



Initial Product/Process Change Notification

Document #: IPCN24832Z

Issue Date: 30 Sep 2022

Title of Change:	External Solderable Top Metal fab process qualification at onsemi Aizu fab location.	
Proposed Changed Material First Ship Date:	29 Apr 2023 or earlier if approved by customer	
Current Material Last Order Date:	01 Sep 2022 <i>Orders received after the Current Material Last Order Date expiration are to be considered as orders for new changed material as described in this PCN. Orders for current (unchanged) material after this date will be per mutual agreement and current material inventory availability.</i>	
Current Material Last Delivery Date:	28 Apr 2023 <i>The Current Material Last Delivery Date may be subject to change based on build and depletion of the current (unchanged) material inventory</i>	
Product Category:	Active components – Integrated circuits	
Contact information:	Contact your local onsemi Sales Office or Don.Beeman@onsemi.com	
PCN Samples Contact:	Contact your local onsemi Sales Office to place sample order. Sample requests are to be submitted no later than 45 days after publication of this change notification. 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 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 6 months prior to implementation of the change. In case of questions, contact <PCN.Support@onsemi.com> .	
Change Category		
Category	Type of Change	
Process - Wafer Production	Move of all or part of wafer fab to a different location/site/subcontractor	
Equipment	Production from a new equipment/tool which uses the same basic technology (replacement equipment or extension of existing equipment pool) without change of process.	
Description and Purpose:		
	From	To
STM Site	onsemi Gresham	onsemi Gresham, onsemi Aizu
There is no product marking change as a result of this change.		
Reason / Motivation for Change:	Capacity improvement	
Anticipated impact on fit, form, function, reliability, product safety or manufacturability:	The device will be qualified and validated based on the same Product Specification. No anticipated impacts.	
Sites Affected:		
onsemi Sites	External Foundry/Subcon Sites	
onsemi Aizu, Japan	None	



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Marking of Parts/ Traceability of Change:		There is no product marking change as a result of this change.	
Reliability Data Summary:			
QV DEVICE NAME : NRVTS1545EMFST1G (QV1)			
PACKAGE : 0606 CLIP DFN 8 5*6*1MM PBFR			
Test	Specification	Condition	Interval
HTRB	JESD22-A108	Tj = Max rate Tj for device, BV bias = 100% of max rated Bias check required NVMF55113PLT1G (QV1) Tj=175C NVTFS5116PLTWG (QV2) Tj=175C NRVTS4100ET3G (QV3) Tj=175C	1008 hrs
HTGB	JESD22-A108	Ti = Maximum rated junction temperature Vgss Bias = 100% of max rated	1008 hrs
HTSL	JESD22-A103	Ta =Max rate storage temp for device	1008 hrs
PC	J STD 020A, JESD22-A113	IR reflow at 260C	
(PC) + HAST	JESD22-A110	Temp = 130C, 85% RH, P= ~ 18.8 psig, BV bias = 80% of rated V Bias check required	96 hrs
(PC) + TC	JESD22-A104	Temp = -55°C to +150°C	1000 cyc
(PC) + uHAST	JESD22-A118	Temp = 130C, RH=85%, ~ 18.8 psig	96 hrs
(PC) + IOL	MIL STD750, M 1037 Q101	AEC Ta=+25°C, deltaTj=100°C max, Ton=Toff= 2 min	15000 cyc
SAT	12MSB17722C	12MSB17722C	pre and post MSL
CDPA TCDT	AEC Q101, rev D, test 7A (alt)	Automotive - Post 1x TC Automotive + Cu wire - Post 1x TC	per AEC Q101
CDPA SAT Post 1x Stress	12MSB17722C	Automotive - Post 1x HTRB, HTGB Automotive + Cu wire - Post 1x HTRB, HTGB, HAST - Post 2x HAST, TC	per guidelines 12MSB17722C
DPA	AEC-Q101-004 Section 4	Automotive - Post 1x HTRB, HTGB, TC Copper wire - Post 1x TC, HAST Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC	AEC-Q101-004 Section 4
CDPA WP BS	12MSB17722C	Automotive - Post 1x HTRB, HTGB, TC Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC - Post 2x HAST, TC	per guidelines 12MSB17722C
CDPA SMx Solder Joint	12MSB17722C	Automotive - Post 1x HTRB, HTGB, TC	per guidelines 12MSB17722C

		Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC - Post 2x HAST, TC	
CDPA X Section	12MSB17722C	Automotive - Post 1x HTRB, HTGB, TC Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC, HTSL - Post 2x HAST, TC, HTSL	per guidelines 12MSB17722C
CDPA Xray	12MSB17722C	Automotive - Post 1x HTRB, HTGB, TC	AEC-Q006
Shift	AEC Q101, 12MSB17722C	Automotive - Post 1x HTRB, HTGB, TC	AEC Q101, 12MSB17722C
ESD	12MSB17722C	HBM, CDM, IEC	SS per 17722

QV DEVICE NAME : NVTF55116PLTWG (QV2)

PACKAGE : 6510 | CLIP WDFN 8 3.3 CPR PBFH

Test	Specification	Condition	Interval
HTRB	JESD22-A108	Tj = Max rate Tj for device, BV bias = 100% of max rated Bias check required NVMF55113PLT1G (QV1) Tj=175C NVTF55116PLTWG (QV2) Tj=175C NRV TSA4100ET3G (QV3) Tj=175C	1008 hrs
HTGB	JESD22-A108	Ti = Maximum rated junction temperature Vgss Bias = 100% of max rated	1008 hrs
HTSL	JESD22-A103	Ta =Max rate storage temp for device	1008 hrs
PC	J STD 020A, JESD22-A113	IR reflow at 260C	
(PC) + HAST	JESD22-A110	Temp = 130C, 85% RH, P= ~ 18.8 psig, BV bias = 80% of rated V Bias check required	96 hrs
(PC) + TC	JESD22-A104	Temp = -55°C to +150°C	1000 cyc
(PC) + uHAST	JESD22-A118	Temp = 130C, RH=85%, ~ 18.8 psig	96 hrs
(PC) + IOL	MIL STD750, M 1037 Q101	AEC Ta=+25°C, deltaTj=100°C max, Ton=Toff= 2 min	15000 cyc
SAT	12MSB17722C	12MSB17722C	pre and post MSL
CDPA TCDT	AEC Q101, rev D, test 7A (alt)	Automotive - Post 1x TC Automotive + Cu wire - Post 1x TC	per AEC Q101
CDPA SAT Post 1x Stress	12MSB17722C	Automotive - Post 1x HTRB, HTGB Automotive + Cu wire - Post 1x HTRB, HTGB, HAST - Post 2x HAST, TC	per guidelines 12MSB17722C
DPA	AEC-Q101-004 Section 4	Automotive - Post 1x HTRB, HTGB, TC	AEC-Q101-004 Section 4

		<p>Copper wire - Post 1x TC, HAST</p> <p>Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC</p>	
CDPA WP BS	12MSB17722C	<p>Automotive - Post 1x HTRB, HTGB, TC</p> <p>Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC - Post 2x HAST, TC</p>	per guidelines 12MSB17722C
CDPA SMx Solder Joint	12MSB17722C	<p>Automotive - Post 1x HTRB, HTGB, TC</p> <p>Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC - Post 2x HAST, TC</p>	per guidelines 12MSB17722C
CDPA X Section	12MSB17722C	<p>Automotive - Post 1x HTRB, HTGB, TC</p> <p>Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC, HTSL - Post 2x HAST, TC, HTSL</p>	per guidelines 12MSB17722C
CDPA Xray	12MSB17722C	<p>Automotive - Post 1x HTRB, HTGB, TC</p>	AEC-Q006
Shift	AEC Q101, 12MSB17722C	<p>Automotive - Post 1x HTRB, HTGB, TC</p>	AEC Q101, 12MSB17722C
ESD	12MSB17722C	HBM, CDM, IEC	SS per 17722

QV DEVICE NAME : NRVSA4100ET3G (QV3)

PACKAGE : 0344 | SMA PB FREE

Test	Specification	Condition	Interval
HTRB	JESD22-A108	<p>Tj = Max rate Tj for device, BV bias = 100% of max rated Bias check required NVMF55113PLT1G (QV1) Tj=175C NVTFS5116PLTWG (QV2) Tj=175C NRVSA4100ET3G (QV3) Tj=175C</p>	1008 hrs
HTGB	JESD22-A108	Ti = Maximum rated junction temperature Vgss Bias = 100% of max rated	1008 hrs
HTSL	JESD22-A103	Ta =Max rate storage temp for device	1008 hrs
PC	J STD 020A, JESD22-A113	IR reflow at 260C	
(PC) + HAST	JESD22-A110	<p>Temp = 130C, 85% RH, P= ~ 18.8 psig, BV bias = 80% of rated V Bias check required</p>	96 hrs
(PC) + TC	JESD22-A104	Temp = -55°C to +150°C	1000 cyc
(PC) + uHAST	JESD22-A118	Temp = 130C, RH=85%, ~ 18.8 psig	96 hrs
(PC) + IOL	MIL STD750, M 1037 Q101	AEC Ta=+25°C, deltaTj=100°C max, Ton=Toff= 2 min	15000 cyc

SAT	12MSB17722C	12MSB17722C	pre and post MSL
CDPA TCDT	AEC Q101, rev D, test 7A (alt)	Automotive - Post 1x TC Automotive + Cu wire - Post 1x TC	per AEC Q101
CDPA SAT Post 1x Stress	12MSB17722C	Automotive - Post 1x HTRB, HTGB Automotive + Cu wire - Post 1x HTRB, HTGB, HAST - Post 2x HAST, TC	per guidelines 12MSB17722C
DPA	AEC-Q101-004 Section 4	Automotive - Post 1x HTRB, HTGB, TC Copper wire - Post 1x TC, HAST Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC	AEC-Q101-004 Section 4
CDPA WP BS	12MSB17722C	Automotive - Post 1x HTRB, HTGB, TC Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC - Post 2x HAST, TC	per guidelines 12MSB17722C
CDPA SMx Solder Joint	12MSB17722C	Automotive - Post 1x HTRB, HTGB, TC Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC - Post 2x HAST, TC	per guidelines 12MSB17722C
CDPA X Section	12MSB17722C	Automotive - Post 1x HTRB, HTGB, TC Automotive + Cu wire - Post 1x HTRB, HTGB, HAST, TC, HTSL - Post 2x HAST, TC, HTSL	per guidelines 12MSB17722C
CDPA Xray	12MSB17722C	Automotive - Post 1x HTRB, HTGB, TC	AEC-Q006
Shift	AEC Q101, 12MSB17722C	Automotive - Post 1x HTRB, HTGB, TC	AEC Q101, 12MSB17722C
ESD	12MSB17722C	HBM, CDM, IEC	SS per 17722

Electrical Characteristics Summary:

Electrical characteristics are not impacted.



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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](#).

Current Part Number	New Part Number	Qualification Vehicle
NRVTS10100EMFST1G	N/A	QV1 + QV2 + QV3
NRVTS10100MFST1G	N/A	QV1 + QV2 + QV3
NRVTS10100MFST3G	N/A	QV1 + QV2 + QV3
NRVTS10120EMFST1G	N/A	QV1 + QV2 + QV3
NRVTS10120MFST1G	N/A	QV1 + QV2 + QV3
NRVTS1045EMFST1G	N/A	QV1 + QV2 + QV3
NRVTS1045EMFST3G	N/A	QV1 + QV2 + QV3
NRVTS12100EMFST1G	N/A	QV1 + QV2 + QV3
NRVTS12100MFST1G	N/A	QV1 + QV2 + QV3
NRVTS12120EMFST1G	N/A	QV1 + QV2 + QV3
NRVTS12120MFST1G	N/A	QV1 + QV2 + QV3
NRVTS12120MFST3G	N/A	QV1 + QV2 + QV3
NRVTS1245EMFST1G	N/A	QV1 + QV2 + QV3
NRVTS1260EMFST1G	N/A	QV1 + QV2 + QV3
NRVTS1260EMFST3G	N/A	QV1 + QV2 + QV3
NRVTS1545EMFST1G	N/A	QV1 + QV2 + QV3
NRVTS1545EMFST3G	N/A	QV1 + QV2 + QV3
NRVTS245ESFT1G	N/A	QV1 + QV2 + QV3
NRVTS245ESFT3G	N/A	QV1 + QV2 + QV3
NRVTS360ETFSTAG	N/A	QV1 + QV2 + QV3
NRVTS360ETFSWFTAG	N/A	QV1 + QV2 + QV3
NRVTS5100ETFSTWG	N/A	QV1 + QV2 + QV3
NRVTS5100ETFSWFTAG	N/A	QV1 + QV2 + QV3
NRVTS5100ETFSWFTWG	N/A	QV1 + QV2 + QV3
NRVTS560EMFST1G	N/A	QV1 + QV2 + QV3
NRVTS560EMFST3G	N/A	QV1 + QV2 + QV3
NRVTS560ETFSTAG	N/A	QV1 + QV2 + QV3
NRVTS560ETFSTWG	N/A	QV1 + QV2 + QV3
NRVTS560ETFSWFTAG	N/A	QV1 + QV2 + QV3
NRVTS560ETFSWFTWG	N/A	QV1 + QV2 + QV3



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NRVTS660MFDT1G	N/A	QV1 + QV2 + QV3
NRVTS660MFDT3G	N/A	QV1 + QV2 + QV3
NRVTS660MFDWFT1G	N/A	QV1 + QV2 + QV3
NRVTS660MFDWFT3G	N/A	QV1 + QV2 + QV3
NRVTS8100MFST1G	N/A	QV1 + QV2 + QV3
NRVTS8120EMFST1G	N/A	QV1 + QV2 + QV3
NRVTS8120EMFST3G	N/A	QV1 + QV2 + QV3
NRVTS860EMFST1G	N/A	QV1 + QV2 + QV3
NRVTS860EMFST3G	N/A	QV1 + QV2 + QV3
NRV TSA3100ET3G	N/A	QV1 + QV2 + QV3
NRV TSA4100ET3G	N/A	QV1 + QV2 + QV3
NRV TSA4100T3G	N/A	QV1 + QV2 + QV3
NRV TSAF260ET3G	N/A	QV1 + QV2 + QV3
NRV TSAF345T3G	N/A	QV1 + QV2 + QV3
NRV TSAF360T3G	N/A	QV1 + QV2 + QV3
NRV TSAF5100ET3G	N/A	QV1 + QV2 + QV3
NRV TSM245ET1G	N/A	QV1 + QV2 + QV3
NRV TSM245ET3G	N/A	QV1 + QV2 + QV3
NVTF S5116PLWFTWG	N/A	QV1 + QV2 + QV3
NVTF S5116PLWFTAG	N/A	QV1 + QV2 + QV3
NVTF S5116PLTWG	N/A	QV1 + QV2 + QV3
NVTF S5116PLTAG	N/A	QV1 + QV2 + QV3
NV MF S5113PLWFT1G	N/A	QV1 + QV2 + QV3
NV MF S5113PLT1G	N/A	QV1 + QV2 + QV3
NRV TSS3100ET3G	N/A	QV1 + QV2 + QV3
NRV TS8100MFST3G	N/A	QV1 + QV2 + QV3
NRV TS5100ETFSTAG	N/A	QV1 + QV2 + QV3
NRV TS1245EMFST3G	N/A	QV1 + QV2 + QV3
NRV TS12120EMFST3G	N/A	QV1 + QV2 + QV3
NRV TS12100MFST3G	N/A	QV1 + QV2 + QV3
NRV TS12100EMFST3G	N/A	QV1 + QV2 + QV3
NRV TS10120MFST3G	N/A	QV1 + QV2 + QV3
NRV TS10120EMFST3G	N/A	QV1 + QV2 + QV3
NRV TS10100EMFST3G	N/A	QV1 + QV2 + QV3

Appendix A: Changed Products

PCN#: IPCN24832Z
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Product	Customer Part Number	Qualification Vehicle	New Part Number	Replacement Supplier
NRVTS10100EMFST1G		QV1 + QV2 + QV3		
NRVTS1045EMFST1G		QV1 + QV2 + QV3		
NRVTS12100EMFST1G		QV1 + QV2 + QV3		
NRVTS12120EMFST1G		QV1 + QV2 + QV3		
NRVTS1245EMFST1G		QV1 + QV2 + QV3		
NRVTS1545EMFST1G		QV1 + QV2 + QV3		
NRVTS245ESFT1G		QV1 + QV2 + QV3		
NRVTS245ESFT3G		QV1 + QV2 + QV3		
NRVTS360ETFSTAG		QV1 + QV2 + QV3		
NRVTS5100ETFSWFTAG		QV1 + QV2 + QV3		
NRVTS560EMFST1G		QV1 + QV2 + QV3		
NRVTS560EMFST3G		QV1 + QV2 + QV3		

Appendix A: Changed Products
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Product	Customer Part Number	Qualification Vehicle	New Part Number	Replacement Supplier
NRVTS8120EMFST1G		QV1 + QV2 + QV3		
NRV TSA3100ET3G		QV1 + QV2 + QV3		
NRV TSA4100ET3G		QV1 + QV2 + QV3		
NRV TSA4100T3G		QV1 + QV2 + QV3		
NRV TSAF345T3G		QV1 + QV2 + QV3		
NRV TSAF360T3G		QV1 + QV2 + QV3		
NRV TSAF5100ET3G		QV1 + QV2 + QV3		
NRV TSM245ET1G		QV1 + QV2 + QV3		
NVTF5116PLWFTAG		QV1 + QV2 + QV3		
NVTF5116PLTWG		QV1 + QV2 + QV3		
NVTF5116PLTAG		QV1 + QV2 + QV3		
NVMFS5113PLWFT1G		QV1 + QV2 + QV3		

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Product	Customer Part Number	Qualification Vehicle	New Part Number	Replacement Supplier
NVMFS5113PLT1G		QV1 + QV2 + QV3		
NRVTSS3100ET3G		QV1 + QV2 + QV3		
NRVTS10100MFST1G		QV1 + QV2 + QV3		