



2303081427 Package Materials Update for Si4x5x & Si4x6x in ASECL

PCN Issue Date: Mar 08, 2023

Effective Date: Jun 14, 2023

PCN Type: Assembly

Description of Change

Silicon Labs is pleased to announce the successful qualification of BOM (Bill of Materials) for Si4x5x & Si4x6x, manufactured in ASECL. Details of BOM change are mentioned in the table below. ASECL is an existing Assembly, Test & Shipping site for this product.

As of the effective date of this PCN, Silicon Labs will fulfill orders from either the existing or new BOM. Once the current BOM is depleted, orders will be fulfilled from the new BOM.

BOM	Current BOM	New BOM
Mold Compound	Sumitomo EME-G700LY	Sumitomo EME-G700LA
Wire	PdCu, 0.8mil	AuPdCu, 0.8mil

Reason for Change

New BOM for supply continuity.

Impact on Form, Fit, Function, Quality, Reliability

No impact on Form, Fit, Function, Quality, Reliability.

Product Identification

This notification includes both standard and customer-specific part numbers. An asterisk * represents a number or letter (one or more) in a customer-specific part number.

Existing Part

SI4055-C2A-GM
SI4055-C2A-GMR
SI4060-C2A-GM
SI4060-C2A-GMR
SI4063-C2A-GM
SI4063-C2A-GMR
SI4355-C2A-GM
SI4355-C2A-GMR
SI4362-C2A-GM
SI4362-C2A-GMR
SI4438-C2A-GM
SI4438-C2A-GMR
SI4455-C2A-GM
SI4455-C2A-GMR
SI4460-C2A-GM
SI4460-C2A-GMR
SI4461-C2A-GM
SI4461-C2A-GMR
SI4463-C2A-GM
SI4463-C2A-GMR
SI4463-C2A-*M0

SI4463-C2A-*MØR
SI4463M*CGM
SI4463M*CGMR
SI4467-A2A-IM
SI4467-A2A-IMR
SI4468-A2A-IM
SI4468-A2A-IMR

Last Date of Unchanged Product: Jun 14, 2023

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

User Registration

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Qualification Data

Qualification report is attached.



Si4xxx-C2A / Si446x-A2A Qualification Report

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Part Rev C2, TSMC Fabrication, ASECL 20-QFN-4x4 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							
HAST	JA110 130°C, 85%RH Vcc=3.8V, 96 hours	3 lots, N=>77	Q035030	0/80	1	6 lots 0/479	Pass
			Q035235	0/80	1		
			Q035240	0/79	1		
			Q049640	0/80	1, 6		
			Q049641	0/80	1, 6		
			Q049642	0/80	1, 6		
UHAST	JA110 130°C, 85%RH 96 hours	3 lots, N=>77	Q035032	0/80	1	6 lots 0/480	Pass
			Q035237	0/80	1		
			Q035238	0/80	1		
			Q049808	0/80	1, 2, 6		
			Q049809	0/80	1, 2, 6		
			Q049810	0/80	1, 2, 6		
Temp Cycle	JA104 Cond C: -65°C to 150°C 500 cycles	3 lots, N=>77	Q035031	0/80	1	12 lots	Pass
			Q035236	0/80	1		
			Q035239	0/80	1		

			Q035279	0/90	1, 2	0/1045	
			Q035280	0/90	1, 2		
			Q035281	0/90	1, 2		
			Q049662	0/80	1, 6		
			Q049663	0/80	1, 6		
			Q049664	0/80	1, 6		
			Q049807	0/98	1, 2, 6		
			Q049806	0/100	1, 2, 6		
			Q049805	0/97	1, 2, 6		
HTSL	JA103 150°C, 1000hr	1 lot, N=>45	Q035033	0/78	1		
			Q035241	0/48	1	3 lots	Pass
			Q035242	0/49	1	0/175	
Test Group A – Accelerated Environment Stress Tests (UNISEM)							
HAST	JA110 130°C, 85%RH Vcc=3.8V, 96 hours	3 lots, N=>77	Q049726	0/80	1		
			Q049727	0/80	1	3 lots	Pass
			Q049728	0/80	1	0/240	
UHAST	JA110 130°C, 85%RH 96 hours	3 lots, N=>77	Q049749	0/80	1		
			Q049752	0/80	1		
			Q049754	0/80	1	6 lots	Pass
			Q049842	0/90	1, 2	0/506	
			Q049845	0/86	1, 2		
			Q049848	0/90	1, 2		
Temp Cycle	JA104		Q049850	0/85	1		



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Part Rev C2, TSMC Fabrication, ASECL 20-QFN-4x4 Assembly except as noted							
Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
	Cond C: -65°C to 150°C 500 cycles	3 lots, N=>77	Q049851	0/85	1		
			Q049852	0/84	1	6 lots	Pass
			Q049843	0/94	1, 2	0/538	
			Q049846	0/95	1, 2		
			Q049849	0/95	1, 2		
HTSL	JA103 150°C, 1000hr	1 lot, N=>45	Q049925	0/80	1		
			Q049926	0/80	1		
			Q049927	0/78	1	6 lots	Pass
			Q050053	0/90	1, 2	0/508	
			Q050054	0/90	1, 2		
			Q050055	0/90	1, 2		
Test Group B – Accelerated Lifetime Simulation Tests							
HTOL	JA108		Q035137	0/85			

	$T_j \geq 125^\circ\text{C}$, Dynamic $V_{cc}=3.8\text{V}$, 1000 hours	3 lots, N=>77	Q035721 Q035945	0/81 0/83		3 lots 0/249	Pass
LTOL	JA108 -10°C , Dynamic $V_{cc}=3.8\text{V}$, 1000 hours	1 lot, N=>77	Q030413	0/80		1 lot 0/80	Pass
ELFR	AEC-Q100-008 $T_j \geq 125^\circ\text{C}$, Dynamic $V_{cc}=3.8\text{V}$, 48 hours	3 lots, N=>800	Q035612 Q035671 Q035944	0/814 0/818 0/812		3 lots 0/2444	Pass
Test Group C – Package Assembly Integrity Tests							
Wire Bond Shear	AEC-Q100-001	5 units, N=>30	630749 630750 634080 1162036 1162307 1162038 1162040 1162041 1175623	0/30 0/30 0/30 0/30 0/30 0/30 0/30 0/30 0/30	6 6 6 2, 6 2, 6 2, 6	9 lots 0/270	Pass
Wire Bond Pull	M-STD-883 Performed post-TC	5 units, N=>30	630749 630750 634080 Q050011 Q050012 Q050013 Q050015	0/30 0/30 0/30 0/30 0/30 0/30 0/30	6 6 6 2, 6	9 lots 0/270	Pass



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Part Rev C2, TSMC Fabrication, ASECL 20-QFN-4x4 Assembly except as noted							
Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
			Q050016 Q050017	0/30 0/30	2, 6 2, 6		
Physical Dimensions	JB100	3 lots, N=>10	630749 630750 634080 1162036 1162307 1162038 1162040 1162041	0/30 0/30 0/30 0/30 0/30 0/30 0/30 0/30	6 6 6 2, 6 2, 6	9 lots 0/270	Pass

			1175623	0/30	2, 6		
Solderability	J-STD-002	1 lot, N=>15	630749	0/10		9 lots	Pass
			630750	0/10		0/90	
			634080	0/10			
			1162036	0/10	6		
			1162307	0/10	6		
			1162038	0/10	6		
			1162040	0/10	2, 6		
			1162041	0/10	2, 6		
			1175623	0/10	2, 6		
Test Group C – Package Assembly Integrity Tests (UNISEM)							
Wire Bond Shear	AEC-Q100-001	5 units, N=>30	1166864	0/30		2 lots	Pass
			1166867	0/30	2	0/60	
Wire Bond Pull	M-STD-883	5 units, N=>30	Q049943	0/30	2	2 lots	Pass
	Performed post-TC		Q050052	0/30		0/60	
Physical Dimensions	JB100	3 lots, N=>10	1166864	0/30		2 lots	Pass
			1166867	0/30	2	0/60	
Solderability	J-STD-002	1 lot, N=>15	1166864	0/10		2 lots	Pass
			1166867	0/10	2	0/20	
Test Group E – Electrical Verification							
ESD-HBM	AEC-Q100-002	1 lot, N=>3	Q035921		5		±2 kV
			Q035948		4		±2 kV
			Q035953		2, 3		±2 kV
ESD-MM	AEC-Q100-003		Q035927		5		±200 V



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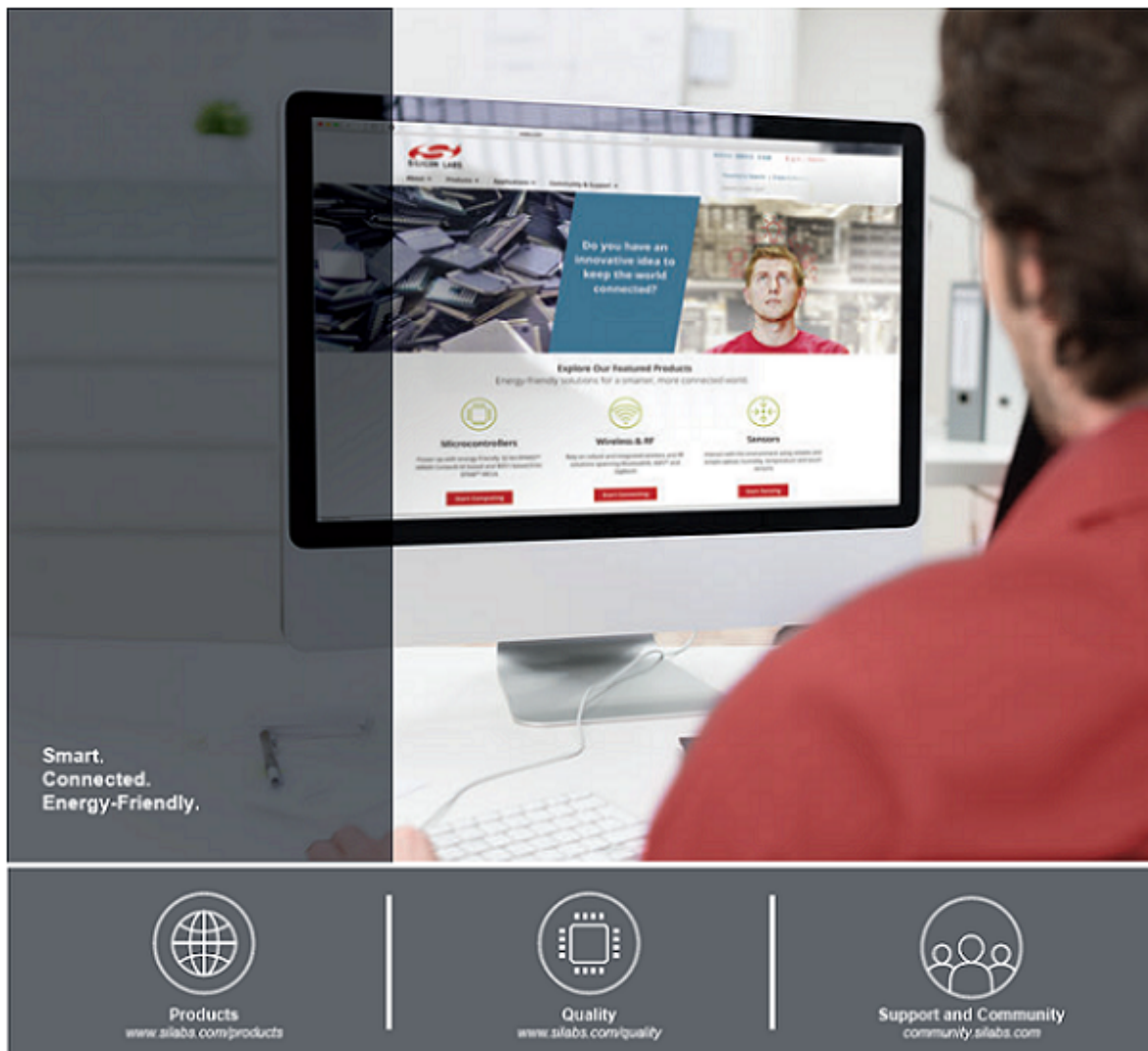
Part Rev C2, TSMC Fabrication, ASECL 20-QFN-4x4 Assembly except as noted							
Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
		1 lot, N=>3	Q035949		4		±150 V
			Q035954		2, 3		±150 V
ESD-CDM	AEC-Q100-011	1 lot, N=>3	Q035919		5		±500 V
			Q036260		4		±400 V
			Q035955		3		±500 V
			Q035955		2		±500 V
Latch Up	AEC-Q100-004		Q035947	25C	5		

	±200mA Overvoltage = 5.7V	1 lot, N=>6	Q035946 Q035951 Q035952 Q035956 Q035957	125C 25C 125C 25C 125C	5 4 4 2, 3 2, 3		Pass
Gate Leakage	AEC-Q100-006	1 lot, N=>6	Q035959	0/6		1 lot	Pass
Electromagnetic Compatibility	SAE J1752	1 lot, N=>1	Q035960	0/1		1 lot	Pass

Notes:

1. Parts are Pre-conditioned at MSL1/260°C
2. Qualification applies to Si4x5x (3x3 QFN package)
3. Qualification applies to Si4461
4. Qualification applies to Si4060, Si4460, Si4467
5. Qualification applies to Si4063, Si4362, Si4438, Si4463, Si4468
6. Qualification applies to streamline BOM update at ASECL

This report applies to the following part numbers:			
Si4055-B1A-FM	Si4355-B1A-FM	Si4438-B1C-FDI	Si4460-B1B-FDI
Si4055-C2A-GM	Si4355-C2A-GM	Si4438-B1C-FM	Si4460-B1B-FM
Si4060-B1B-FM	Si4356-B1A-FM	Si4438-C2A-GM	Si4460-C2A-GM
Si4060-C2A-GM	Si4356-C2A-GM	Si4455-B1A-FM	Si4461-B1B-FM
Si4063-B1B-FM	Si4362-B1B-FM	Si4455-C2A-GM	Si4461-C2A-GM
Si4063-C2A-GM	Si4362-C2A-GM		Si4463-B1B-FM
		Si4467-A2A-IM	Si4463-C2A-GM
		Si4468-A2A-IM	Si4464-B1B-FM



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