Process Change Notice #1507061

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PCN Date: 7/6/2015	**Effective Date:** 10/12/2015	
Title: EFM32 Tiny Gecko TQFP/QFN Package Mold Compound Change		
Originator: Baylor Bresemann	**Phone:** (512) 428-1545	**Dept:** Marketing
Customer Contact: Kathy Haggar	**Phone:** (512) 532-5261	**Dept:** Sales

PCN Type:

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

Last Order Date: Not Applicable

PCN Details

Description of Change:
Silicon Labs is announcing the successful qualification of an improved mold compound for the EFM32TGxxx (Tiny Gecko) devices assembled in ASEKR. The changes are summarized in the table below.

Package(s)	Current Mold Compound	New Mold Compound
QFP48	Sumitomo Bakelite Co. LTD type EME-G700	Sumitomo Bakelite Co. LTD type EME-G700LYT-A
QFP64	Sumitomo Bakelite Co. LTD type EME-G700L	Sumitomo Bakelite Co. LTD type EME-G700LYT-A
QFN24, QFN32, QFN64	Sumitomo Bakelite Co. LTD type EME-G700	Sumitomo Bakelite Co. LTD type EME-G700LYT

Reason for Change:
The mold compound is being changed to improve manufacturability and ensure supply continuity.

Impact on Form, Fit, Function, Quality, Reliability:
No change in Form, Fit, Function, Quality & Reliability.

Product Identification:

Affected Part Numbers
EFM32TG108F4-QFN24
EFM32TG108F8-QFN24
EFM32TG108F16-QFN24
EFM32TG108F32-QFN24
EFM32TG110F4-QFN24
EFM32TG110F8-QFN24
EFM32TG110F16-QFN24
EFM32TG110F32-QFN24
EFM32TG210F8-QFN32
EFM32TG210F16-QFN32
EFM32TG210F32-QFN32
EFM32TG222F8-QFP48
EFM32TG222F16-QFP48
EFM32TG222F32-QFP48
EFM32TG230F8-QFN64
EFM32TG230F16-QFN64
EFM32TG230F32-QFN64
EFM32TG232F8-QFP64
EFM32TG232F16-QFP64
EFM32TG232F32-QFP64
EFM32TG822F8-QFP48
EFM32TG822F16-QFP48
EFM32TG822F32-QFP48
EFM32TG840F8-QFN64
EFM32TG840F16-QFN64
EFM32TG840F32-QFN64
EFM32TG842F8-QFP64
EFM32TG842F16-QFP64
EFM32TG842F32-QFP64

Affected Part Numbers
EFM32TG108F4-QFN24T
EFM32TG108F8-QFN24T
EFM32TG108F16-QFN24T
EFM32TG108F32-QFN24T
EFM32TG110F4-QFN24T
EFM32TG110F8-QFN24T
EFM32TG110F16-QFN24T
EFM32TG110F32-QFN24T
EFM32TG210F8-QFN32T
EFM32TG210F16-QFN32T
EFM32TG210F32-QFN32T
EFM32TG222F8-QFP48T
EFM32TG222F16-QFP48T
EFM32TG222F32-QFP48T
EFM32TG230F8-QFN64T
EFM32TG230F16-QFN64T
EFM32TG230F32-QFN64T
EFM32TG232F8-QFP64T
EFM32TG232F16-QFP64T
EFM32TG232F32-QFP64T
EFM32TG822F8-QFP48T
EFM32TG822F16-QFP48T
EFM32TG822F32-QFP48T
EFM32TG840F8-QFN64T
EFM32TG840F16-QFN64T
EFM32TG840F32-QFN64T
EFM32TG842F8-QFP64T
EFM32TG842F16-QFP64T
EFM32TG842F32-QFP64T

Last Date of Unchanged Product: 10/12/2015

Qualification Samples:
Available upon request.

Specific conditions of acceptance of this change will be considered on a case by case basis if written notice is submitted within 30 days of this notice. To request further data or inquire about this notification, please contact your local Silicon Labs sales representative. A list of Silicon Labs sales representatives is available at www.silabs.com . **In some cases rejection of a change notice may impact Silicon Labs product pricing, delivery, quality, or reliability.**
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 attached qualification report below.

EFM32TG QFN/QFP New Mold Compound Qualification Report

TSMC Fabrication, ASEKR 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 - QFP							
HAST	JA110 130°C, 85%RH Vcc=3.3V, 96 hours	3 lots, N=>25	Q036888 Q036889 Q036892	0/29 0/30 0/30	1	3 lots 0/89	Pass
uHAST	JA102 130°C, 85%RH 96hours	3 lots, N=>25	Q036894 Q036895 Q036896	0/30 0/30 0/30	1	3 lots 0/90	Pass
Temp Cycle	JA104 Cond C: -65°C to 150°C 1000 cycles	3 lots, N=>25	Q036897 Q036898 Q036899	0/29 0/29 0/30	1	3 lots 0/88	Pass
HTSL	JA103 150°C, 1000hr	3 lots, N=>25	EMTG011134 Q036893 EMNG011216	0/80 0/30 0/80	1	3 lots 0/190	
Test Group A - Accelerated Environment Stress Tests - QFN							
HAST	JA110 130°C, 85%RH Vcc = 3.8v, 96 hours	3 lots, N=>25	Q036052 Q036051 Q036050	0/30 30/30 0/30	1	3 lots 30/90	Pass
uHAST	JA102 130°C, 85%RH 96hours	3 lots, N=>25	Q036049 Q036048 Q036047	0/30 0/30 0/30	1	3 lots 0/90	Pass
Temp Cycle	JA104 Cond C: -65°C to 150°C 1000 cycles	3 lots, N=>25	Q036046 Q036045 Q036044	0/30 0/30 0/30	1	3 lots 0/90	Pass
HTSL	JA103 150°C, 1000hr	3 lots, N=>25	EMTG1119002 EMNG1122001	0/80 0/80	1	2 lots 0/160	
Test Group B - Accelerated Lifetime Simulation Tests							
HTOL	JA108 125°C, Dynamic Vcc=3.3V, 1000 hours	3 lots, N=>77	C2R080	0/80		3 lots 0/240	Pass
ELFR	JA108 125°C, Dynamic Vcc=3.3V, 48 hours	3 lots, N=>500	QQ034866 QQ034602 QQ034894	0/520 0/500 0/503	1 1 1	0/1523	Pass

Approved by: K. Torres 1 of 2 Prepared on: 28-May-2015

EFM32TG QFN/QFP New Mold Compound Qualification Report

TSMC Fabrication, ASEKR Assembly except as noted							
Test Group E - Electrical Verification							
ESD-HBM	JA114	1 lot, N=>3	R1302-14883			±1500	Max Pass V
ESD-CDM	JC101	1 lot, N=>3	Q036812		2	±1000	Max Pass V
			EMTG1119002		3	±1000	Max Pass V
Latch Up	JESD78 ±100mA	1 lot, N=>3	R1302-14883	85 °C			Pass

Notes:

1. Parts are Pre-conditioned at MSL3/260°C
2. 64 10X10 TQFP
3. 64 9x9 VQFN

The qualification data applies to the following part numbers:

- EFM32TG108F16-QFN24
- EFM32TG108F32-QFN24
- EFM32TG108F4-QFN24
- EFM32TG108F8-QFN24
- EFM32TG110F16-QFN24
- EFM32TG110F32-QFN24
- EFM32TG110F32UM-QFN24
- EFM32TG110F4-QFN24
- EFM32TG110F8-QFN24
- EFM32TG210F16-QFN32
- EFM32TG210F32-QFN32
- EFM32TG210F8-QFN32
- EFM32TG222F16-QFP48
- EFM32TG222F32-QFP48
- EFM32TG222F8-QFP48
- EFM32TG230F16-QFN64
- EFM32TG230F32-QFN64
- EFM32TG230F8-QFN64
- EFM32TG232F16-QFP64
- EFM32TG232F32-QFP64
- EFM32TG232F8-QFP64
- EFM32TG822F16-QFP48
- EFM32TG822F32-QFP48
- EFM32TG822F8-QFP48
- EFM32TG840F16-QFN64
- EFM32TG840F32-QFN64
- EFM32TG840F8-QFN64
- EFM32TG842F16-QFP64
- EFM32TG842F32-QFP64
- EFM32TG842F8-QFP64