2302081419 Additional Assembly, Test and Ship Site for Si4x6x (20-QFN-4x4) & Si4x5x (

PCN Issue Date: Feb 08, 2023 **Effective Date:** May 12, 2023

PCN Type: Assembly; Test

Description of Change

Silicon Labs is pleased to announce the successful qualification of UNISEM (M) BERHAD as an additional assembly, test and ship site for Si4x6x (20-QFN-4x4) and Si4x5x (20-QFN-3x3). UNISEM is an existing assembly and test site for Silicon Labs, and is certified to ISO9001, ISO14001 and IATF16949.

UNISEM Ship Address:
UNISEM (M) BERHAD
No.1, Persiaran Pulai Jaya 9,
Bandar Pulai Jaya,
31300 Ipoh, Perak,
Malaysia

As of the effective date of the PCN, Silicon Labs may ship from either of the qualified sites.

Reason for Change

Additional Assembly and Test capacity for supply continuity

Impact on Form, Fit, Function, Quality, Reliability

There is no change on form, fit, function, quality or reliability.

Product Identification

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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
SI4455-C2A-ZM1
SI4455-C2A-ZM1R
SI4460-C2A-GM
SI4460-C2A-GMR
SI4461-C2A-GM
SI4461-C2A-GMR
SI4463-C2A-GM
SI4463-C2A-GMR
SI4467-A2A-IM
SI4467-A2A-IMR
SI4468-A2A-IM
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SI4468-A2A-IMR
RWM*
RWM*R
SI4463-C2A-*
SI4463-C2A-*R
SI4463M*CGM
SI4463M*CGMR
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Last Date of Unchanged Product: May 12, 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

Please refer to qualification report below.

SILICON LABS

Si4xxx-C2A / Si446x-A2A Qualification Report

Part Rev C2, TSMC Fabrication, ASECL 20-QFN-4x4 Assembly except as noted

Test Name	Test Condition	Qualification	Lot ID of Start	Fail/Pass of End	Notes	Summary	Status
Test Group A – Accelerated Environment Stress Tests							
HAST	JA110		Q035030	0/80	1		
	130°C, 85%RH	3 lots, N=>77	Q035235	0/80	1	3 lots	Pass
	Vcc=3.8V, 96 hours		Q035240	0/79	1	0/239	
UHAST	JA110		Q035032	0/80	1		
	130°C, 85%RH	3 lots, N=>77	Q035237	0/80	1	3 lots	Pass
	96 hours		Q035238	0/80	1	0/240	
Temp Cycle	JA104		Q035031	0/80	1		
	Cond C: -65°C to 150°C		Q035236	0/80	1		
	500 cycles	3 lots, N=>77	Q035239	0/80	1	6 lots	Pass
			Q035279	0/90	1, 2	0/510	
			Q035280	0/90	1, 2		
			Q035281	0/90	1, 2		
HTSL	JA103		Q035033	0/78	1		
	150°C, 1000hr	1 lot, N=>45	Q035241	0/48	1	3 lots	Pass
			Q035242	0/49	1	0/175	
Test Group A – Accelerated Environment Stress Tests (UNISEM)							
HAST	JA110		Q049726	0/80	1		
	130°C, 85%RH	3 lots, N=>77	Q049727	0/80	1	3 lots	Pass
	Vcc=3.8V, 96 hours		Q049728	0/80	1	0/240	
UHAST	JA110		Q049749	0/80	1		
	130°C, 85%RH	3 lots, N=>77	Q049752	0/80	1		
	96 hours		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		
	Cond C: -65°C to 150°C		Q049851	0/85	1		
	500 cycles	3 lots, N=>77	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		Q049925	0/80	1		
	150°C, 1000hr	1 lot, N=>45	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							

Prepared on: 2023-01-30 by Wilson Choy

Si4xxx-C2A / Si446x-A2A Qualification Report

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
HTOL	JA108 $T_J \geq 125°C$, Dynamic Vcc=3.8V, 1000 hours	3 lots, N=>77	Q035137 Q035721 Q035945	0/85 0/81 0/83		3 lots 0/249	Pass
LTOL	JA108 -10°C, Dynamic Vcc=3.8V, 1000 hours	1 lot, N=>77	Q030413	0/80		1 lot 0/80	Pass
ELFR	AEC-Q100-008 $T_J \geq 125°C$, Dynamic Vcc=3.8V, 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	0/30 0/30 0/30		3 lots 0/90	Pass
Wire Bond Pull	M-STD-883 Performed post-TC	5 units, N=>30	630749 630750 634080	0/30 0/30 0/30		3 lots 0/90	Pass
Physical Dimensions	JB100	3 lots, N=>10	630749 630750 634080	0/30 0/30 0/30		3 lots 0/90	Pass
Solderability	J-STD-002	1 lot, N=>15	630749 630750 634080	0/10 0/10 0/10		3 lots 0/30	Pass
Test Group C – Package Assembly Integrity Tests (UNISEM)							
Wire Bond Shear	AEC-Q100-001	5 units, N=>30	1166864 1166867	0/30 0/30	2	2 lots 0/60	Pass
Wire Bond Pull	M-STD-883 Performed post-TC	5 units, N=>30	Q049943 Q050052	0/30 0/30	2	2 lots 0/60	Pass
Physical Dimensions	JB100	3 lots, N=>10	1166864 1166867	0/30 0/30	2	2 lots 0/60	Pass
Solderability	J-STD-002	1 lot, N=>15	1166864 1166867	0/10 0/10	2	2 lots 0/20	Pass
Test Group E – Electrical Verification							
ESD-HBM	AEC-Q100-002	1 lot, N=>3	Q035921 Q035948		5 4		±2 kV ±2 kV

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Si4xxx-C2A / Si446x-A2A Qualification Report

Part Rev C2, TSMC Fabrication, ASECL 20-QFN-4x4 Assembly except as noted

Test Name	Test Condition	Qualification	Lot ID of Start	Fail/Pass of End	Notes	Summary	Status
			Q035953		2, 3		±2 kV
ESD-MM	AEC-Q100-003	1 lot, N=>3	Q035927		5		±200 V
			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 ±200mA Overvoltage = 5.7V	1 lot, N=>6	Q035947	25C	5		
			Q035946	125C	5		
			Q035951	25C	4		Pass
			Q035952	125C	4		
			Q035956	25C	2, 3		
			Q035957	125C	2, 3		
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

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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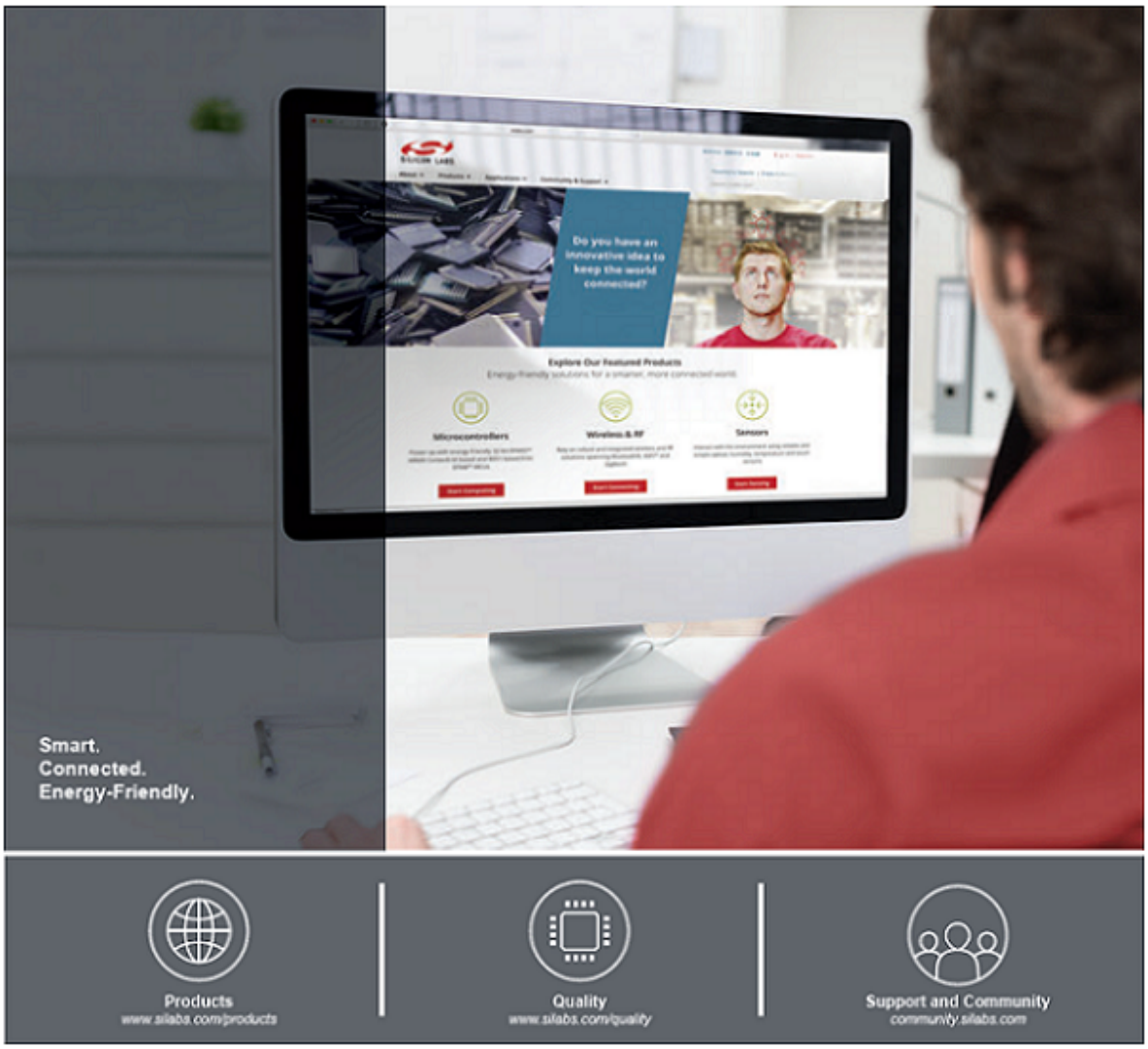

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