



Final Product/Process Change Notification

Document #:FPCN24973XA

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 First Ship date:	21 Mar 2023 or earlier if approved by customer
Contact Information:	Contact your local onsemi Sales Office or norsahida.sahman@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.
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. FPCNs are issued 90 days prior to implementation of the change. onsemi will consider this change accepted, unless an inquiry is made in writing within 30 days of delivery of this notice. To do so, contact PCN.Support@onsemi.com
Marking of Parts/ Traceability of Change:	Changed material can be identified by lot code or date code
Change Category:	Assembly Change
Change Sub-Category(s):	Material Change

Sites Affected:

onsemi Sites

onsemi Suzhou, China

External Foundry/Subcon Sites

None

Description and Purpose:

This is to notify customers that onsemi has qualified non-groove leadframe design and high Pb solder for D2PAK-7L package in onsemi Suzhou, China assembly site to improve robustness.

	Existing (From)	To (New)
LeadFrame	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

Reliability Data Summary:

QV DEVICE NAME: NTBG028N170M1

RMS: 74998, 79954, 79958

PACKAGE: D2PAK-7L

Test	Specification	Condition	Interval	Results
HTRB	JESD22-A108	Ta= 175°C, 100% max rated V	1008 hrs	0/240
HTGB	JESD22-A108	Ta= 175°C, 100% max rated Vgss	1008 hrs	0/240
HTSL	JESD22-A103	Ta= 175°C	1008 hrs	0/240
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 3.5min	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: NTBG014N120M3P

RMS: 80844, 82904, 82659, 80904

PACKAGE: D2PAK-7L

Test	Specification	Condition	Interval	Results
IOL	MIL-STD-750 (M1037) AEC-Q101	Ta=+25°C, delta Tj=100°C On/off = 3.5min	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

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](#).

Part Number	Qualification Vehicle
NTBG015N065SC1	NTBG014N120M3P
NTBG045N065SC1	NTBG014N120M3P
NTBG025N065SC1	NTBG014N120M3P
NTBG060N090SC1	NTBG028N170M1
NTBG020N090SC1	NTBG028N170M1
NTBG160N120SC1	NTBG028N170M1
NTBG080N120SC1	NTBG028N170M1
NTBG040N120SC1	NTBG028N170M1
NTBG020N120SC1	NTBG028N170M1
NTBG060N065SC1	NTBG014N120M3P

Appendix A: Changed Products

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DIKG: DIGI-KEY

Product	Customer Part Number	Qualification Vehicle	New Part Number	Replacement Supplier
NTBG020N120SC1		NTBG028N170M1		
NTBG080N120SC1		NTBG028N170M1		
NTBG160N120SC1		NTBG028N170M1		
NTBG020N090SC1		NTBG028N170M1		
NTBG060N090SC1		NTBG028N170M1		
NTBG015N065SC1		NTBG014N120M3P		
NTBG060N065SC1		NTBG014N120M3P		
NTBG025N065SC1		NTBG014N120M3P		
NTBG045N065SC1		NTBG014N120M3P		
NTBG040N120SC1		NTBG028N170M1		