Process Change Notice #1211201

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PCN Date: 11/20/2012	**Effective Date: 2/26/2013**	
Title: SiM3U1xx and SiM3C1xx Datasheet v1.0 Availablity		
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PCN Type:

☒ **Datasheet**	☐ **Foundry**	☐ **Packing**
☒ **Product Revision**	☐ **Assembly**	☐ **Labeling**
☐ **Discontinuance**	☐ **Test**	☐ **Other**

Last Order Date: Not Applicable

PCN Details

Description of Change:
Version 1.0 of the SiM3U1xx and SiM3C1xx datasheets and Reference Manual are now available. This update applies to the SiM3U1xx family of 32-bit USB MCUs and SiM3C1xx family of 32-bit broad based MCUs, including all parts beginning with the SiM3U1 and SiM3C1 base part number.

See Appendix for complete description of the changes.

The SiM3U1xx and SiM3C1xx 1.0 datasheets are available at www.silabs.com

This change also includes an improvement in Moisture Sensitivity Level (MSL) from level 3 to level 2 for the 80 TQFP, 64 TQFP, 64 QFN, and 40 QFN package options.

Reason for Change:
The SiM3U1xx and SiM3C1xx v1.0 datasheets includes minor updates, additions and corrections to the specifications and text descriptions, as noted in the Appendix. The MSL change includes an improved manufacturing exposure time. These changes were made based on completion of device characterization and release to full production.

Impact on Form, Fit, Function, Quality, Reliability:
There is no impact on form, fit, quality and reliability. Functional changes were made to the DEVICEID0 registers to enhance device identification information.

Product Identification:
The following orderable part numbers are affected:

All part numbers with this format:

- "SiM3U1xx-B-Gy", where "xx" is a number representing flash size and pin count and "y" represents the package type.
- "SiM3C1xx-B-Gy", where "xx" is a number representing flash size and pin count and "y" represents the package type.

Some example part numbers are:

- SiM3U167-B-GM
- SiM3C136-B-GQ
- SiM3U167-B-GDI

Last Date of Unchanged Product: Not Applicable

Qualification Samples:

Samples available upon request.

Customer Early Acceptance Sign Off:

Customers may approve early PCN acceptance by completing the information below:

Early Acceptance: **Date:** _____

Name: _____

Company: _____

Email your early Acceptance approval to: katherine.haggar@silabs.com

Qualification Data:

Qualification data is available upon request. Please contact your sales representative for a copy of the Qualification data. A list of Silicon Labs' Sales Representatives is available at www.silabs.com

Embed File(s):

Appendix

SiM3U1xx and SiM3C1xx Datasheet Changes:

1. Typographical and content corrections and clarification throughout.
2. Electrical Specifications Tables Additions:
   - Voltage Regulator Current Sense Supply Current
   - USB Transciever Supply Current
   - Power Mode 2 Wake Time
   - External Crystal Clock Frequency
   - Added VBUS and RESET pin characteristics
3. Electrical Specifications Tables Removals:
   - Power Mode 3 Wake Time
4. Electrical Specifications Tables Corrections/Adjustments:
   - IVC Supply Current, Max = 2.5 µA
   - VREG0 Output Voltage Normal Mode, Min = 3.15 V
   - VREG0 Output Voltage Suspend Mode, Min = 3.15 V
   - External Regulator Internal Pull-Down, Typ = 5 kOhm
   - External Regulator Internal Pull-Up, Typ = 10 kOhm
   - Flash Memory Endurance, Typ = 100k write/erase cycles
   - Flash Memory Retention, Min = 10 Years, Typ = 100 Years
   - USB Oscillator Frequency without Clock Recovery, Min = 47.5 MHz, Max = 48.5 MHz
   - Low Power Oscillator Frequency, Min = 19.5 MHz, Max = 20.5 MHz
   - SAR Dynamic Performance: Consolidated all specs.
   - IDAC Full Scale Output Current 1mA Range, Min = 0.99 mA
   - IDAC Full Scale Output Current 0.5mA Range, Min = 493 µA
   - IVC Slope @ 1 mA, Min = 1.55 V/mA, Max = 1.75 V/mA
   - IVC Slope @ 2 mA, Min = 795 mV/mA, Max = 860 mV/mA
   - IVC Slope @ 3 mA, Min = 525 mV/mA, Max = 570 mV/mA
   - IVC Slope @ 4 mA, Min = 390 mV/mA, Max = 430 mV/mA
   - IVC Slope @ 5 mA, Min = 315 mV/mA
   - IVC Slope @ 6 mA, Min = 260 mV/mA
   - Temperature Sensor Slope Error, Type = ±120 µV/C
   - Comparator Input Offset Voltage, Min = –10 mV, Max = 10 mV
5. Updated and clarified RTC timer clock output. The RTC output is now referred to as "RTC0TCLK".
6. Pin Definitions and Packaging Information: Renamed RTC0OSC_OUT function to RTC0TCLK_OUT for consistency.

SiM3U167-B-GDI Datasheet Changes:

1. Updated front page with block diagram, to match standard device data sheet.
2. Changed “RTC0OSC_OUT” pin function to “RTC0TCLK_OUT” to match standard device data sheet.

SiM3U1xx/SiM3C1xx Reference Manual Changes:

1. Typographical and content corrections and clarification throughout.
2. Updated and clarified RTC timer clock output. The RTC output is now referred to as "RTC0TCLK".

3. Updated DEVICEID0 register descriptions to describe enhanced device identification capabilities available on full-production devices.

