



200730829 Si5395/4/2 Datasheet with 7x7 Substrate and Spec Clarification

PCN Issue Date: 7/30/2020

Effective Date: 11/5/2020

PCN Type: Datasheet

Description of Change

Silicon Labs is announcing an update to the Si5395/94/92 datasheet to revision 1.2. Changes include:

1. The substrate for the Si5394/92 7x7 LGA package
2. Clarification on Zero-delay mode, Output Dynamic Delay Adjustment.

Please see change reason for additional details.

Reason for Change

The single center pad on the 7x7 mm 44-LGA Package has been divided by soldermask into nine pads (3x3 grid array) to increase mechanical support to the center of the package. Zero-delay mode is specified only for A/B/C/D and J/K/L/M. The Output Dynamic Delay Adjustment specification is updated by combining fractional and integer specs into a single delay spec.

Impact on Form, Fit, Function, Quality, Reliability

A review of the SMT stencil apertures on all designs that use Si539xJ/K/L/M/E-grade devices in 44-pin LGA packages must be performed by customers. The stencil design will need to match the respective ground pads as shown in the Package Outline. The stencil aperture to land pad size recommendation is 70% paste coverage.

Product Identification

Existing Part #
SI5392A-A-GM
SI5392D-A11064-GM
SI5392E-A-GM
SI5392J-A-GM
SI5392K-A11807-GMR
SI5392M-A-GM
SI5392P-A09447-GM
SI5392P-A-GM
SI5394A-A10926-GM
SI5394A-A-GM
SI5394B-A10605-GM
SI5394B-A10605-GMR
SI5394B-A10663-GM
SI5394B-A10988-GM
SI5394B-A11054-GM
SI5394B-A11560-GM
SI5394B-A11828-GM
SI5394B-A11828-GMR
SI5394D-A10920-GM
SI5394D-A11055-GM
SI5394D-A-GM
SI5394E-A11491-GM
SI5394E-A-GM
SI5394J-A11754-GM
SI5394J-A11754-GMR
SI5394J-A11755-GM
SI5394J-A-GM

SI5394K-A-GM
SI5394M-A11766-GM
SI5394P-A10075-GM
SI5394P-A-GM
SI5395A-A08973-GM
SI5395A-A09318-GM
SI5395A-A09698-GM
SI5395A-A10004-GM
SI5395A-A10244-GM
SI5395A-A10783-GM
SI5395A-A11681-GM
SI5395A-A-GM
SI5395B-A08974-GM
SI5395B-A09519-GM
SI5395B-A09520-GM
SI5395B-A09857-GM
SI5395B-A09981-GM
SI5395B-A10118-GM
SI5395B-A10424-GM
SI5395B-A10424-GMR
SI5395B-A10465-GM
SI5395B-A10490-GM
SI5395B-A10499-GM
SI5395B-A10610-GM
SI5395B-A10878-GM
SI5395B-A11065-GM
SI5395B-A11339-GM
SI5395B-A11397-GM
SI5395B-A11399-GM
SI5395B-A11497-GM
SI5395B-A11637-GM
SI5395B-A11638-GM
SI5395B-A11669-GM
SI5395B-A-GM
SI5395D-A09317-GM
SI5395D-A09330-GM
SI5395D-A10050-GM
SI5395D-A11048-GM
SI5395D-A11049-GM
SI5395D-A11050-GM
SI5395D-A11052-GM
SI5395D-A11356-GM
SI5395D-A11670-GM
SI5395D-A11693-GM
SI5395D-A11694-GM
SI5395D-A-GM
SI5395E-A11612-GM
SI5395E-A-GM
SI5395J-A11292-GM
SI5395J-A11326-GM
SI5395J-A11326-GMR
SI5395J-A11333-GM
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SI5395J-A11334-GM
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SI5395J-A-GM
SI5395J-A-GMR
SI5395K-A11452-GM
SI5395K-A11489-GM
SI5395K-A11956-GM
SI5395K-A-GM
SI5395M-A11419-GM
SI5395P-A10177-GM

SI5395P-A10339-GM
SI5395P-A10427-GM
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SI5395P-A10491-GM
SI5395P-A10491-GMR
SI5395P-A10843-GM
SI5395P-A11424-GM
SI5395P-A11425-GM
SI5395P-A11542-GMR
SI5395P-A-GM

Last Date of Unchanged Product: 11/5/2020

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

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Qualification Data

See attached



Si5371/72/92/94/96 Embedded Crystal Qualification Report

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Part Rev A, TSMC 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							
HAST	JA110 110°C, 85%RH Vcc=3.63V, 264 hours	3 lots, N=>25	Q043892	0/26	1, 2		Pass
			Q043273	0/26	1, 2	3 lots	
			Q043331	0/26	1, 2	0/78	
Temp Cycle	JA104 Cond C: -65°C to 150°C 500 cycles	3 lots, N=>25	Q046294	0/25	1		Pass
			Q046295	0/25	1	3 lots	
			Q046296	0/25	1	0/75	
HTSL	JA103 150°C, 1000hr	3 lots, N=>25	Q043889	0/26	1, 2		Pass
			Q043111	0/26	1, 2	3 lots	
			Q043332	0/26	1, 2	0/78	
Test Group B – Accelerated Lifetime Simulation Tests							
HTOL	JA108 T _j ≥ 125°C, Dynamic Vcc=3.63V, 1000 hours	3 lots, N=>77	Q041587	0/79	3, 4		Pass
			Q037081	0/80	3, 4	3 lots	
			Q038677	0/80	3, 4	0/239	
LTOL	JA108 T _a = -10°C, Dynamic Vcc=3.63V, 1000 hours	1 lot, N=>32	Q035769	0/34	3	1 lots	Pass
ELFR	JA108 T _j ≥ 125°C, Dynamic Vcc=3.63V, 48 hours	3 lots, N=>500	Q041720	0/356	3		Pass
			Q041819	0/66	3	5 lots	
			Q037086	0/504	3		
			Q037468	0/514	3		
Test Group C – Package Assembly Integrity Tests							
Mechanical Shock	JESD22-B104 Cond. B (1500g)	3 lots, N=>39	Q043090	0/40	2		Pass
			Q043292	0/40	2	3 lots	
			Q043461	0/40	2	0/120	
Variable Vibration Frequency	JESD22-B103 Service Cond. 1 (20g)	3 lots, N=>39	Q043105	0/40	2		Pass
			Q043350	0/40	2	3 lots	
			Q043511	0/40	2	0/120	
Constant Acceleration	MIL-STD-883 Method 2001.3 Cond. B (10000g)	3 lots, N=>39	Q043125	0/40	2		Pass
			Q043385	0/40	2	3 lots	
			Q043556	0/40	2	0/120	



Si5371/72/92/94/96 Embedded Crystal Qualification Report

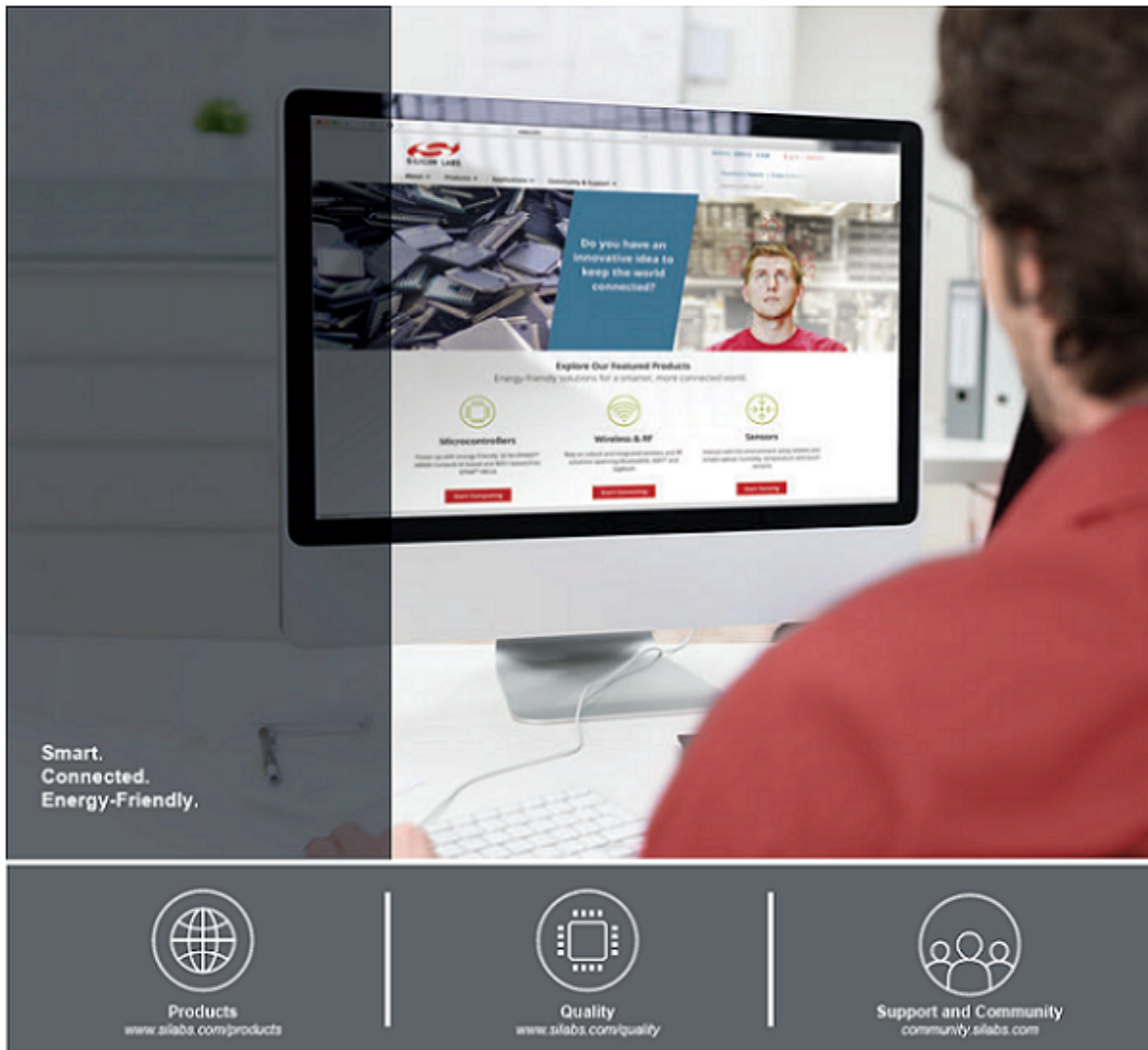
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Part Rev A, TSMC Fabrication, ASECL Assembly except as noted							
Test Name	Test Condition	Qualification	Lot ID of Start	Fail/Pass or End	Notes	Summary	Status
Test Group E – Electrical Verification							
ESD-HBM	JS-001	1 lot, N=>3	Q041588		3	3 kV	Class 2
ESD-CDM	JESD22-C101	1 lot, N=>3	Q043902			1000 V	Class IV
Latch Up	JESD78 ±100mA Overvoltage = 5.1975V	1 lot, N=>3	Q041590	85 °C	3		Pass

Notes:

1. Parts are Pre-conditioned at MSL3/260°C
2. Leveraged package family qualification data
3. Leveraged die family qualification data
4. Lot stressed to 2,000 hours

This report applies to the following part numbers:				
Si5371J-A-GM/R	Si5371J-Axxxxx-GM/R	Si5372J-A-GM/R	Si5372J-Axxxxx-GM/R	Si5392E-A-GM/R
Si5392E-Axxxxx-GM/R	Si5392J-A-GM/R	Si5392J-Axxxxx-GM/R	Si5392K-A-GM/R	Si5392K-Axxxxx-GM/R
Si5392L-A-GM/R	Si5392L-Axxxxx-GM/R	Si5392M-A-GM/R	Si5392M-Axxxxx-GM/R	Si5394E-A-GM/R
Si5394E-Axxxxx-GM/R	Si5394J-A-GM/R	Si5394J-Axxxxx-GM/R	Si5394K-A-GM/R	Si5394K-Axxxxx-GM/R
Si5394L-A-GM/R	Si5394L-Axxxxx-GM/R	Si5394M-A-GM/R	Si5394M-Axxxxx-GM/R	Si5396J-A-GM/R
Si5396J-Axxxxx-GM/R	Si5396K-A-GM/R	Si5396K-Axxxxx-GM/R		



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