



# 190226482 MGM13S/BGM13S BOM and Mold Compound Update

**PCN Issue Date:** 2/26/2019

**Effective Date:** 5/30/2019

**PCN Type:** Assembly

## Description of Change

Silicon Labs announces two assembly changes for BGM13S and MGM13S modules:

- 1 - Three 0603 supply decoupling capacitors are being replaced with 0402 equivalent devices
- 2 - A new mold compound is being introduced to maintain and guarantee product quality and reliability after decoupling capacitors are replaced.

## Reason for Change

Component shortage announced by suppliers

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

No impact on fit, function, quality or reliability. The form is changing as described in the description section.

## Product Identification

Existing Part #  
BGM13S22F512GA-V2  
BGM13S22F512GA-V2R  
BGM13S22F512GN-V2  
BGM13S22F512GN-V2R  
BGM13S32F512GA-V2  
BGM13S32F512GA-V2R  
BGM13S32F512GN-V2  
BGM13S32F512GN-V2R  
MGM13S02F512GA-V2  
MGM13S02F512GA-V2R  
MGM13S02F512GN-V2  
MGM13S02F512GN-V2R  
MGM13S12F512GA-V2  
MGM13S12F512GA-V2R  
MGM13S12F512GN-V2  
MGM13S12F512GN-V2R  
BGX13S22GA-V21  
BGX13S22GA-V21R

**Last Date of Unchanged Product:** 5/30/2019

## Qualification Samples

Available upon request.

## Customer Response

Lack of acknowledgment of the PCN within 30 days constitutes acceptance of the change, Ref. JEDEC-J-STD-046.

To request further data or inquire about this notification, please contact your Silicon Labs sales representative. A list of Silicon Labs sales representatives is available at <http://www.silabs.com>.

Customers may approve early PCN acceptance by emailing approval, along with PCN # to [PCNEarlyAcceptance@silabs.com](mailto:PCNEarlyAcceptance@silabs.com)

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## Qualification Data

See attached Qualification Report.



**BGM13S Qualification Report**

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Part Rev C, TSMC Fabrication, SPIL Assembly except as noted							
Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
<b>Test Group A – Accelerated Environment Stress Tests</b>							
HAST	JA110 110°C, 85%RH Vcc=1.9V, 264 hours	3 lots, N=>25	Q043729	0/25	1		
			Q043730	0/25	1	3 lots	Pass
			Q043731	0/25	1	0/75	
Temp Cycle	JA104 Cond B: -55°C to 125°C 700 cycles	3 lots, N=>25	Q043706	0/25	1		
			Q043707	0/25	1	3 lots	Pass
			Q043708	0/25	1	0/75	
HTSL	JA103 150°C, 1000hr	3 lots, N=>25	Q043703	0/30	1		
			Q043704	0/30	1	3 lots	Pass
			Q043705	0/30	1	0/90	
<b>Test Group B – Accelerated Lifetime Simulation Tests</b>							
HTOL	JA108 T <sub>J</sub> ≥ 125°C, Dynamic Vcc=1.9V, 1000 hours	3 lots, N=>77	Q040471	0/80	2		
			Q041124	0/80	2	3 lots	Pass
			Q040650	0/79	2	0/239	
LTOL	JA108 T <sub>A</sub> = -10°C, Dynamic Vcc=1.9V, 1000 hours	1 lot, N=>32	Q040451	0/80	2	1 lots	Pass
						0/80	
ELFR	JA108 T <sub>J</sub> ≥ 125°C, Dynamic Vcc=1.9V, 48 hours	3 lots, N=>500	Q040450	0/505	2		
			Q040472	0/516	2	3 lots	Pass
			Q040651	0/515	2	0/1536	
NVM Endurance, Retention and Operating Life	JA117 25°C 500 hours	3 lots, N=>39	Q040213	0/40	2		
			Q040274	0/40	2	3 lots	Pass
			Q040278	0/40	2	0/120	
NVM Endurance, Retention and Operating Life	JA117 150°C 1000 hours	3 lots, N=>39	Q040214	0/40	2		
			Q040275	0/40	2	3 lots	Pass
			Q040279	0/40	2	0/120	
<b>Test Group E – Electrical Verification</b>							
ESD-HBM	JS-001	1 lot, N=>3	Q043583			2 kV	Class 2
ESD-CDM	JS-002	1 lot, N=>3	Q043582			500 V	Class III
Latch Up	JESD78 ±200mA Overvoltage = 2.85V	1 lot, N=>3	Q043580	125 °C			Pass



**BGM13S Qualification Report**

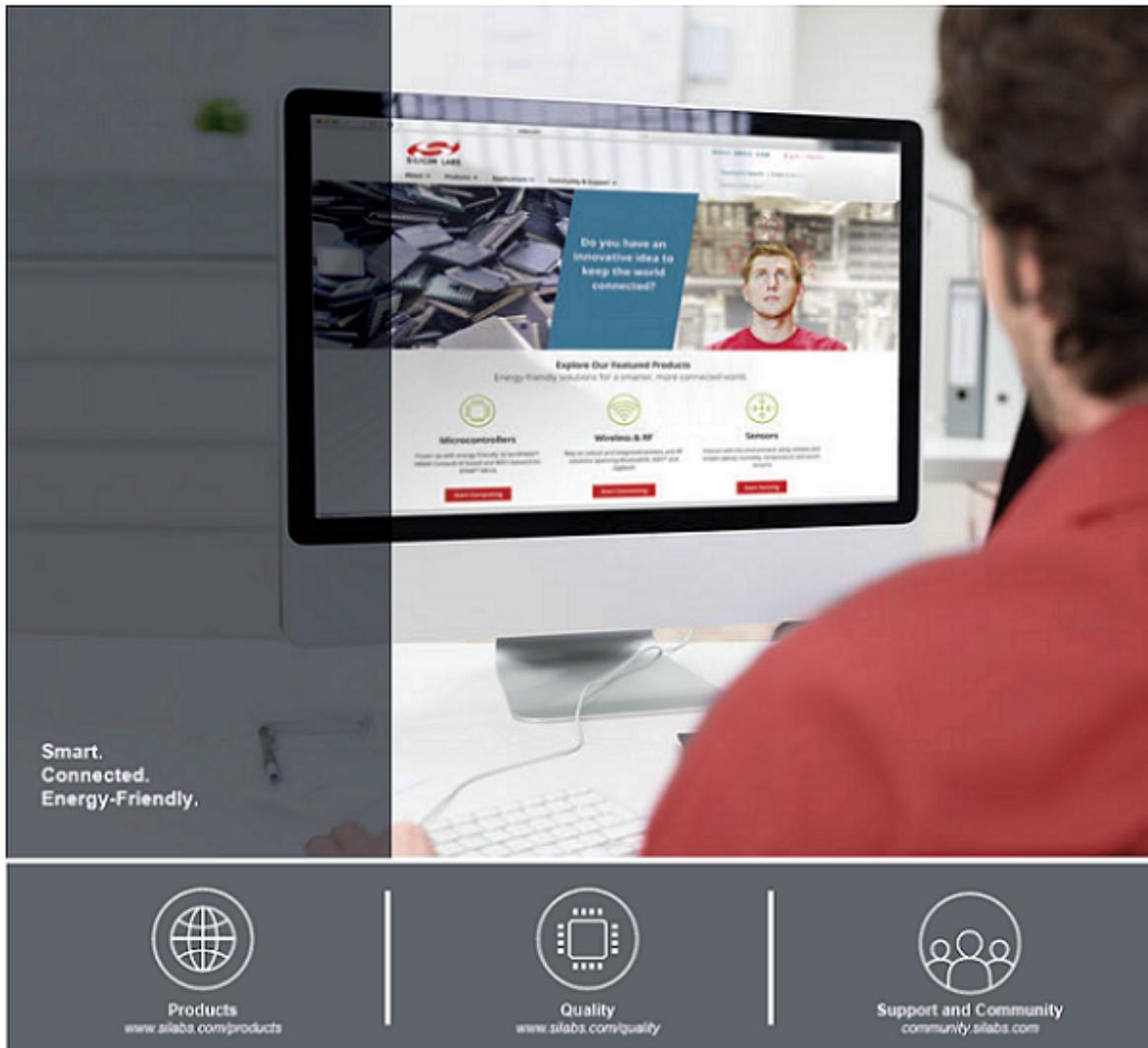
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Part Rev C, TSMC Fabrication, SPIL Assembly except as noted							
Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status

Notes:

1. Parts are Pre-conditioned at MSL3/260°C
2. Leveraged die family data

This report applies to the following part numbers:				
BGM13S12F512GA-V2	BGM13S12F512GA-V2R	BGM13S12F512GN-V2	BGM13S12F512GN-V2R	BGM13S22F512GA-V2
BGM13S22F512GA-V2R	BGM13S22F512GN-V2	BGM13S22F512GN-V2R	BGM13S32F512GA-V2	BGM13S32F512GA-V2R
BGM13S32F512GN-V2	BGM13S32F512GN-V2R	MGM13S02F512GA-V2	MGM13S02F512GA-V2R	MGM13S02F512GN-V2
MGM13S02F512GN-V2R	MGM13S12F512GA-V2	MGM13S12F512GA-V2R	MGM13S12F512GN-V2	MGM13S12F512GN-V2R
BGX13S22GA-V21	BGX13S22GA-V21R			



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**Silicon Laboratories Inc.**  
**400 West Cesar Chavez**  
**Austin, TX 78701**

<http://www.silabs.com>