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PCN Date: 20Jul10		Effective Date: 20Oct10	
Title: C8051F70x/71x Revision C - Performance Improvement			
Originator: Sean Zeng		Phone: 512-532-5947	Dept: EMS
Customer Contact: Kathy Hagggar		Phone: 512-532-5261	Dept: Sales
PCN Type: <input type="checkbox"/> Assembly <input type="checkbox"/> Discontinuance <input type="checkbox"/> Package <input type="checkbox"/> Test <input type="checkbox"/> Datasheet <input type="checkbox"/> Fabrication <input checked="" type="checkbox"/> Product Revision <input type="checkbox"/> Packing <input type="checkbox"/> Labeling <input type="checkbox"/> Location <input type="checkbox"/> Other			
Last Order Date: XXOct10			
PCN Details			
Description of Change: <p>Silicon Laboratories (Silicon Labs) is pleased to announce the C8051F70x/F71x Rev C family of capacitive sensing MCUs now support six additional sensing channels and 2kv ESD protection (HBM) for all family members. C8051F70x/F71x Rev C also includes two new packages, QFN24 and QFN32, for small form factor products such as cell phones.</p>			
Reason for Change: <p>Added 6 sensing channels to enable customers to use the same capacitive sensing MCU to support a larger touch screen, more touch buttons or sliders. Eliminated all known errata. Improved ESD protection to 2kv in HBM. Also, expanded package options to include QFN 24 and QFN32.</p>			
Impact on Form, Fit, Function, Quality, Reliability: <p>C8051F70x/F71x Rev C form has been expanded by adding 6 additional capacitive sensing channels, and additional control of the capacitive to digital converter. All new functions are set by default to the configuration of Rev A to maintain 100% functional compatibility to Rev A.</p> <p>C8051F70x/F71x Rev C has improved ESD protection to 2kv HBM.</p> <p>C8051F70x/F71x Rev C is a pin compatible, drop-in replacement for the C8051F70x/F71x Rev A device.</p>			

Product Identification:

This PCN applies to devices ordered using the following ordering part numbers

Affected Ordering Part Numbers			
C8051F700-GQ	C8051F705-GM	C8051F708-GQ	C8051F713-GM
C8051F700-GQR	C8051F705-GMR	C8051F708-GQR	C8051F713-GMR
C8051F701-GQ	C8051F705-GQ	C8051F709-GQ	C8051F713-GQ
C8051F701-GQR	C8051F705-GQR	C8051F709-GQR	C8051F713-GQR
C8051F702-GQ	C8051F706-GM	C8051F710-GQ	C8051F714-GM
C8051F702-GQR	C8051F706-GMR	C8051F710-GQR	C8051F714-GMR
C8051F703-GQ	C8051F706-GQ	C8051F711-GQ	C8051F714-GQ
C8051F703-GQR	C8051F706-GQR	C8051F711-GQR	C8051F714-GQR
C8051F704-GM	C8051F707-GM	C8051F712-GM	C8051F715-GM
C8051F704-GMR	C8051F707-GMR	C8051F712-GMR	C8051F715-GMR
C8051F704-GQ	C8051F707-GQ	C8051F712-GQ	C8051F715-GQ
C8051F704-GQR	C8051F707-GQR	C8051F712-GQR	C8051F715-GQR

Note: Affected Part Numbers also include all custom parts made from the above listed base parts

Last Date of Unchanged Product: 20Oct10

Subsequent to the Effective Date of this PCN, Silicon Labs will supply the new rev C parts for all C8051F70x/71x orders. The ordering part numbers have not changed subsequent to this product improvement.

Qualification Samples:

Samples are available now. Please contact your local Silicon Laboratories sales representative to order samples. A list of authorized sales representatives may be found at www.silabs.com

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.haggard@silabs.com

Qualification Data: See Appendix A for the Qualification Report

Appendix A: Qualification Report

C8051F70x/1x Qualification Report



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C8051F70x/1x Rev C, GSMC Fabrication, SPIL Assembly unless noted						
TEST NAME	TEST CONDITION	QUALIFICATION	Lot ID or Start	Fail/Pass or End	Summary	Status
Die Qualification Tests						
High Temp Operating Life	JA108 125°C, Dynamic Vcc=3.3V for 1000 hours	3 lots, N=>77	Q26492 Q27958 Q27422	0/81 0/84 0/80	0/245	Pass
Low Temp Operating Life	JA108 -10°C, Dynamic Vcc=3.3V for 1000 hours	1 lot, N=>32	Q26491	0/41	0/41	Pass
ELFR	JA108 125°C, Dynamic Vcc=3.3V for 48 hours	3 lots, N>=500	Q26724 Q27928 Q27396	0/527 0/520 0/509	0/1556	Pass
ESD: Human Body Model	JA114	1 lot / 3 devices	Q28477	0/3	2000 V	Pass
ESD: Machine Model	JA115	1 lot / 3 devices	Q28475	0/3	175 V	Pass
ESD: Charged Device Model	JC101	1 lot / 3 devices	Q28476	0/3	2000 V	Pass
Latch-up	JESD78, ±200mA	1 lot / 6 devices	Q28494 Q28493	0/6 0/6	25 °C 85 °C	Pass
High Temperature Data Retention / Cycling Endurance for NVM	JESD22-A117 85°C for 500 hours	3 lots, N>=39	Q26661 Q27727 Q28548	0/40 0/40 0/40	0/120	Pass
Low Temperature Data Retention / Cycling Endurance for NVM	JESD22-A108 25°C for 500 hours	3 lots, N>=38	Q26662 Q27728 Q28549	0/40 0/40 0/40	0/120	Pass
Package Qualification Tests						

Notes: