180831368 Si838x Product Revision For The Low Pass Debounce Filter Operation

PRCN Issue Date: 8/31/2018 **Effective Date:** 12/6/2018

PCN Type: Product Revision

Description of Change

Silicon Labs is announcing a new revision to the Si838x product family. The revision corrects an issue with the low pass debounce filter(available on a subset of products) where periodic input signals may cause the filter to malfunction. The new revision behaves as defined in the current data sheet.

The new revision is indicated on the Si838x package by the number 1823 or higher in the first four digits of the line 2 marking. Consult section 9 of the Si838x datasheet for top marking details.

Reason for Change

To correct operation of the low pass debounce filter on select Si838x OPNs to match the data sheet description.

Impact on Form, Fit, Function, Quality, Reliability

The debounce filter function has changed to match the published data sheet. No other changes to functionality were made.

Product Identification

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Si8380S-IU
Si8380S-IUR
Si8380PS-IU
Si8380PS-IUR
Si8380PM-IU
Si8380PM-IUR
Si8380PF-IU
Si8380PF-IUR
Si8382PS-IU
Si8382PS-IUR
Si8382PM-IU
Si8382PM-IUR
Si8382PF-IU
Si8382PF-IUR
Si8384PS-IU
Si8384PS-IUR
Si8384PM-IU
Si8384PM-IUR
Si8384PF-IU
Si8384PF-IUR
```

Last Date of Unchanged Product: 12/6/2018

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

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

Please see the below Qualification Report.

Si838x 20-Pin QSOP AEC-Q100 Qualification Report

W7101F1 - Product Qualification Report Record Rev. H

Part Rev A, Vanguard Fabrication, UTACTH 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		Q038511	0/85	1, 2		
	130°C, 85%RH	3 lots, N=>77	Q039657	0/85	1, 2	3 lots	Pass
	Vcc=5.5V, 96 hours		Q039656	0/85	1, 2	0/255	
UHAST	JA110		Q038513	0/85	1, 2		
	130°C, 85%RH	3 lots, N=>77	Q039659	0/85	1, 2	3 lots	Pass
	Vcc=5.5V, 96 hours		Q039658	0/85	1, 2	0/255	
Temp Cycle	JA104		Q038407	0/85	1, 2		
	Cond C: -65°C to 150°C	3 lots, N=>77	Q039660	0/85	1, 2	3 lots	Pass
	500 cycles		Q039661	0/85	1, 2	0/255	
HTSL	JA103						
	150°C, 1000hr	1 lot, N=>45	Q038154	0/50	1, 2	1 lots	Pass
						0/50	
Test Group B – Accelerated Lifetime Simulation Tests							
HTOL	JA108		Q038519	0/100	3		
	$T_J \geq 125°C$, Dynamic	3 lots, N=>77	Q039664	0/81	3	3 lots	Pass
	Vcc=5.5V, 1000 hours		Q039665	0/100	3	0/281	
ELFR	AEC-Q100-008		Q038177	0/822	3		
	$T_J \geq 125°C$, Dynamic	3 lots, N=>800	Q039663	0/819	3	3 lots	Pass
	Vcc=5.5V, 48 hours		Q043137	0/818		0/2459	
Test Group C – Package Assembly Integrity Tests							
Wire Bond Shear	AEC-Q100-001		718170	0/6			
		5 units, N=>30	721740	0/6		3 lots	Pass
			721741	0/6		0/18	
Wire Bond Pull	M-STD-883		718170	0/6			
	Performed post-TC	5 units, N=>30	721740	0/6		3 lots	Pass
			721741	0/6		0/18	
Physical Dimensions	JB100		718170	0/30			
		3 lots, N=>10	721740	0/30		3 lots	Pass
			721741	0/30		0/90	
Solderability	JB102		718170	0/10			
		1 lot, N=>15	721740	0/10		3 lots	Pass
			721741	0/10		0/30	

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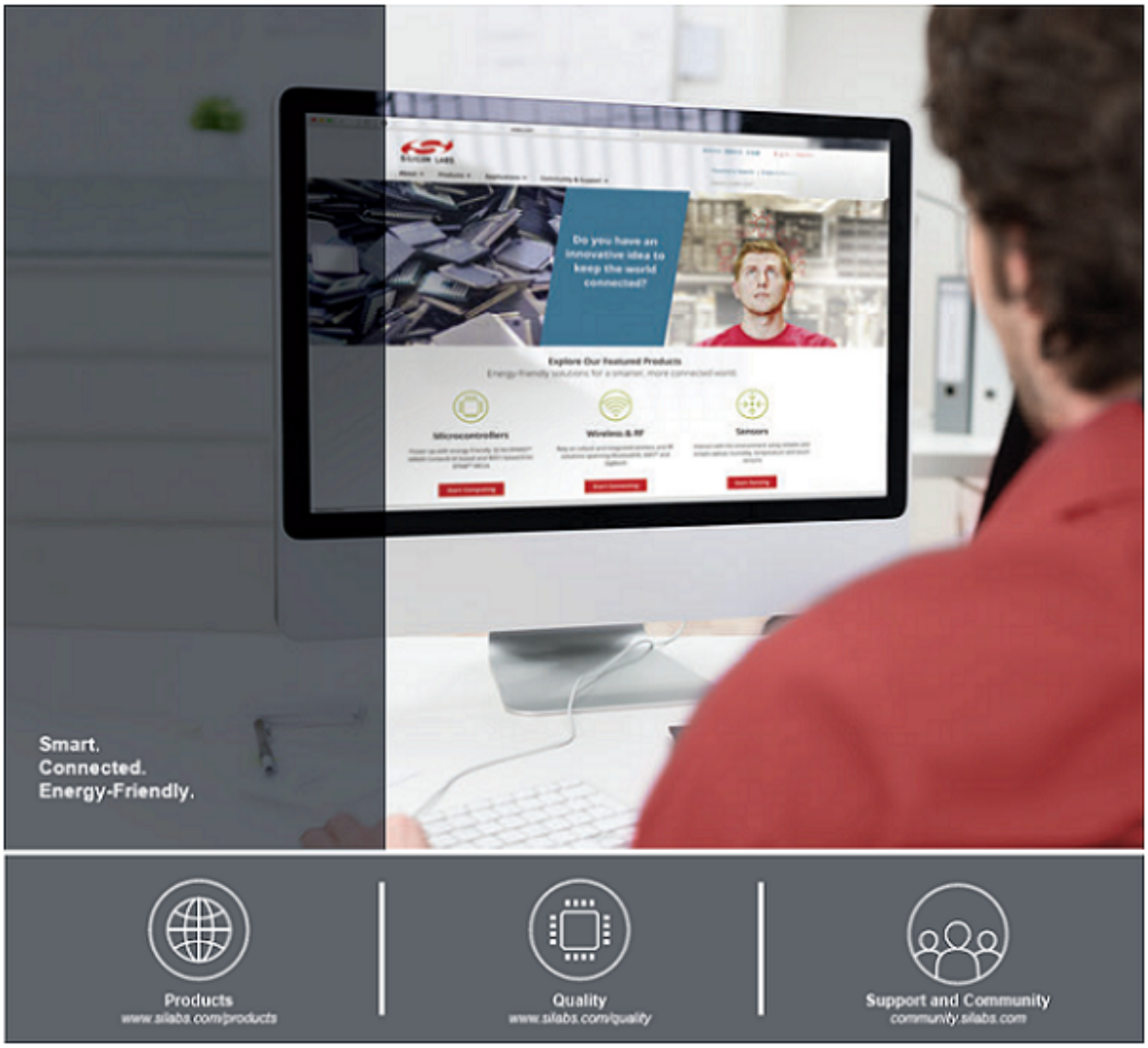
Part Rev A, Vanguard Fabrication, UTACTH Assembly except as noted							
Test Name	**Test Condition**	**Qualification**	**Lot ID or Start**	**Fail/Pass or End**	**Notes**	**Summary**	**Status**
Test Group E – Electrical Verification							
ESD-HBM	AEC-Q100-002	1 lot, N=>3	Q043138				Class 3A
ESD-CDM	AEC-Q100-011	1 lot, N=>3	Q043139				Class C5
Latch Up	AEC-Q100-004 ±200mA Overvoltage = 8.25V	1 lot, N=>6	Q043140	125 °C			Pass

Notes:
1. Parts are Pre-conditioned at MSL2/260°C
2. Leveraged package family qualification data
3. Leveraged die family qualification data

This report applies to the following part numbers:				
SI8380P-IU/R	SI8380PF-IU/R	SI8380PM-IU/R	SI8380PS-IU/R	SI8380S-IU/R
SI8382P-IU/R	SI8382PF-IU/R	SI8382PM-IU/R	SI8382PS-IU/R	SI8384P-IU/R
SI8384PF-IU/R	SI8384PM-IU/R	SI8384PS-IU/R	SI8388P-IU/R	



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