



Final Product/Process Change Notification

Document #:FPCN24973Z

Issue Date:14 Dec 2022

Title of Change:	Qualification of high Pb Solder wire and Non-groove Lead Frame on D2PAK-7L at onsemi Suzhou China.	
Proposed Changed Material First Ship Date:	14 Jun 2023 or earlier if approved by customer	
Current Material Last Order Date:	28 Feb 2023 <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:	13 Jun 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 – Discrete components	
Contact information:	Contact your local onsemi Sales Office or Peter.Lee@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.	
Sample Availability Date:	30 Nov 2022	
PPAP Availability Date:	30 Nov 2022	
Additional Reliability Data:	Contact your local onsemi Sales Office or Frank.Tuan@onsemi.com	
Type of Notification:	This is a Final Product/Process Change Notification (FPCN) sent to customers. The change will be implemented at 'Proposed Change Material First Ship Date' in compliance to J-STD-46 or ZVEI, or earlier upon customer approval, or per our signed agreements. onsemi will consider this proposed change and it's conditions acceptable, unless an inquiry is made in writing within 45 days of delivery of this notice. To do so, contact PCN.Support@onsemi.com .	
Change Category		
Category	Type of Change	
Process - Assembly	Die attach material, Change in leadframe dimensions	
Description and Purpose:		
This is to improve package robustness.		
	From	To
LeadFrame	existing groove LF	non-groove LF
Die Attach solder	Pb92.5 composition	Pb95.5 composition
There is no product marking change as a result of this change		
Reason / Motivation for Change:	Quality improvement	
Anticipated impact on fit, form, function, reliability, product safety or manufacturability:	The device has been qualified and validated based on the same Product Specification. The device has successfully passed the qualification tests. Potential impacts can be identified, but due to testing performed by onsemi in relation to the PCN, associated risks are verified and excluded. No anticipated impacts.	

Sites Affected:	
onsemi Sites	External Foundry/Subcon Sites
onsemi Suzhou, China	None
Marking of Parts/ Traceability of Change:	Identify by datecode

Reliability Data Summary:

QV DEVICE NAME: NTB028N170M1

RMS: K81669/U80845/U80844

PACKAGE: D2PAK-7

Test	Specification	Condition	Interval	Results
PC	J-STD-020 JESD-A113	MSL 1 @ 245 °C, Pre IOL, TC, uHAST, HAST for surface mount pkgs only		0/960
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 3.5 min	8572 cyc	0/240
TC	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/240
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/240
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/240

QV DEVICE NAME: NTB014N120M3P

RMS: U80904

PACKAGE: D2PAK-7

Test	Specification	Condition	Interval	Results
PC	J-STD-020 JESD-A113	MSL 1 @ 245 °C, Pre IOL, TC, uHAST, HAST for surface mount pkgs only		0/960
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 3.5 min	8572 cyc	0/240
TC	JESD22-A104	Ta= -55°C to +150°C	1000 cyc	0/240
HAST	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/240
uHAST	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/240

NOTE: AEC-1pager is attached.

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/s

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
NVBG160N120SC1	NA	NTBG028N170M1, NTBG014N120M3P
NVBG080N120SC1	NA	NTBG028N170M1, NTBG014N120M3P
NVBG060N090SC1	NA	NTBG028N170M1, NTBG014N120M3P
NVBG045N065SC1	NA	NTBG028N170M1, NTBG014N120M3P
NVBG040N120SC1	NA	NTBG028N170M1, NTBG014N120M3P
NVBG020N120SC1	NA	NTBG028N170M1, NTBG014N120M3P
NVBG020N090SC1	NA	NTBG028N170M1, NTBG014N120M3P
NVBG015N065SC1	NA	NTBG028N170M1, NTBG014N120M3P

Appendix A: Changed Products

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DIKG: DIGI-KEY

Product	Customer Part Number	Qualification Vehicle	New Part Number	Replacement Supplier
NVBG160N120SC1		NTBG028N170M1, NTBG014N120M3P	NA	
NVBG045N065SC1		NTBG028N170M1, NTBG014N120M3P	NA	
NVBG040N120SC1		NTBG028N170M1, NTBG014N120M3P	NA	
NVBG020N120SC1		NTBG028N170M1, NTBG014N120M3P	NA	
NVBG020N090SC1		NTBG028N170M1, NTBG014N120M3P	NA	
NVBG080N120SC1		NTBG028N170M1, NTBG014N120M3P	NA	