



2107141088 Si54x/Si56x RevC Oscillators Now Available, RevB is NRND

PRCN Issue Date: Jul 14, 2021

Effective Date: Jul 19, 2022

PCN Type: Product Revision

Description of Change

Revision C of the Si54x and Si56x Oscillators is in volume production. Revision B is Not Recommended for New Designs (NRND).

Note: After the effective date of the PRCN, Silicon Labs reserves the right not to accept orders for the old revision.

Reason for Change

RevC eliminates a rarely occurring sensitivity to extremely fast VDD ramp rates on power up, potentially seen with RevB devices. There are no other changes to form/fit/function and all related specs in the RevC datasheets are the same as in RevB. In addition, the launch of RevC material coincides with the release of a new Si548 6-pin I2C oscillator product as well as the addition of a new output format ordering option for faster HCSL rise/fall times (HCSL-Fast).

Impact on Form, Fit, Function, Quality, Reliability

RevC has no change to Form, Fit, Function of the RevB devices, and has better Quality and Reliability. All related specs in the RevC datasheet are the same as in RevB, and qual reports for RevC are available if needed.

Product Identification

Existing Part #	Replacement Part #	DropInCompInd.
54xxxxxxxxxxxxxBG	54xxxxxxxxxxxxxCG	Yes
54xxxxxxxxxxxxxBGR	54xxxxxxxxxxxxxCGR	Yes
56xxxxxxxxxxxxxBG	56xxxxxxxxxxxxxCG	Yes
56xxxxxxxxxxxxxBGR	56xxxxxxxxxxxxxCGR	Yes

Kit Identification

Kits impacted by the above product are listed below. Orders for the following obsolete kits will no longer be accepted.

Existing Kit #	Replacement Kit #
NA	NA

Last Date of Unchanged Product: Jul 19, 2022

Qualification Samples

RevC samples are 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

Register today to create your account on Silabs.com. Your personalized profile allows you to receive technical document updates, new product announcements, “how-to” and design documents, product change notices (PCN) and other valuable content available only to registered users. <http://www.silabs.com/profile>

Qualification Data

See Qualification Report in the appendix.



Part Rev C (die rev A2) Qualification Report

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Part Rev A2, TSMC Fabrication, TXC 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							
Preconditioning (PC)	JESD22-A113 MSL1@260°C 85°C/85%RH / 168hr	3 lots, N=>25	Q047035	0/163	1	6 lots 0/700	Pass
			Q043399	0/27	2		
			Q043538	0/170	2		
			Q041855	0/80	2		
			Q043588	0/130	2		
Temp Cycle (TC)	JESD22-A104 - Cond B -55°C / +125°C 1000 cycles	3 lots, N=>25	Q047068	0/82	2	3 lots 0/135	Pass
			Q043675	0/27	2		
			Q043674	0/26	2		
HTSL	JESD22-A103 150°C, 1000hr	3 lots, N=>25	Q047034	0/81	2	4 lots 0/161	Pass
			Q043607	0/27	2		
			Q041953	0/26	2		
			Q043606	0/27	2		
uHAST	JESD22-A118 - Cond A 130°C / 85%RH / 96hr	3 lots, N=>25	Q043659	0/27	3	5 lots 0/134	Pass
			Q043658	0/27	3		
			Q041955	0/26	2		
			Q043604	0/27	2		
			Q043605	0/27	2		
HAST	JESD22-A110 - Cond B 110°C / 85%RH / 264hr	3 lots, N=>25	Q043910	0/26	4	4 lots 0/104	Pass
			Q043909	0/26	4		
			Q045005	0/26	4		
			Q045010	0/26	4		
LTSL	MIL-STD-883 -55C / 100hrs	3 lots, N=>8	Q043591	0/10	2	3 lots 0/28	Pass
			Q043474	0/8	2		
			Q043590	0/10	2		
Test Group B – Accelerated Lifetime Simulation Tests							
HTOL	JA108 T _J ≥ 125°C, Dynamic V _{cc} =3.465V, 1000 hours	3 lots, N=>77	Q047065	0/80	3	3 lots 0/80	Pass
			Q043569	0/78	3		
			Q043650	0/78	3		
ELFR	JESD22-A108 T _J ≥ 125°C, Dynamic V _{cc} =3.465V, 168 hours		Q047477	0/40			
			Q047476	0/75			
			Q047475	0/76			



Part Rev C (die rev A2) Qualification Report

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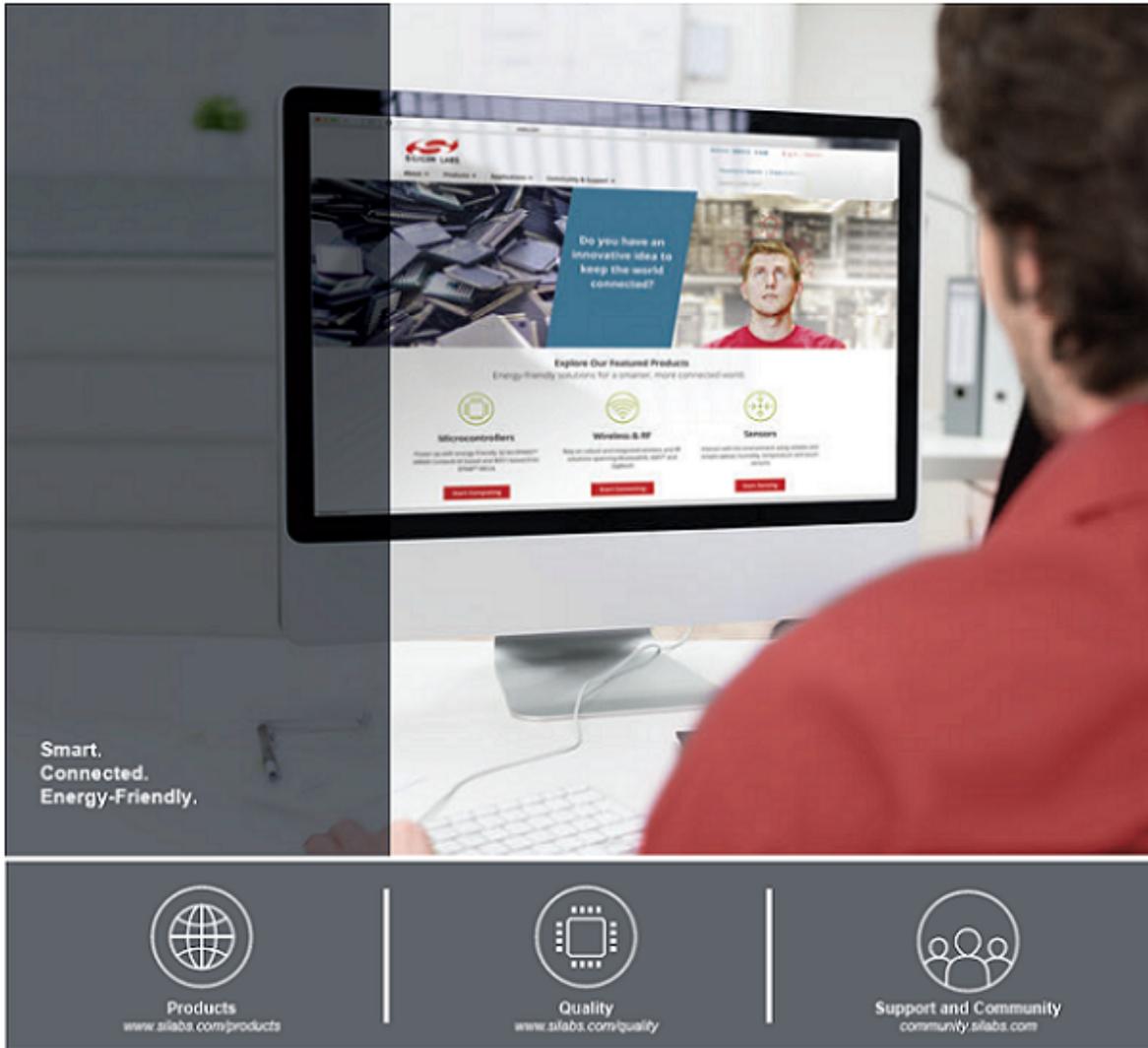
Part Rev A2, TSMC Fabrication, TXC Assembly except as noted							
Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
		3 lots, N=>500	Q047474 Q047029 Q042149 Q043715 Q043652 Q043653	0/78 0/505 0/566 0/485 0/1100 0/1100	3 3 3 3	9 lots 0/4025	Pass
Test Group C - Package Assembly Integrity Tests							
Mech Shock (MS)	JESD22-B110 Cond B 1,500g	3 lots, N=>39	Q043896 Q043948 Q045015 Q045018 Q045021 Q045024	0/40 0/40 0/40 0/40 0/40 0/40	5.2 5.1 5.1 5.1 5.2 5.2	6 lots 0/240	Pass
Vibration Var Freq (VVF)	JESD22-B103 Serv Cond 1 20g	3 lots, N=>39	Q043949 Q043897 Q045016 Q045019 Q045022 Q045025	0/40 0/40 0/40 0/40 0/40 0/40	5.1 5.2 5.1 5.1 5.2 5.2	6 lots 0/240	Pass
Const Accel (CA)	MIL-STD-883 Method 2001.3 Cond B 10,000g	3 lots, N=>39	Q043898 Q043950 Q045014 Q045017 Q045020 Q045023	0/40 0/40 0/40 0/40 0/40 0/40	5.2 5.1 5.1 5.1 5.2 5.2	6 lots 0/240	Pass
Test Group E - Electrical Verification							
ESD-HBM	JS-001	1 lot, N=>3	Q047038			3 kV	Class 2
ESD-CDM	JESD22-C101	1 lot, N=>3	Q041906		2	1.5 kV	Class C3
Latch Up (LU)	JESD78		Q047039	25 °C			



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Part Rev A2, TSMC Fabrication, TXC Assembly except as noted							
Test Name	Test Condition	Qualification	Lot ID or Start	Fail/Pass or End	Notes	Summary	Status
	±100mA Overvoltage = 3.485V	2 lots, N=>3	Q042153	25 °C	3	+ / - 200mA	Pass
			Q042152	85 °C	3		
			Q047040	85 °C			
RGA	MEL - 1053	3 lots, N=>3	Q042150	0/6	3	3 lots 0/18	Pass
			Q043670	0/6	3		
			Q043671	0/6	3		
Gross/Fine Leak	JESD22-A109	3 lots, N=>3	Q043668	0/10	3	3 lots 0/24	Pass
			Q040989	0/4	3		
			Q043669	0/10	3		
Notes: (QP01853)							
1. Parts are Pre-conditioned at MSL1/260°C							
2. QBS to QP01501							
3. QBS to QP01502							
4. QBS to QP01644; Device was not able to pass HAST cond A (130°C)							
5.1 QBS to QP01644 (mech shock series - Lo Xtal)							
5.2 QBS to QP01644 (mech shock series - Hi Xtal)							
This report applies to the following part numbers:							
All Si54x/Si56x Revision C products:							
54xxxxxxxxxxxxCG							
54xxxxxxxxxxxxCGR							
56xxxxxxxxxxxxCG							
56xxxxxxxxxxxxCGR							



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