



INITIAL PRODUCT/PROCESS CHANGE NOTIFICATION #16815Generic Copy

Issue Date: 09-Feb-2012**TITLE:** Power Switching Products (PQ) Large Body QFN Qualification at ASE-SH and AMKOR-K**PROPOSED FIRST SHIP DATE:** 09-Jun-2012**AFFECTED CHANGE CATEGORY(S):** Assembly Site**FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:**Contact your local ON Semiconductor Sales Office or <wyler.montoya@onsemi.com>**NOTIFICATION TYPE:**

Initial Product/Process Change Notification (IPCN)

First change notification sent to customers. IPCNs are issued at least 120 days prior to implementation of the change. An IPCN is 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.

DESCRIPTION AND PURPOSE:

The purpose of this Initial PCN is to notify customers of ON Semiconductor's plan to qualify production of the Power Switching devices built on Large Body QFN packages (QFN 4x4, QFN 5x5, QFN 6x6 and QFN 7x7) in ASE Assembly & Test(Shanghai, China) Limited and Amkor Technology Korea, Inc.

The package outline and electrical performance of the part from the two new assembly sites will still meet the requirements per datasheet. Also, two lead finishes will be qualified (Matte Sn and Ni/Pd/Au). A full electrical characterization over temperature will be performed for each qualification vehicle to ensure device functionality and electrical specifications.



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QUALIFICATION PLAN:

Estimated Date for Qualification Completion: April 27, 2012

Samples should be available after completion of Qualification.

Qual Vehicles

- NCP6132AMNR2G – QFN 7x7
- NCP6151S52MNR2G – QFN 6x6

RELIABILITY TESTING REQUIREMENTS

Test #	Test	Ref	Test Conditions	End Point Requirements	Sample Size	# of Lots	Total Units	Comments	Qual Site
1	Electrical Test	ON Data Sheet	ON Product Specification	See Below	All Devices	N/A	N/A	NCP6132A – 7x7 QFN-60 NCP6151 – 6x6 QFN-52 BOAC device – Wire bond process characterization is required before qual lot build.	OSPI
2	HTOL	JA108	Ta = 125°C for 504hrs	Test @ Room	80	1	80	NCP6132A	OSPI
3	HTSL	JA103	150°C for 1008hrs	Test @ Room	80	3+1	320	NCP6132A CDPA after HTSL 1008hrs – 2 units/lot. Extended readpoint – 2016hrs	OSPI
4	SAT	12MSB17722C	SAT	Per 12MSB17722C	5	3+1	20	NCP6132A With downbond on flag – Flag delam is not allowed.	OSPI
5	PC	J-Std-020 JA113	Moisture Pre-conditioning for AC, TC & HAST	SMD Only, Test @ Room	All prior to AC, TC & HAST	All	All	MSL-1 @ 260°C	OSPI
6	PC-UHAST	JA118	131°C/85%RH/ 18.8 psig, No bias for 96 hrs	Test @ Room	80	3+1	320	NCP6132A CDPA after UHAST 96hrs – 2 units/lot Extended readpoint – 192hrs	OSPI
7	PC-TC	JA104	-65°C to +150°C for 500 cycles	Test @ Room	80	3+1	320	NCP6132A CDPA after TC500cycs – 2 units/lot Extended readpoint – 4000cycs	OSPI
8	PC-HAST	JA110	131°C/85%RH/ 18.8 psig, bias for 96 hrs	Test @ Room	80	3+1	320	NCP6151 CDPA after HAST 96hrs – 2 units/lot Extended readpoint – 192hrs	OSPI
9	RSH	JESD22 B106	Resistance to Solder Heat	Test @ Room Unless temp meas. required.	30	3+1	120	NCP6132A	OSPI
10	BPS	M883 Method 2011	Wire Bond Pull Strength, Condition C or D	3gm Pull Force Min Cpk ≥ 1.67	30 bonds from 5 units	3	15	NCP6132A	AMKOR/ASE
11	BS	AEC-Q100-001	Bond Shear Test	Cpk ≥ 1.67	30 bonds from 5 units	3	15	NCP6132A	AMKOR/ASE
12	PD	JB100	Per case outline	Ppk>1.66 Cpk>1.33	30	3	90	4x4 to 7x7 QFN	AMKOR/ASE
13	ED	ON Data Sheet	Electrical Distributions	Room, Hot and Cold Cpk ≥ 1.67	30	1+1	60	NCP6132A	OSPI



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List of affected General Parts:

NCP6121S52MNR2G
NCP61310091MNR2G
NCP6131NS52MNR2G
NCP6131S52MNR2G
NCP6151S52MNR2G
NCP6132MNR2G
NCP81018AMNR2G
NCP81018BMNR2G
NCP6153MNTWG
NCP6133MNTWG
NCP81005MNTWG
NCP6132AMNR2G
NCP6132BMNR2G
NCP81007MNTWG
NCP81001MNTWG