171220205 Change of Substrate Vendor from SEMCO to KCC

PCN Issue Date: 12/20/2017 **Effective Date:** 3/23/2018

PCN Type: Assembly

Description of Change

Silicon Labs is pleased to announce a change of substrate vendor for 112-LFBGA-10x10, 120-VFBGA-7x7, 14-LGA-5x5 and 47-LGA-6x8 based on the successful qualification. There is no difference in material, design, dimension, drawing, and tolerance between SEMCO & KCC substrates.

As of the effective date of the PCN, Silicon Labs will continue to fulfill orders using substrates from both SEMCO & KCC.

The package qualification report is attached.

Reason for Change

The current substrate supplier, SEMCO, announced EOL of the substrates that are used for 112-LFBGA-10x10, 120-VFBGA-7x7, 14-LGA-5x5 and 47-LGA-6x8 package.

Impact on Form, Fit, Function, Quality, Reliability

There is no impact to form, fit, function, quality or reliability of the product

Product Identification

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Existing Part #
EFM32G290F128-BGA112T
EFM32G290F128-BGA112
EFM32G290F32-BGA112T
EFM32G290F32-BGA112
EFM32G290F64-BGA112T
EFM32G290F64-BGA112
EFM32G290F32G-E-BGA112
EFM32G290F32G-E-BGA112R
EFM32G290F64G-E-BGA112
EFM32G290F64G-E-BGA112R
EFM32G290F128G-E-BGA112
EFM32G290F128G-E-BGA112R
EFM32G890F128-BGA112T
EFM32G890F128-BGA112
EFM32G890F32-BGA112T
EFM32G890F32-BGA112
EFM32G890F64-BGA112T
EFM32G890F64-BGA112
EFM32G890F32G-E-BGA112
EFM32G890F32G-E-BGA112R
EFM32G890F64G-E-BGA112
EFM32G890F64G-E-BGA112R
EFM32G890F128G-E-BGA112
EFM32G890F128G-E-BGA112R
EFM32GG290F1024-BGA112T
EFM32GG290F1024-BGA112
EFM32GG290F512-BGA112T
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EFM32GG290F512-BGA112
EFM32GG290F512G-E-BGA112
EFM32GG290F512G-E-BGA112R
EFM32GG290F1024G-E-BGA112
EFM32GG290F1024G-E-BGA112R
EFM32GG295F1024-BGA120T
EFM32GG295F1024-BGA120
EFM32GG295F512-BGA120T
EFM32GG295F512-BGA120
EFM32GG295F512G-E-BGA120
EFM32GG295F512G-E-BGA120R
EFM32GG295F1024G-E-BGA120
EFM32GG295F1024G-E-BGA120R
EFM32GG390F1024-BGA112T
EFM32GG390F1024-BGA112
EFM32GG390F512-BGA112T
EFM32GG390F512-BGA112
EFM32GG390F512G-E-BGA112
EFM32GG390F512G-E-BGA112R
EFM32GG390F1024G-E-BGA112
EFM32GG390F1024G-E-BGA112R
EFM32GG395F1024-BGA120T
EFM32GG395F1024-BGA120
EFM32GG395F512-BGA120T
EFM32GG395F512-BGA120
EFM32GG395F512G-E-BGA120
EFM32GG395F512G-E-BGA120R
EFM32GG395F1024G-E-BGA120
EFM32GG395F1024G-E-BGA120R
EFM32GG890F1024-BGA112T
EFM32GG890F1024-BGA112
EFM32GG890F512-BGA112T
EFM32GG890F512-BGA112
EFM32GG890F512G-E-BGA112
EFM32GG890F512G-E-BGA112R
EFM32GG890F1024G-E-BGA112
EFM32GG890F1024G-E-BGA112R
EFM32GG895F1024-BGA120T
EFM32GG895F1024-BGA120
EFM32GG895F512-BGA120T
EFM32GG895F512-BGA120
EFM32GG895F512G-E-BGA120
EFM32GG895F512G-E-BGA120R
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EFM32GG990F512-BGA112T
EFM32GG990F512-BGA112
EFM32GG990F512G-E-BGA112
EFM32GG990F512G-E-BGA112R
EFM32GG990F1024G-E-BGA112
EFM32GG990F1024G-E-BGA112R
EFM32GG995F1024-BGA120T
EFM32GG995F1024-BGA120
EFM32GG995F512-BGA120T
EFM32GG995F512-BGA120
EFM32GG995F512G-E-BGA120
EFM32GG995F512G-E-BGA120R
EFM32GG995F1024G-E-BGA120
EFM32GG995F1024G-E-BGA120R
SI8233AB-D-IM
SI8233AB-D-IMR
SI8233BB-D-IM
SI8233BB-D-IMR
SI8233CB-D-IM
SI8233CB-D-IMR

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SI8234AB-D-IM
SI8234AB-D-IMR
SI8234BB-D-IM
SI8234BB-D-IMR
SI8235AB-D-IM
SI8235AB-D-IMR
SI8235BB-AM
SI8235BB-AMR
SI8235BB-D-IM
SI8235BB-D-IMR
SI8235BB-D-YM0
SI8235BB-D-YM0R
SI32260-C-FM2
SI32260-C-FM2R
SI32260-C-GM2
SI32260-C-GM2R
SI32260-C-ZM2
SI32260-C-ZM2R
SI32261-C-FM2
SI32261-C-FM2R
SI32261-C-GM2
SI32261-C-GM2R
SI32261-C-ZM2
SI32261-C-ZM2R
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Last Date of Unchanged Product: 3/23/2018

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 http://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: PCNEarlyAcceptance@silabs.com

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Qualification Data

Please see below qualification reports.

SILICON LABS

Si8233/34/35/36/38 AEC-Q100 Qualification Report

Part Rev B, Vanguard Fabrication, ASECL 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 - 14-LGA (ASEKR)							
HAST	JA110		Q027993	0/29	3		
	130°C, 85%RH	3 lots, N=>25	Q028231	0/30	3		
	Vcc=5V, 96 hours		Q028379	0/30	3	4 lots	Pass
			Q028238	0/29	3, 4	0/118	
UHAST	JA110		Q042266	0/77	3, 4, 5		
	130°C, 85%RH	3 lots, N=>25	Q042265	0/77	3, 4, 5	3 lots	Pass
	96 hours		Q042264	0/77	3, 4, 5	0/231	
Temp Cycle	JA104		Q027992	0/30	3		
	Cond C: -65°C to 150°C	3 lots, N=>25	Q028229	0/30	3		
	500 cycles		Q028376	0/30	3		
			Q028236	0/30	3, 4		
			Q042270	0/77	3, 4, 5		
			Q042269	0/77	3, 4, 5	7 lots	Pass
			Q042268	0/77	3, 4, 5	0/351	
HTSL	JA103		Q027991	0/30	3		
	150°C, 1000hr	1 lot, N=>45	Q028232	0/30	3		
			Q028378	0/30	3	4 lots	Pass
			Q028241	0/30	3, 4	0/120	

Notes:
3. Parts are Pre-conditioned at MSL 3 @ 260°C
4. New Polyimide material used
5. KCC Substrate used

Si32260/1-C KCC Substrate Supplier Qualification

Part Rev C, Vanguard Fabrication, ASEKR Assembly							
Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
Test Group A – Accelerated Environment Stress Tests							
UHAST	JA110		Q042240	0/25	1, 2		
	130°C, 85%RH	3 lots, N=>25	Q042241	0/25	1, 2	3 lots	Pass
	96 hours		Q042242	0/25	1, 2	0/75	
HAST	JA110		Q036570	0/26	1		
	130°C, 85%RH	3 lots, N=>25	Q036769	0/27	1	3 lots	Pass
	Vcc=3.6V, 96 hours		Q036768	0/27	1	0/80	
Temp Cycle	JA104		Q042244	0/25	1, 2		
	Cond C: -65°C to 150°C	3 lots, N=>25	Q042245	0/25	1, 2	3 lots	Pass
	500 cycles		Q042246	0/25	1, 2	0/75	
HTSL	JA103		Q037239	0/30	1		
	150°C, 1000hr	3 lots, N=>25	Q036700	0/30	1	3 lots	Pass
			Q036766	0/30	1	0/90	

Notes:
1. Parts are Pre-conditioned at MSL3/260°C
2. KCC Substrates

This report applies to the following part numbers:	
Si32260-C-FM2	Si32260-C-ZM2
Si32260-C-GM2	Si32261-C-ZM2
Si32261-C-FM2	
Si32261-C-GM2	

EFM32G Rev D BGA Qualification Report

Rev D, TSMC Fabrication, ASEKR Assembly							
Test Name	Test Condition	Qualification	Lot ID	Fail/Pass or End	Notes	Summary	Status
Test Group A - Accelerated Environment Stress Tests							
HAST	JA110 130°C, 85%RH Vcc=3.3V, 96 hours	3 lots, N=>25	R1207-12779	0/80	1, 2	1 lots	Pass
Temp Cycle	JA104 Cond B: -65°C to 150°C 500 cycles	3 lots, N=>25	R1207-12779 Q042286	0/80 0/25	1, 2 1, 3	2 lots	Pass
uHAST	JA102 130°C, 85% RH 96 hours	3 lots, N=>25	R1207-12779 Q042285	0/80 0/25	1, 2 1, 3	2 lots 0/105	Pass
HTSL	JA103 150°C 1000hr	3 lots, N=>25	R1207-12779	0/80	1, 2	1 lots 0/80	Pass

Notes:

1. Parts are Pre-conditioned at MSL3/260°C
2. The qualification data in this report was collected before the acquisition of Energy Micro Corporation by Silicon Laboratories in July 2013. The content and requirements for this report are different from the standard qualification requirements and reports generated by Silicon Laboratories.
3. Using KCC substrate

EFM32GG Rev D BGA Qualification Report

Rev D, TSMC Fabrication, ASEKR Assembly							
Test Name	Test Condition	Qualification	Lot ID	Fail/Pass or End	Notes	Summary	Status
Test Group A - Accelerated Environment Stress Tests							
HAST	JA110 130°C, 85%RH Vcc=3.3V, 96 hours	3 lots, N=>25	R1277-13636 Q042301 Q042302 Q042303	0/80 0/25 0/25 0/25	1, 2 1, 3 1, 3 1, 3	4 lots 0/155	Pass
Temp Cycle	JA104 Cond B: -65°C to 150°C 500 cycles	3 lots, N=>25	R1277-13636 Q042294 Q042305 Q042306 Q042307	0/80 0/25 0/25 0/25 0/25	1, 2 1, 3 1, 3 1, 3 1, 3	5 lots 0/180	Pass
uHAST	JA102 130°C, 85% RH 96 hours	3 lots, N=>25	R1277-13636 Q042292	0/80 0/25	1, 2 1, 3	2 lots 0/105	Pass
HTSL	JA103 150°C 1000hr	3 lots, N=>25	R1277-13636	0/80	1, 2	1 lots 0/80	Pass

Notes:

1. Parts are Pre-conditioned at MSL3/260°C
2. The qualification data in this report was collected before the acquisition of Energy Micro Corporation by Silicon Laboratories in July 2013. The content and requirements for this report are different from the standard qualification requirements and reports generated by Silicon Laboratories.
3. Using KCC substrate

EFM32GG Rev E Qualification Report

Part Rev E, TSMC Fabrication, ASEKR Assembly							
Test Name	**Test Condition**	**Qualification**	**Lot ID**	**Fail/Pass**	**Notes**	**Summary**	**Status**
Test Group A – Accelerated Environment Stress Tests - BGA							
HAST	JA110 110°C, 85%RH Vcc=3.8V, 264 hours	3 lots, N=>25	Q037514 Q037510 Q037491 Q042301 Q042302 Q042303	0/30 0/30 0/30 0/25 0/25 0/25	1 1 1 1,10 1,10 1,10	6 lots 0/165	Pass
UHAST	JA118 110°C, 85%RH 264 hours	3 lots, N=>25	Q037511 Q037494 Q034891 Q037488 Q042292	0/30 0/30 0/30 0/30 0/25	1 1 1 1 1,10	5 lots 0/145	Pass
Temp Cycle	JA104 Cond C: -65°C to 150°C 500 cycles	3 lots, N=>25	Q037512 Q037495 Q037490 Q042294 Q042305 Q042306 Q042307	0/30 0/30 0/30 0/25 0/25 0/25 0/25	1 1 1 1,10 1,10 1,10 1,10	7 lots 0/190	Pass
HTSL	JA103 150°C, 1000hr	3 lots, N=>25	Q034885 Q034893 Q038112	0/30 0/30 0/40	1 1 1	3 lots 0/100	Pass

Notes:
1. Parts are Pre-conditioned at MSL3/260°C
10. Using KCC substrate

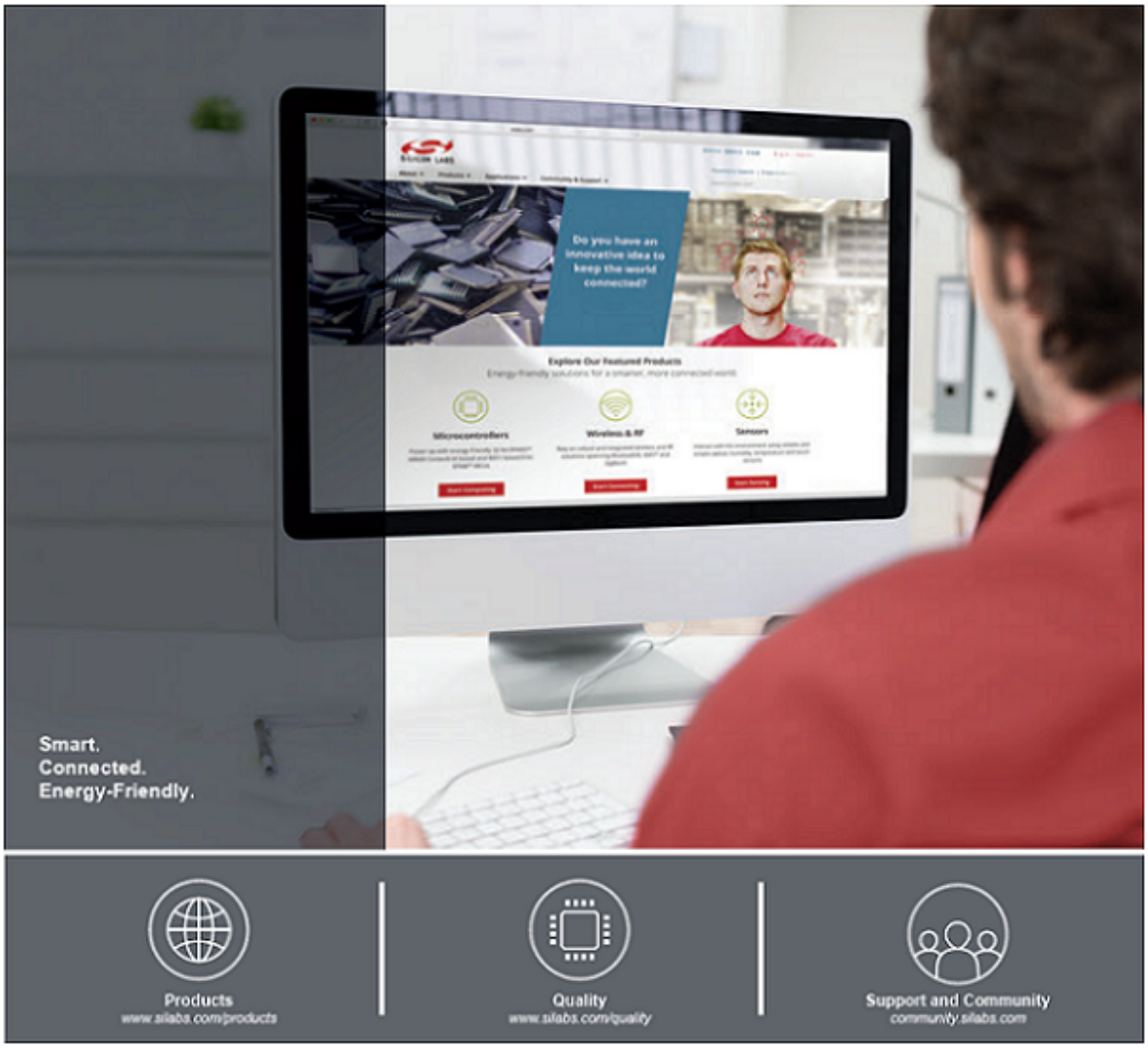
EFM32G Rev E Qualification Report

W7101F1 - Product Qualification Report Record Rev. I

Part Rev E, TSMC Fabrication

Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
Test Group A – Accelerated Environment Stress Tests - 112-LFBGA-10x10 - ASEKR							
HAST	JA110		Q040327	0/30	1		
	130°C, 85%RH	3 lots, N=>25	Q040328	0/30	1	3 lots	Pass
	Vcc=3.6V, 96 hours		Q040575	0/30	1	0/90	
uHAST	JA118		Q040331	0/30	1		
	130°C, 85%RH	3 lots, N=>25	Q040332	0/30	1		Pass
	96 hours		Q040572	0/30	1	4 lots	
			Q042285	0/25	1,9	0/115	
Temp Cycle	JA104		Q040329	0/30	1		
	Cond C: -65°C to 150°C	3 lots, N=>25	Q040330	0/30	1		Pass
	500 cycles		Q040570	0/30	1	4 lots	
			Q042286	0/25	1,9	0/115	
HTSL	JA103		Q040333	0/30	1		
	150°C, 1000hr	3 lots, N=>25	Q040334	0/30	1	3 lots	Pass
			Q040571	0/30	1	0/90	

Notes:
1. Parts are Pre-conditioned at MSL3/260°C
9. Using KCC substrate



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