Process Change Notice 1109291

User Registration
Register today to create your account on Silabs.com. Your personalized profile allows you to receive technical document updates, new product announcements, "how-to" and design documents, product change notices (PCN) and other valuable content available only to registered users. http://www.silabs.com/profile

PCN Date: 29Sep11		**Effective Date:** 04Jan12
Title: C8051F30x - TSMC Fab10 Capacity Expansion		
Originator: Ross Bannatyne	**Phone:** +15125325780	**Dept:** Marketing
Customer Contact: Kathy Hagar	**Phone:** +15125325261	**Dept:** Inside Sales

PCN Type:

☐ **Assembly**	☐ **Discontinuance**	☐ **Package**	☐ **Test**
☐ **Datasheet**	☒ **Fabrication**	☐ **Product Revision**	
☐ **Packing**	☐ **Labeling**	☐ **Location**	☐ **Other**

Last Order Date: NA

PCN Details

Description of Change:

Silicon Laboratories (Silicon Labs) is pleased to announce the successful qualification of Taiwan Semiconductor Manufacturing Company Ltd. (TSMC) Fab 10 (TSMC10) as an additional Fab site for MCU C8051F30x family of products.

TSMC's Fab10 is already in use as an additional Fabrication site for several Silicon Labs MCU products currently being fabricated in TSMC's Fab3 site. This is a transfer of the same die designs from one TSMC factory to another.

TSMCs sites are certified to ISO9001, ISO14001 and ISO/TS16949 and are Sony Green Partners.

Reason for Change:

The qualification of TSMC's Fab10 increases fabrication capacity for the C8051f30x MCU products. This is necessary to ensure we continue to meet delivery performance to customers as demand and capacity requirements continue to increase.

Impact on Form, Fit, Function, Quality, Reliability:

There is no impact on form, fit, function, quality or reliability. The MCU devices fabricated at TSMC's Fab10 comply with Silicon Labs relevant datasheets and quality levels.

The information contained in this document is PROPRIETARY to Silicon Laboratories, Inc. and shall not be reproduced or used in part or whole without Silicon Laboratories' written consent. The document is uncontrolled if printed or electronically saved.

Product Identification:

Products ordered under the following Ordering Part umbers (OPN) are affected by this change. Note that parts with an "*" next to the OPN are available for immediate sampling. All others are available using standard lead times

TSMC Fab 3 to Fab 10 Transfer	
C8051F300-GM*	C8051F300-GS
C8051F301-GM	C8051F301-GS
C8051F302-GM	C8051F302-GS
C8051F303-GM	C8051F303-GS
C8051F304-GM	C8051F304-GS
C8051F305-GM	C8051F305-GS

The part numbers in the table above also include components shipped in tape and reel which end in the suffix 'R'. Affected Part Numbers also include all custom parts made from the listed base parts above.

Last Date of Unchanged Product: 04Jan12

Qualification Samples:

Available upon request. Parts listed with an "*" next to their Orderable Part Number (OPN) in the tables above are available for shipment immediately. All other parts are available with standard lead times. Please contact your local Silicon Labs sales representative to order samples. A list of Silicon Labs sales representatives may be found at www.silabs.com.

Note: Silicon Labs PCN Policy complies with JEDEC Standard JESD46.

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:

See Appendix A for Qualification Reports

The information contained in this document is PROPRIETARY to Silicon Laboratories, Inc. and shall not be reproduced or used in part or whole without Silicon Laboratories' written consent. The document is uncontrolled if printed or electronically saved.

Appendix A: Qualification Reports

TSMC Fab10 Additional Site Qualification Report

W7101F1 Product Qualification Plan and Report Rev. D

The information contained in this document is PROPRIETARY to Silicon Laboratories, Inc. and shall not be reproduced or used in part or whole without Silicon Laboratories' written consent. The document is uncontrolled if printed or electronically saved.

TSMC 0.35um Fab10 Fabrication, Unisem Assembly except as noted							
Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
Test Group A - Accelerated Environment Stress Tests							
Temp Cycle	JA104		Q28754	0/30			
	Cond C: -65°C to 150°C	3 lots, N=>25	Q28757	0/30		3 lots	Pass
	500 cycles		Q28760	0/30		0/90	
HTSL	JA103		Q28783	0/40			
	150°C, 1000hr	3 lots, N=>25	Q28785	0/40		3 lots	Pass
			Q28787	0/40		0/120	
Test Group B - Accelerated Lifetime Simulation Tests							
HTOL	JA108		Q28752	0/82			
	125°C, Dynamic	3 lots, N=>77	Q28755	0/80		3 lots	Pass
	Vcc=3.3V, 1000 hours		Q28758	0/80		0/242	
ELFR	JA108		Q29520	0/500			
	125°C, Dynamic	3 lots, N=>500	Q29521	0/500		4 lots	Pass
			Q28751	0/500		0/2000	Pass
	Vcc=3.3V, 48 hours		Q31011	0/500			
Test Group E - Electrical Verification							
ESD-HBM	JA114	1 lot, N=>3	Q28827				2500
ESD-MM	JA115	1 lot, N=>3	Q28826				250
ESD-CDM	JC101		Q29226				
		1 lot, N=>3	Q28828				2000
Latch Up	JESD78						
	±200mA	1 lot, N=>6	Q29230	85C			Pass
	Overvoltage = 3.3V		Q29227	25C			

Notes:

1. These devices are fully qualified and running in high volume production in TSMC Fab3. The move to Fab10 is a family qualification of TSMC 0.35um Embedded flash products in TSMC Fab10 facility per JEDEC JESD47.
2. Devices subjected to moisture preconditioning at MSL1@260°C.

The information contained in this document is PROPRIETARY to Silicon Laboratories, Inc. and shall not be reproduced or used in part or whole without Silicon Laboratories' written consent. The document is uncontrolled if printed or electronically saved.