C, 100% max rated Vgs	1008 hrs
HTSL	JESD22 A103	Ta=175°C	
PC	J STD 020, JESD22-A113	IR reflow at 245C or 260C (pkg dependant)	
HAST+PC	JESD22-A110	Temp = 130C, 85% RH, ~ 18.8 psig, bias = 80% of rated V or 100V max	96 hours
TC+PC	JESD22-A104	Temp = -55°C to +150°C; for 1000 cycles	1000 cycles
UHAST+ PC	JESD22-A118	Temp = 130C, RH=85%, ~ 18.8 psig	96 hours
IOL + PC	MIL STD750, M 1037 AEC Q101	Ta=+25°C, deltaTj=100°C max, 2 min= Ton=Toff (pkg dependent)	15000 cycles
SAT	12MSB17722C	12MSB17722C	
Tri-Temp		Characterization of all 48A parameters	
Yield		per assembly MRB procedure	



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QV DEVICE NAME: NTMFSC0D9N04CL

RMS: TBD

PACKAGE: PQFN5x6 Dual Cool

Test	Specification	Condition	Interval
HTRB	JESD22-A108	Ta=175°C, 100% max rated Vds	1008 hrs
HTGB	JESD22-A108	Ta=175°C, 100% max rated Vgs	1008 hrs
HTSL	JESD22 A103	Ta=175°C	
PC	J STD 020, JESD22-A113	IR reflow at 245C or 260C (pkg dependant)	
HAST+PC	JESD22-A110	Temp = 130C, 85% RH, ~ 18.8 psig, bias = 80% of rated V or 100V max	96 hours
TC+PC	JESD22-A104	Temp = -55°C to +150°C; for 1000 cycles	1000 cycles
UHAST+ PC	JESD22-A118	Temp = 130C, RH=85%, ~ 18.8 psig	96 hours
IOL + PC	MIL STD750, M 1037 AEC Q101	Ta=+25°C, deltaTj=100°C max, 2 min= Ton=Toff (pkg dependent)	15000 cycles
SAT	12MSB17722C	12MSB17722C	
Tri-Temp		Characterization of all 48A parameters	
Yield		per assembly MRB procedure	

QV DEVICE NAME: NTMTS0D7N04CTXG

RMS: TBD

PACKAGE: PQFN8x8

Test	Specification	Condition	Interval
HTRB	JESD22-A108	Ta=175°C, 100% max rated Vds	1008 hrs
HTGB	JESD22-A108	Ta=175°C, 100% max rated Vgs	1008 hrs
HTSL	JESD22 A103	Ta=175°C	
PC	J STD 020, JESD22-A113	IR reflow at 245C or 260C (pkg dependant)	
HAST+PC	JESD22-A110	Temp = 130C, 85% RH, ~ 18.8 psig, bias = 80% of rated V or 100V max	96 hours
TC+PC	JESD22-A104	Temp = -55°C to +150°C; for 1000 cycles	1000 cycles
UHAST+ PC	JESD22-A118	Temp = 130C, RH=85%, ~ 18.8 psig	96 hours
IOL + PC	MIL STD750, M 1037 AEC Q101	Ta=+25°C, deltaTj=100°C max, 2 min= Ton=Toff (pkg dependent)	15000 cycles
SAT	12MSB17722C	12MSB17722C	
Tri-Temp		Characterization of all 48A parameters	
Yield		per assembly MRB procedure	

Estimated date for qualification completion: 22 February 2024

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
NTMFS5C410NT3G	NVMFS5C404NWFAFT1G, NVMFS5C404NLWFAFT3G, NVMFS5C410NWFAFT1G
NTMFS5C430NT1G	NVMFS5C404NWFAFT1G, NVMFS5C404NLWFAFT3G, NVMFS5C410NWFAFT1G



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NTMFS5C404NLT1G	NVMFS5C404NWFAFT1G, NVMFS5C404NLWFAFT3G, NVMFS5C410NWFAFT1G
NTMFS5C442NT1G	NVMFS5C404NWFAFT1G, NVMFS5C404NLWFAFT3G, NVMFS5C410NWFAFT1G
NTMFS5C430NLT1G	NVMFS5C404NWFAFT1G, NVMFS5C404NLWFAFT3G, NVMFS5C410NWFAFT1G
NTMFS5C410NLT1G	NVMFS5C404NWFAFT1G, NVMFS5C404NLWFAFT3G, NVMFS5C410NWFAFT1G
NTMTS0D7N04CTXG	NTMTS0D7N04CTXG
NTMFSC0D9N04CL	NTMFSC0D9N04CL