ON Semiconductor

INITIAL PRODUCT/PROCESS CHANGE NOTIFICATION #20453

Generic Copy

Issue Date: 29-Apr-2014

TITLE: Large Body Saw QFN transfer to Amkor Philippines (P3) due to Amkor Korea (K1) Closure

PROPOSED FIRST SHIP DATE: Between 1/1/2015 and 3/1/2015. More accurate date will be referenced in FPCN.

AFFECTED CHANGE CATEGORY(S): Product/Package Transfer to an existing Mfg site WITH qualified technology

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:

Contact your local ON Semiconductor Sales Office or Pat.Regman@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:

Amkor is closing the Korea K1 Plant per type of package according to the following plan. Assembly manufacturing operations for all Leadframe products now assembled in K1 will need to move to Philippines, P3 Plant.

Package	Body size	FPCN Release (forecast)	ATK Shutdown date
Saw QFN	7x7	14wk32	15wk48
	6x6	14wk32	15wk48
	4x4	14wk32	15wk48

K1 bill of materials and process will be supported in P3 with the exception of the following item:

- Epoxy and mold compound change to align with receiving site standard and qualified bill of material.

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Summarize on the table below are the packages for transfer and its equivalent bill of materials:

BOM	ATK1	ATP3	Remarks
Body Size	4x4 to 7x7 mm	4x4 to 7x7 mm	
Leadframe	uPPF	uPPF	Change
Epoxy	CRM1085A	AMK06	Change
Mold compound	G700	G700L	Change

QUALIFICATION PLAN:

The qualification is performed per type of package.
The principle of similarity will be applied: 1 qualification on 1 representative product will serve for all products qualified.
A set of equipment from ATK1 will be transferred to ATP1 to perform the qualification.
Estimated Date for Qualification Completion: 26 July 2014

Samples should be available after completion of Qualification at FPCN release.

Test #	Test	Ref	Test Conditions	End Point Requirements	Sample Size	# of Lots
1	**Electrical Test**	ON Data Sheet	ON Product Specification	See Below	All Devices	N/A
2	**HTOL**	JA108	Ta = 125°C for 504hrs	Test @ Room	80	1
3	**HTSL**	JA103	150°C for 1008hrs	Test @ Room	80	3
4	**MSL Classification**	ON Semi Spec 12MSB17722C	MSL 1 & 3 @260C	Per 12MSB17722C	22	3
5	**SAT**	ON Semi Spec 12MSB17722C	MSL 1 or 3 @260C	Per 12MSB17722C	5	3
6	**PC**	J-Std-020 JA113	Moisture Pre-conditioning for TC, HAST & UHAST	SMD Only, Test @ Room	All prior to TC, UHAST & HAST	All
7	**PC-UHAST**	JA118	131°C/85%RH/ 18.8 psig, No bias for 96 hrs	Test @ Room	80	3
8	**PC-TC**	JA104	-65°C to +150°C for 500 cycles	Test @ Room	80	3
9	**PC-HAST**	JA110	131°C/85%RH/ 18.8 psig, bias for 96 hrs	Test @ Room	80	3
10	**RSH**	JB106	Resistance to Solder Heat	Test @ Room Unless temp meas. required.	30	3
11	**SD**	JB102	Steam Aging + Dip & look	>95% solder coverage	15	3
12	**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

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13	**BS**	AEC-Q100-001	Bond Shear Test	Cpk ≥ 1.67	30 bonds from 5 units	3
14	**PD**	JB100	Per case outline	Ppk>1.67 or Cpk>1.33	30	3
15	**ED**	ON Data Sheet	Electrical Distributions	Room, Hot and Cold Cpk ≥ 1.67	30	1

List of affected General Parts:

NCP6151S52MNR2G
NCP6153MNTWG