



FINAL PRODUCT/PROCESS CHANGE NOTIFICATION #20111Generic Copy

Issue Date: 18-Jun-2013**TITLE:** Addition of ASE Shanghai, China as qualified assembly site for Filter & Protection devices in DFN package**PROPOSED FIRST SHIP DATE:** 18-Sep-2013 or earlier with customer approval**AFFECTED CHANGE CATEGORY(S):** ON Semiconductor Assembly Site**FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:**Contact your local ON Semiconductor Sales Office or KL LAI <ffyj9h@onsemi.com>**SAMPLES:** Contact your local ON Semiconductor Sales Office**ADDITIONAL RELIABILITY DATA:** AvailableContact your local ON Semiconductor Sales Office or Francis Lualhati <ffxczy@onsemi.com>**NOTIFICATION TYPE:**

Final Product/Process Change Notification (FPCN)

Final change notification sent to customers. FPCNs are issued at least 90 days prior to implementation of the change.

ON Semiconductor will consider this change approved unless specific conditions of acceptance are provided in writing within 30 days of receipt of this notice. To do so, contact <quality@onsemi.com>.**DESCRIPTION AND PURPOSE:**

This is the final notification announcing that ON Semiconductor has its Filter & Protection devices in DFN package (please refer to the list of affected general parts section for complete device list), assembled and qualified at ASE Shanghai factory located in the China. ASE, Shanghai is ISO/TS16949:2009 certified. It has already been qualified and utilized by ON Semiconductor.

5 devices have been identified as qualification vehicle, based on the package dimension, die size and volumes. Reliability testing and full electrical characterization over temperatures were performed to ensure device functionality and electrical specifications are met.

Upon expiration or approval of the FPCN, devices listed in this final PCN will have ASE Shanghai as additional assembly site. Customer may receive devices assembled in our in-house Seremban, Malaysia assembly facilities; UTAC, Thailand, Amkor P3 Philippines and ASE Shanghai after that. The location of the assembly sites can be identified by the marking of the date code and the lead finish materials.



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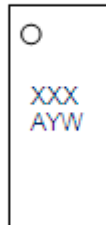
Lead Finish Difference:

1. Seremban / UTAC: Tin Plated (e3 – on the device label)
2. Amkor / ASE: NiPdAu (e4 – on the device label)

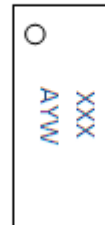
Marking Style Change (Only applicable to case outline 506AC):

To accommodate the assembly site code for Amkor, P3, the marking style for the devices in case outline 506AC will be updated. Upon expiration or approval of the FPCN, devices assembled in Seremban, UTAC and Amkor P3 will follow the new marking style per the diagram below,

Current Marking Style



New Marking Style



XXX – Specific Device Code
A – Assembly Location
Y – Year
W – Work Week



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RELIABILITY DATA SUMMARY:

Package: **UDFN16**
 Qual Vehicles: **NUF8001MUT2G**

Qualification Results and Analysis:

Test:	Conditions:	Interval:	Results
HTRB	TA=85°C, 80% rated voltage	1008 hrs	0/240
HTSL	TA = 150°C	1008 hrs	0/240
TC-PC	Ta= -65 C to 150 C	1000 cyc	0/240
HAST-PC	Ta=130C RH=85%,	96 hrs	0/240
Autoclave-PC	Ta=121C RH=100% ~15 psig	96 hrs	0/240

Conclusion: All reliability requirements have been met.

Package: **WDFN6**
 Qual Vehicles: **NIS1050MNTBG**

Test:	Conditions:	Interval:	Results
HTRB	TA=125°C, 80% rated voltage	1008 hrs	0/240
HTSL	TA = 150°C	1008 hrs	0/240
TC-PC	Ta= -65 C to 150 C	1000 cyc	0/240
HAST-PC	Ta=130C RH=85%,	96 hrs	0/240
Autoclave-PC	Ta=121C RH=100% ~15 psig	96 hrs	0/240

Conclusion: All reliability requirements have been met.



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Package: **DFN8**

Qual Vehicles: **NUS5530MNR2G**

Test:	Conditions:	Interval:	Results
HTRB	TA=150°C, 80% rated voltage	1008 hrs	0/239
HTSL	TA = 150°C	1008 hrs	0/240
TC-PC	Ta= -65 C to 150 C	1000 cyc	0/239
IOL-PC	Ta= 25°C, ΔTj= 100°C, 2-min on/off	15 Kcycles	0/240
HAST-PC	Ta=130C RH=85%,	96 hrs	0/240
Autoclave-PC	Ta=121C RH=100% ~15 psig	96 hrs	0/240

Conclusion: All reliability requirements have been met.

Package: **DFN16**

Qual Vehicles: **NUF8402MNT4G**

Test:	Conditions:	Interval:	Results
HTRB	TA=85°C, 80% rated voltage	1008 hrs	0/240
HTSL	TA = 150°C	1008 hrs	0/240
TC-PC	Ta= -65 C to 150 C	1000 cyc	0/240
HAST-PC	Ta=130C RH=85%,	96 hrs	0/240
Autoclave-PC	Ta=121C RH=100% ~15 psig	96 hrs	0/240

Conclusion: All reliability requirements have been met.

Package: **UDFN18**

Qual Vehicles: **MG2040MUTAG**

Test:	Conditions:	Interval:	Results
HTRB	TA=85°C, 80% rated voltage	1008 hrs	0/240
HTSL	TA = 150°C	1008 hrs	0/240
TC-PC	Ta= -65 C to 150 C	1000 cyc	0/240
HAST-PC	Ta=130C RH=85%,	96 hrs	0/240
Autoclave-PC	Ta=121C RH=100% ~15 psig	96 hrs	0/240

Conclusion: All reliability requirements have been met.

ELECTRICAL CHARACTERISTIC SUMMARY:

No changes in electrical specifications; all product performance meets current datasheet specifications.




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CHANGED PART IDENTIFICATION:

1. Marking of the month date codes:

Seremban Malaysia assembled devices: M

UTAC Thailand assembled devices: 

Amkor P3 assembled devices: 

ASE Shanghai assembled devices: 

2. Lead Finish:

Seremban / UTAC: Tin Plated (e3 – on the device label)

Amkor / ASE: NiPdAu (e4 – on the device label)



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List of affected General Parts:

Device	Current Assembly Site			Additional Assembly site upon PCN expire
	SBN	UTAC	Amkor	ASE SH
CM1263-06DE	X	X	X	X
EMI5204MUTAG	X		X	X
EMI5206MUTAG	X		X	X
EMI5208MUTAG	X		X	X
EMI7204MUTAG	X		X	X
EMI7206MUTAG	X		X	X
EMI7208MUTAG	X		X	X
EMI9404MUTAG	X		X	X
EMI9406MUTAG	X		X	X
EMI9408MUTAG	X		X	X
NIS1050MNTBG	X	X	X	X
NUF2114MNT1G	X	X	X	X
NUF2116MNT1G	X	X	X	X
NUF2450MUT2G	X	X	X	X
NUF3102MUTAG	X	X	X	X
NUF4000MUT2G	X	X	X	X
NUF4001MUT2G	X	X	X	X
NUF4010MUT2G	X	X	X	X
NUF4211MNT1G	X	X	X	X
NUF4220MNT1G	X	X	X	X
NUF4310MNTAG	X		X	X
NUF4401MNT1G	X	X	X	X
NUF4402MNT1G	X	X	X	X
NUF4403MNT1G	X	X	X	X
NUF6001MUT2G	X	X	X	X
NUF6010MUT2G	X	X	X	X
NUF6400MNTBG	X	X	X	X
NUF6401MNT1G	X	X	X	X
NUF6402MNT1G	X	X	X	X
NUF6406MNT1G	X	X	X	X
NUF6410MNT1G	X	X	X	X
NUF8001MUT2G	X	X	X	X
NUF8010MUT2G	X	X	X	X
NUF8152MUT2G	X	X	X	X



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Device	Current Assembly Site			Additional Assembly site upon PCN expire
	SBN	UTAC	Amkor	ASE SH
NUF8401MNT4G	X	X	X	X
NUF8402MNT4G	X	X	X	X
NUF8410MNT4G	X	X	X	X
NUF8600MNTXG	X	X	X	X
NUF8610MNTXG	X	X	X	X
NUP3112UPMUTAG	X		X	X
NUP3115UPMUTAG	X		X	X
NUP4012PMUTAG	X		X	X
NUP4212UPMUTAG	X		X	X
NUP5150MUTBG	X	X	X	X
NUP8011MUTAG	X	X	X	X
NUS5530MNR2G	X	X	X	X
MG2040MUTAG	X			X
ESDR0524SMUTAG	X			X
ESD7016MUTAG	X			X
ESD7104MUTAG	X			X
ESD7004MUTAG	X			X
ESDR0524PMUTAG	X			X
ESD7008MUTAG	X			X