



Initial Product/Process Change Notification

Document #: IPCN24911XF

Issue Date: 29 Sep 2022

Title of Change:	Qualify JCET/ISMF as alternative site for process of Bump and Silicon etch for x4DFN products.		
Proposed First Ship date:	23 Sep 2023 or earlier if approved by customer		
Contact Information:	Contact your local onsemi Sales Office or Lan.Vu@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:	No change in device marking. Affected parts with this changing will be identified by the date code		
Change Category:	Assembly Change		
Change Sub-Category(s):	Manufacturing Site Addition		
Sites Affected:			
onsemi Sites		External Foundry/Subcon Sites	
onsemi, ISMF Malaysia		JCET, China	
Description and Purpose:			
This IPCN announces the qualification of JCET (China) and ISMF (Malaysia) for bumping and Silicon-etching process of devices in X4DFN package (molded- WLCSP).			
Upon completion of this qualification, new manufacturing flow of JCET/ISMF/Seremban will be utilized as an alternative flow to produce X4DFN products.			
There are no product marking changes as a result of this change.			
	From	To	
Bumping/Silicon etching/ASY&TST Site	Niigata/Niigata /Seremban	Niigata/Niigata /Seremban	JCET/ISMF/Seremban
Bump/Pillar Structure	CuSnAg	No change	CuSnAg
Polymer Material, Thickness	PBO, 5um	No change	PBO, 5um
Bump/Pillar Height	15um	No change	15um
UBM Material, Thickness, Diameter	TiCu 1750/3500	No change	TiCu 1000/4000



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Qualification Plan:

QV DEVICE NAME: NSR02301MX4T5G

PACKAGE: X4DFN-2, 0.445x0.24mm, 0.27P

Test	Specification	Condition	Interval
HTRB	JESD22-A108	Ta = 150°C, 100% max rated V	1008 hrs
HTSL	JESD22-A103	Ta = 150°C	1008 hrs
PC	J-STD-020 JESD-A113	MSL 1 @ 260°C	-
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 2 mins	15000 cycs
TC	JESD22-A104	Ta = -40°C to +125°C	1700 cycs
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs

Estimated date for qualification completion: **1 June 2023**

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
NSR05301MX4T5G	NSR02301MX4T5G
NSR05201MX4T5G	NSR02301MX4T5G
NSR01301MX4T5G	NSR02301MX4T5G
NSR02301MX4T5G	NSR02301MX4T5G

Appendix A: Changed Products

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DIKG: DIGI-KEY

Product	Customer Part Number	Qualification Vehicle	New Part Number	Replacement Supplier
NSR05301MX4T5G		NSR02301MX4T5G	NA	