



Product/Process Change Notice - PCN 19_0140 Rev. -

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This notice is to inform you of a change that will be made to certain ADI products (see Appendix A) that you may have purchased in the last 2 years. **Any inquiries or requests with this PCN (additional data or samples) must be sent to ADI within 30 days of publication date.** ADI contact information is listed below.

PCN Title: LTC6813-1 Die Revision and Datasheet Change.

Publication Date: 19-Jul-2019

Effectivity Date: 21-Oct-2019 *(the earliest date that a customer could expect to receive changed material)*

Revision Description:

Initial Release.

Description Of Change:

Please be advised that Analog Devices has made minor changes to the LTC6813 die. Two issues are being addressed:

1. On earlier revisions, the DCTO (discharge timeout) read back value is incorrectly reported for a period of up to 100ms immediately after writing the DCTO value. On the new revision, the DCTO readback value is correct immediately after writing.

2. Changes have been made to metal-metal capacitor structures and to metal interconnect routing to improve manufacturability, quality, and reliability. Numerous metal-metal capacitors were changed from lateral capacitors to vertical capacitors. Likewise, metal interconnects throughout the design have been adjusted to increase spacing where possible.

In addition, the minimum values of datasheet parameters *tcycle*, *tskew1*, and *tskew2* will be adjusted lower by 14%. These are parameter changes only. The relevant circuits have not been changed.

Reason For Change:

To improve manufacturability, quality and reliability. The vertical capacitor design is more robust and less likely to fail due to random wafer fabrication defects than the present lateral capacitor design. The change was initiated as part of ADI's continuous Quality Improvement efforts.

Impact of the change (positive or negative) on fit, form, function & reliability:

There is no change in form, fit, and function for this product.

Product Identification *(this section will describe how to identify the changed material)*

The parts that will be assembled with the new die will be identified by the date code.

Summary of Supporting Information:

Qualification has been performed per AEC-Q100, stress test qualification for integrated circuits, see attached qualification results summary.

Comments

The only product specification and datasheet changes are those listed in the "Description of Change" section (*tcycle*, *tskew1*, and *tskew2*). Circuit changes were made using metal layers only. The die change was qualified by performing characterization over the full operating junction temperature range and through rigorous engineering evaluation. In addition, the product successfully completed HTOL, ELFR, ESD, Latch Up stress testing.

Supporting Documents

Attachment 1: Type: Delta Qualification Matrix

ADI_PCN_19_0140_Rev_-_PCN-Delta-Qualification-Matrix-ZVEI-3_1_PCN_19_0140.xlsm

Attachment 2: Type: Qualification Results Summary

ADI_PCN_19_0140_Rev_-_LTC6812_LTC6813_PCN_DATA.pdf

Attachment 3: Type: Other

ADI_PCN_19_0140_Rev_-_LTC6812_LTC6813_PCN_ESD_DATA.pdf

Attachment 4: Type: Datasheet Specification Comparison

ADI_PCN_19_0140_Rev_-_LTC6813_PCN_DS_Tables.pptx

For questions on this PCN, please send an email to the regional contacts below or contact your local ADI sales representatives.

Americas:

PCN_Americas@analog.com

Europe:

PCN_Europe@analog.com

Japan:

PCN_Japan@analog.com

Rest of Asia:

PCN_ROA@analog.com

Appendix A - Affected ADI Models

Added Parts On This Revision - Product Family / Model Number (4)

LTC6813-1 / LTC6813HLWE-1#3ZZPBF

LTC6813-1 / LTC6813HLWE-1#3ZZTRPBF

LTC6813-1 / LTC6813LWE-1#3ZZPBF

LTC6813-1 / LTC6813LWE-1#3ZZTRPBF

Appendix B - Revision History

Rev	Publish Date	Effectivity Date	Rev Description
Rev. -	19-Jul-2019	21-Oct-2019	Initial Release.

Analog Devices, Inc.

DocId:6759 Parent DocId:None Layout Rev:7