



January 6, 2014

**Subject: PCN#01A-14 90-Day Notification of Intent to Utilize an Alternate Qualified Mask Set for the ICE40LP1K Products**

Dear Lattice Customers,

Lattice is providing this 90-day notification of our intent to utilize an alternate qualified mask set for the ICE40™ LP1K products.

**Change Descriptions**

Two minor silicon changes have been made to improve performance for certain use cases. No new qualification is required as the adjustments have been made, via masks, with minor changes to the metal.

- Oscillator: In Slave SPI mode, the device internal oscillator driving the configuration circuitry will now turn off after configuration completes. Previously, it remained on. This results in lower core power supply when this mode is used.
- System Memory: Block RAM Memory address location zero can now be initialized.

The use of this alternate qualified mask set will not change external package dimensions. The package footprints remain the same and are published on the [Lattice website](#).

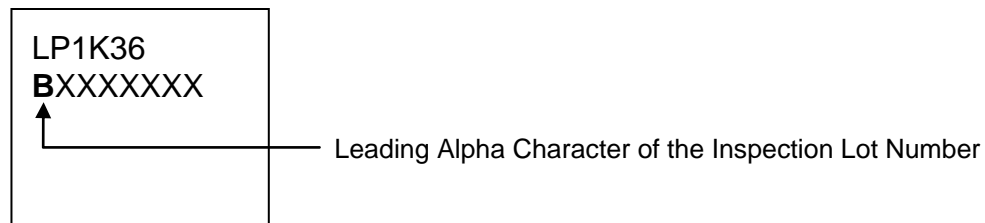
**Affected Devices**

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

Devices	Ordering Part Number	Package	Shipping Carrier
ICE40LP1K	ICE40LP1K-QN84	84-QFN (Halogen-Free)	Tray
	ICE40LP1K-CM81	81-ucBGA (Halogen-Free)	Tray
	ICE40LP1K-CM81TR	81-ucBGA (Halogen-Free)	Tape & Reel
	ICE40LP1K-CB81	81-csBGA (Halogen-Free)	Tray
	ICE40LP1K-CM49	49-ucBGA (Halogen-Free)	Tray
	ICE40LP1K-CM49TR	49-ucBGA (Halogen-Free)	Tape & Reel
	ICE40LP1K-CM36	36-ucBGA (Halogen-Free)	Tray
	ICE40LP1K-CM36TR	36-ucBGA (Halogen-Free)	Tape & Reel
	ICE40LP1K-CM121	121-ucBGA (Halogen-Free)	Tray
	ICE40LP1K-CB121	121-csBGA (Halogen-Free)	Tray

## Device Identification

Devices with the alternate qualified mask set can be identified by a leading alpha character “B” of the Inspection Lot Number marked on the topside of the devices, which is also marked on the label on the outside of the inventory box as well as on the anti-static, moisture barrier bag within. See device topside marking example below.



## Data Sheet Specifications

This PCN has no impact on Lattice’s ability to meet currently published ICE family data sheet specifications. The revised devices are fully backward compatible in all applications.

## PCN 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 request must be received **no later than February 6, 2014** (30 days after the date of this Notice). Initial products with this new mask set will ship no earlier than April 6, 2014 (90 days from the date of this Notice).

## PCN Timing Summary

- **Sample Request Cut-Off Date: February 6, 2014**
- **PCN Expiration Date: April 6, 2014**

## Response

In accordance with JESD46-D, this change is deemed accepted by the customer if no acknowledgement is received within 30 days from this Notice. Lattice PCNs are available on the [Lattice website](#). Please sign up to receive e-mail PCN alerts by registering [here](#). If you already have a Lattice web account and wish to receive PCN alerts, you can do so by logging into [your account](#) and making edits to your subscription options.

## Contact

If you have any questions or require additional information, please contact [pcn@latticesemi.com](mailto:pcn@latticesemi.com).

Sincerely,

Lattice Semiconductor PCN Administration