



February 27, 2012

**Subject: PCN# 03A-12 Notification of a Revision to the LatticeSC/M Family Data Sheet**

Dear Lattice Customer,

Lattice is providing this notification of our intent to revise the LatticeSC™/M Family Data Sheet. The revision pertains to the correction of the JTAG Port Timing Specifications table. These changes are available in the LatticeSC/M Family Data Sheet released in December 2011. See Exhibit "A" for the summary of changes.

**AFFECTED DEVICES**

This PCN affects all devices in the LatticeSC/M family. Exhibit "B" lists the active Ordering Part Numbers (OPNs) (also available in an Excel spreadsheet [here](#)). This PCN also affects any custom devices (i.e. factory programmed, special test, etc.) which are derived from any of the devices listed. All shipments of the LatticeSC/M family made prior to this PCN are also affected. The OPNs remain unchanged for all affected devices.

**DATA SHEET SPECIFICATIONS**

The revised LatticeSC/M data sheet ([DS1004](#) version 02.4 released in December 2011) reflects these changes.

**SOFTWARE SUPPORT**

There is no impact to software.

**TIMING**

These data sheet changes are effective retroactively.

**RESPONSE**

No response is required.

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

## EXHIBIT “A” – SUMMARY OF DATA SHEET CHANGES

### LatticeSC/M Data Sheet Changes (Highlighted below)

Seven of the JTAG Port Timing Specifications were found to be in error and corrected (on Page 3-29 of the datasheet) as follows:

#### **From:**

Symbol	Parameter	Min.	Max.	Units
t <sub>BTCPH</sub>	TCK [BSCAN] Clock Pulse Width High	50	—	mV/ns
t <sub>BTCPH</sub>	TCK [BSCAN] Clock Pulse Width High	—	10	ns
t <sub>BTCPH</sub>	TCK [BSCAN] Clock Pulse Width High	—	10	ns
t <sub>BTH</sub>	TCK [BSCAN] Hold Time	8	—	ns
t <sub>BTRF</sub>	TCK [BSCAN] Rise/Fall Time	10	—	ns
t <sub>BTCO</sub>	TAP Controller Falling Edge of Clock to Valid Output	20	—	ns
t <sub>BTCODIS</sub>	TAP Controller Falling Edge of Clock to Valid Disable	20	—	ns

#### **To:**

Symbol	Parameter	Min.	Max.	Units
t <sub>BTCPH</sub>	TCK [BSCAN] Clock Pulse Width High	20	—	ns
t <sub>BTCPH</sub>	TCK [BSCAN] Clock Pulse Width High	20	—	ns
t <sub>BTS</sub>	TCK [BSCAN] Setup Time	8	—	ns
t <sub>BTH</sub>	TCK [BSCAN] Hold Time	10	—	ns
t <sub>BTRF</sub>	TCK [BSCAN] Rise/Fall Time	50	—	mV/ns
t <sub>BTCO</sub>	TAP Controller Falling Edge of Clock to Valid Output	—	10	ns
t <sub>BTCODIS</sub>	TAP Controller Falling Edge of Clock to Valid Disable	—	10	ns

**EXHIBIT “B” – AFFECTED DEVICES**

Family	Device	Package	Ordering Part Number	
			Pb-Free	Sn-Pb
LatticeSC	SC15	256-fpBGA	LFSC3GA15E-5FN256C	LFSC3GA15E-5F256C
			LFSC3GA15E-6FN256C	LFSC3GA15E-6F256C
			LFSC3GA15E-7FN256C	LFSC3GA15E-7F256C
			LFSC3GA15E-5FN256I	LFSC3GA15E-5F256I
			LFSC3GA15E-6FN256I	LFSC3GA15E-6F256I
		900-fpBGA	LFSC3GA15E-5FN900C	LFSC3GA15E-5F900C
			LFSC3GA15E-6FN900C	LFSC3GA15E-6F900C
			LFSC3GA15E-7FN900C	LFSC3GA15E-7F900C
			LFSC3GA15E-5FN900I	LFSC3GA15E-5F900I
			LFSC3GA15E-6FN900I	LFSC3GA15E-6F900I
	SC25	1020-fcBGA	LFSC3GA25E-5FFAN1020C	LFSC3GA25E-5FFA1020C
			LFSC3GA25E-6FFAN1020C	LFSC3GA25E-6FFA1020C
			LFSC3GA25E-7FFAN1020C	LFSC3GA25E-7FFA1020C
			LFSC3GA25E-5FFAN1020I	LFSC3GA25E-5FFA1020I
			LFSC3GA25E-6FFAN1020I	LFSC3GA25E-6FFA1020I
		900-fpBGA	LFSC3GA25E-5FN900C	LFSC3GA25E-5F900C
			LFSC3GA25E-6FN900C	LFSC3GA25E-6F900C
			LFSC3GA25E-7FN900C	LFSC3GA25E-7F900C
			LFSC3GA25E-5FN900I	LFSC3GA25E-5F900I
			LFSC3GA25E-6FN900I	LFSC3GA25E-6F900I
	SC40	1020-fcBGA	LFSC3GA40E-5FFAN1020C	LFSC3GA40E-5FFA1020C
			LFSC3GA40E-6FFAN1020C	LFSC3GA40E-6FFA1020C
			LFSC3GA40E-7FFAN1020C	LFSC3GA40E-7FFA1020C
			LFSC3GA40E-5FFAN1020I	LFSC3GA40E-5FFA1020I
			LFSC3GA40E-6FFAN1020I	LFSC3GA40E-6FFA1020I
		1152-fcBGA	LFSC3GA40E-5FFN1152C	LFSC3GA40E-5FF1152C
			LFSC3GA40E-6FFN1152C	LFSC3GA40E-6FF1152C
			LFSC3GA40E-7FFN1152C	LFSC3GA40E-7FF1152C
			LFSC3GA40E-5FFN1152I	LFSC3GA40E-5FF1152I
			LFSC3GA40E-6FFN1152I	LFSC3GA40E-6FF1152I
	SC80	1152-fcBGA	LFSC3GA80E-5FFN1152C	LFSC3GA80E-5FF1152C
			LFSC3GA80E-6FFN1152C	LFSC3GA80E-6FF1152C
			LFSC3GA80E-7FFN1152C	LFSC3GA80E-7FF1152C
			LFSC3GA80E-5FFN1152I	LFSC3GA80E-5FF1152I
			LFSC3GA80E-6FFN1152I	LFSC3GA80E-6FF1152I
		1704-fcBGA	LFSC3GA80E-5FFN1704C	LFSC3GA80E-5FF1704C
			LFSC3GA80E-6FFN1704C	LFSC3GA80E-6FF1704C
			LFSC3GA80E-7FFN1704C	LFSC3GA80E-7FF1704C
			LFSC3GA80E-5FFN1704I	LFSC3GA80E-5FF1704I
			LFSC3GA80E-6FFN1704I	LFSC3GA80E-6FF1704I
	SC115	1152-fcBGA	LFSC3GA115E-5FFN1152C	LFSC3GA115E-5FF1152C
			LFSC3GA115E-6FFN1152C	LFSC3GA115E-6FF1152C
			LFSC3GA115E-5FFN1152I	LFSC3GA115E-5FF1152I
			LFSC3GA115E-6FFN1152I	LFSC3GA115E-6FF1152I

Note: 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 above.

Family	Device	Package	Ordering Part Number	
			Pb-Free	Sn-Pb
LatticeSC (contd.)	SC115 (contd.)	1704-fcBGA	LFSC3GA115E-5FFN1704C	LFSC3GA115E-5FF1704C
			LFSC3GA115E-6FFN1704C	LFSC3GA115E-6FF1704C
			LFSC3GA115E-5FFN1704I	LFSC3GA115E-5FF1704I
			LFSC3GA115E-6FFN1704I	LFSC3GA115E-6FF1704I
LatticeSCM	SCM15	256-fpBGA	LFSCM3GA15EP1-5FN256C	LFSCM3GA15EP1-5F256C
			LFSCM3GA15EP1-6FN256C	LFSCM3GA15EP1-6F256C
			LFSCM3GA15EP1-7FN256C	LFSCM3GA15EP1-7F256C
			LFSCM3GA15EP1-5FN256I	LFSCM3GA15EP1-5F256I
			LFSCM3GA15EP1-6FN256I	LFSCM3GA15EP1-6F256I
		900-fpBGA	LFSCM3GA15EP1-5FN900C	LFSCM3GA15EP1-5F900C
			LFSCM3GA15EP1-6FN900C	LFSCM3GA15EP1-6F900C
			LFSCM3GA15EP1-7FN900C	LFSCM3GA15EP1-7F900C
			LFSCM3GA15EP1-5FN900I	LFSCM3GA15EP1-5F900I
			LFSCM3GA15EP1-6FN900I	LFSCM3GA15EP1-6F900I
	SCM25	1020-fcBGA	LFSCM3GA25EP1-5FFAN1020C	LFSCM3GA25EP1-5FFA1020C
			LFSCM3GA25EP1-6FFAN1020C	LFSCM3GA25EP1-6FFA1020C
			LFSCM3GA25EP1-7FFAN1020C	LFSCM3GA25EP1-7FFA1020C
			LFSCM3GA25EP1-5FFAN1020I	LFSCM3GA25EP1-5FFA1020I
			LFSCM3GA25EP1-6FFAN1020I	LFSCM3GA25EP1-6FFA1020I
		900-fpBGA	LFSCM3GA25EP1-5FN900C	LFSCM3GA25EP1-5F900C
			LFSCM3GA25EP1-6FN900C	LFSCM3GA25EP1-6F900C
			LFSCM3GA25EP1-7FN900C	LFSCM3GA25EP1-7F900C
			LFSCM3GA25EP1-5FN900I	LFSCM3GA25EP1-5F900I
			LFSCM3GA25EP1-6FN900I	LFSCM3GA25EP1-6F900I
	SCM40	1020-fcBGA	LFSCM3GA40EP1-5FFAN1020C	LFSCM3GA40EP1-5FFA1020C
			LFSCM3GA40EP1-6FFAN1020C	LFSCM3GA40EP1-6FFA1020C
			LFSCM3GA40EP1-7FFAN1020C	LFSCM3GA40EP1-7FFA1020C
			LFSCM3GA40EP1-5FFAN1020I	LFSCM3GA40EP1-5FFA1020I
			LFSCM3GA40EP1-6FFAN1020I	LFSCM3GA40EP1-6FFA1020I
		1152-fcBGA	LFSCM3GA40EP1-5FFN1152C	LFSCM3GA40EP1-5FF1152C
			LFSCM3GA40EP1-6FFN1152C	LFSCM3GA40EP1-6FF1152C
			LFSCM3GA40EP1-7FFN1152C	LFSCM3GA40EP1-7FF1152C
			LFSCM3GA40EP1-5FFN1152I	LFSCM3GA40EP1-5FF1152I
			LFSCM3GA40EP1-6FFN1152I	LFSCM3GA40EP1-6FF1152I
	SCM80	1152-fcBGA	LFSCM3GA80EP1-5FFN1152C	LFSCM3GA80EP1-5FF1152C
			LFSCM3GA80EP1-6FFN1152C	LFSCM3GA80EP1-6FF1152C
			LFSCM3GA80EP1-7FFN1152C	LFSCM3GA80EP1-7FF1152C
			LFSCM3GA80EP1-5FFN1152I	LFSCM3GA80EP1-5FF1152I
			LFSCM3GA80EP1-6FFN1152I	LFSCM3GA80EP1-6FF1152I
		1704-fcBGA	LFSCM3GA80EP1-5FFN1704C	LFSCM3GA80EP1-5FF1704C
			LFSCM3GA80EP1-6FFN1704C	LFSCM3GA80EP1-6FF1704C
			LFSCM3GA80EP1-7FFN1704C	LFSCM3GA80EP1-7FF1704C
			LFSCM3GA80EP1-5FFN1704I	LFSCM3GA80EP1-5FF1704I
			LFSCM3GA80EP1-6FFN1704I	LFSCM3GA80EP1-6FF1704I

Note: 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 above.

Family	Device	Package	Ordering Part Number	
			Pb-Free	Sn-Pb
LatticeSCM (contd.)	SCM115	1152-fcBGA	LFSCM3GA115EP1-5FFN1152C	LFSCM3GA115EP1-5FF1152C
			LFSCM3GA115EP1-6FFN1152C	LFSCM3GA115EP1-6FF1152C
			LFSCM3GA115EP1-5FFN1152I	LFSCM3GA115EP1-5FF1152I
			LFSCM3GA115EP1-6FFN1152I	LFSCM3GA115EP1-6FF1152I
		1704-fcBGA	LFSCM3GA115EP1-5FFN1704C	LFSCM3GA115EP1-5FF1704C
			LFSCM3GA115EP1-6FFN1704C	LFSCM3GA115EP1-6FF1704C
			LFSCM3GA115EP1-5FFN1704I	LFSCM3GA115EP1-5FF1704I
			LFSCM3GA115EP1-6FFN1704I	LFSCM3GA115EP1-6FF1704I

Note: 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 above.