February 11, 2011

Subject: PCN# 01A-11, 90-Day Notification of Intent to Utilize an Alternate Qualified Assembly Site and Alternate Qualified Material Set, and Convert Moisture Sensitivity Level for the SnPb 84-PLCC Devices

Dear Lattice Customer,

In accordance with our Product Change Notification (PCN) policy, Lattice is providing this 90-day notification of our intent to utilize an alternate qualified assembly site and alternate qualified material set for the SnPb version of the 84-pin Plastic Leaded Chip Carrier (PLCC) devices, and convert Moisture Sensitivity Level (MSL) for these devices from MSL3 to MSL4.

In an effort to expand our assembly capacity and standardize the material set for these popular PLCC devices, Lattice will now use the Malaysian facility of Advanced Semiconductor Engineering (ASE) as an alternate qualified assembly site and alternate qualified material set. ASE Malaysia is already using the same material set for the Pb-free version of the 84-PLCC devices. ASE Malaysia utilizes industry standard raw materials, assembly and test processes. The current and alternate qualified assembly sites and material sets are summarized in Exhibit A. These material sets meet all external package dimensions and package footprints remain the same and are published on the Lattice web site (www.latticesemi.com).

In addition, Lattice is converting the MSL for these devices from Level 3 to Level 4. The peak reflow temperature for these packages remains the same at 225°C (+0/-5°C). The Pb-free version of the 84-PLCC devices from ASE Malaysia is also MSL 4.

AFFECTED DEVICES

The Ordering Part Numbers (OPNs) affected by this PCN are listed in the Exhibit B. This PCN also affects any custom devices (i.e. factory programmed, special test, tape & reel, non-standard speed grade, etc), which are derived from any of the devices listed.

DEVICE IDENTIFICATION

Any product with Inspection Lot Number of xxxx**R**xxx will meet MSL4. Inspection Lot Numbers are marked on the topside of the device as well as on the label ("Mark Code" field) on the outside of the inventory box and on the anti-static bag within. See examples in the next page.

Lattice

ispLSI 1032E
100LJ
xxxxRxxx

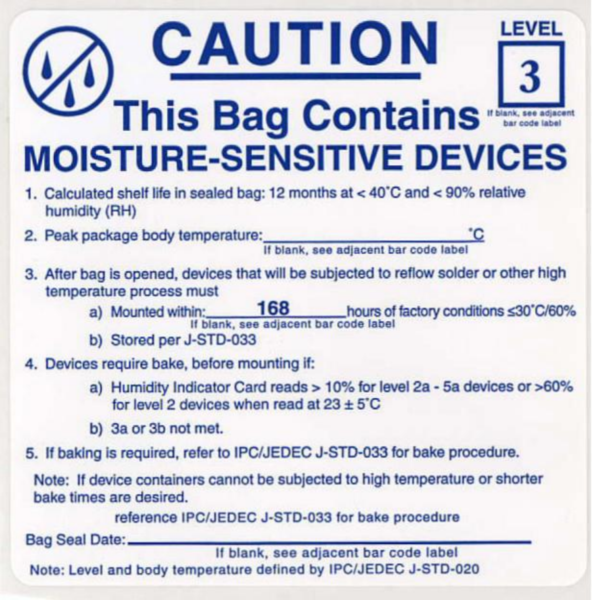
Lattice

M4-128N/64
-15JC-18JI
xxxxRxxx ← Inspection Lot Number

SHIPPING PACKAGING

These products will continue to be shipped in a dry-pack bag with Moisture Sensitive Caution Label (examples below), Humidity Indicator Card (HIC) and desiccant within the bag. The maximum floor time allowed for MSL4 components out of the bag is 72 hours (under the condition of ≤30°C / 60% RH) before the device should be mounted and reflowed on the board. The maximum floor time for MSL3 devices is 168 hours.

Changing From MSL3 Label



CAUTION

LEVEL
3
If blank, see adjacent bar code label

This Bag Contains

MOISTURE-SENSITIVE DEVICES

1. Calculated shelf life in sealed bag: 12 months at < 40°C and < 90% relative humidity (RH)
2. Peak package body temperature: ______ °C
   If blank, see adjacent bar code label
3. After bag is opened, devices that will be subjected to reflow solder or other high temperature process must
   a) Mounted within: 168 hours of factory conditions ≤30°C/60%
      If blank, see adjacent bar code label
   b) Stored per J-STD-033
4. Devices require bake, before mounting if:
   a) Humidity Indicator Card reads > 10% for level 2a - 5a devices or >60% for level 2 devices when read at 23 ± 5°C
   b) 3a or 3b not met.
5. If baking is required, refer to IPC/JEDEC J-STD-033 for bake procedure.

Note: If device containers cannot be subjected to high temperature or shorter bake times are desired.
reference IPC/JEDEC J-STD-033 for bake procedure

Bag Seal Date: ______
If blank, see adjacent bar code label

Note: Level and body temperature defined by IPC/JEDEC J-STD-020

To MSL4 Label

CAUTION

LEVEL
4
If blank, see adjacent bar code label

This Bag Contains

MOISTURE-SENSITIVE DEVICES

1. Calculated shelf life in sealed bag: 12 months at < 40°C and < 90% relative humidity (RH)
2. Peak package body temperature: ______ °C
   If blank, see adjacent bar code label
3. After bag is opened, devices that will be subjected to reflow solder or other high temperature process must
   a) Mounted within: 72 hours of factory conditions ≤30°C/60%
      If blank, see adjacent bar code label
   b) Stored per J-STD-033
4. Devices require bake, before mounting if:
   a) Humidity Indicator Card reads > 10% for level 2a - 5a devices or >60% for level 2 devices when read at 23 ± 5°C
   b) 3a or 3b not met.
5. If baking is required, refer to IPC/JEDEC J-STD-033 for bake procedure.

Note: If device containers cannot be subjected to high temperature or shorter bake times are desired.
reference IPC/JEDEC J-STD-033 for bake procedure

Bag Seal Date: ______
If blank, see adjacent bar code label

Note: Level and body temperature defined by IPC/JEDEC J-STD-020

DATA SHEET SPECIFICATIONS

This PCN has no impact on any electrical data sheet specifications.

QUALIFICATION DATA

Reliability testing for the qualification for these products is complete. A summary of the qualification data is available here.

CONVERSION TIMING

Conversion timing for this PCN is 90 days from the date of this Notice. Should samples be required to complete evaluation of this PCN, such sample requests must be received **no later than March 11, 2011** (30 days after the date of this Notice).

CONVERSION TIMING – Summary

- **Sample Request Cut-off Date:** **March 11, 2011**
- **PCN Expiration Date:** **May 13, 2011**

RESPONSE

In accordance with JESD46-C, this change is deemed accepted by the customer if no acknowledgement is received within 30 days from this Notice.

Lattice PCNs are available on Lattice website. Please sign up to receive e-mail PCN alerts by registering from here. If you already have a Lattice web account and wish to receive PCN alerts, you can do so by logging in your account and make edits to your subscription options.

CONTACT

If you have any questions or require additional information, please contact pcn@latticesemi.com.

Sincerely,
Lattice Semiconductor PCN Administration

EXHIBIT “A” – CURRENT AND FUTURE QUALIFIED ASSEMBLY SITES AND MATERIAL SET

Current								**Future**					
Package Type		**Assembly Site**	**Material Set**				**MSL**	**Assembly Site**	**Material Set**				**MSL**
			Die Attach	**Mold Compound**	**Plating**	**Wire**			**Die Attach**	**Mold Compound**	**Plating**	**Wire**	
84-PLCC	Standard							ASE Malaysia	Yiztech 8143	Sumitomo G630 Series	SnPb	Gold (Au)	4
		Amkor Philippines	8361J	Sumitomo G600 Series	SnPb	Gold (Au)	3	Amkor Philippines	8361J	Sumitomo G600 Series	SnPb		3

Note: The highlighted cells in the “Future” section identify the changes associated with this PCN.

EXHIBIT "B" – AFFECTED DEVICE LIST

Product Line	Ordering Part Number	Package
ispLSI® 1032	ispLSI 1032-60LJ[1]	84-PLCC
	ispLSI 1032-80LJ[1]	
	ispLSI 1032-90LJ[1]	
	ispLSI 1032-60LJI[1]	
ispLSI 1032E	ispLSI 1032E-70LJ	84-PLCC
	ispLSI 1032E-100LJ	
	ispLSI 1032E-125LJ	
	ispLSI 1032E-70LJI	
ispLSI 2064A	ispLSI 2064A-80LJ84	84-PLCC
	ispLSI 2064A-100LJ84	
	ispLSI 2064A-125LJ84	
	ispLSI 2064A-80LJ84I	
M4-128N	M4-128N/64-7JC	84-PLCC
	M4-128N/64-10JC	
	M4-128N/64-12JC	
	M4-128N/64-15JC	
	M4-128N/64-10JI	
	M4-128N/64-12JI	
	M4-128N/64-14JI	
	M4-128N/64-18JI	

Note: This PCN also affects any custom devices (i.e. factory programmed, special test, tape & reel, non-standard speed grade, etc.), which are derived from any of the devices listed above.

1. Discontinued via PCN#13A-10. Last time orders may be sourced with products with changes documented in this PCN.