



Product/Process Change Notice - PCN 22_0035 Rev. -

Analog Devices, Inc. One Analog Way, Wilmington, MA 01887

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: LTC6810-1, LTC6810-2 Die Revision

Publication Date: 27-Apr-2022

Effectivity Date: 30-Jul-2022 *(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 LTC6810-1/LTC6810-2 product die to address the following two issues listed below:

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.

None of these changes affect the electrical specification table of the datasheet.

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:

No change to fit, form, or reliability. Improved functionality.

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 Industry Standard Test Methods. See attached Qualification result.

Comments

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

Supporting Documents

Attachment 1: Type: Qualification Results Summary

ADI_PCN_22_0035_Rev_-_LTC6810 PCN Report.pdf

Attachment 2: Type: Delta Qualification Matrix

ADI_PCN_22_0035_Rev_-_LTC6810_PCN-Delta-Qualification-Matrix-ZVEI-5_0_9.xlsm

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 (8)

LTC6810-1 / LTC6810HG-1#3ZZPBF	LTC6810-1 / LTC6810HG-1#3ZZTRPBF	LTC6810-1 / LTC6810IG-1#3ZZPBF	LTC6810-1 / LTC6810IG-1#3ZZTRPBF	LTC6810-2 / LTC6810HG-2#3ZZPBF
LTC6810-2 / LTC6810HG-2#3ZZTRPBF	LTC6810-2 / LTC6810IG-2#3ZZPBF	LTC6810-2 / LTC6810IG-2#3ZZTRPBF		

Appendix B - Revision History

Rev	Publish Date	Effectivity Date	Rev Description
Rev. -	27-Apr-2022	30-Jul-2022	Initial Release

Analog Devices, Inc.

DocId:8810 Parent DocId:8147 Layout Rev:8

Qualification Results Summary LTC6810-1/-2

LTC6810-1/-2 Reliability Report Summary			
TEST	SPECIFICATION	SAMPLE SIZE	RESULTS
Highly Accelerated Stress Test (HAST)*	JEDEC <i>JESD22-A101</i>	3*77	Pass
Temperature Cycle (TC)*	JEDEC <i>JESD22-A104</i>	3*77	Pass
Autoclave (AC)*	JEDEC <i>JESD22-A102</i>	3*77	Pass
High Temperature Storage Life (HTSL)	JEDEC <i>JESD22-A103</i>	1*45	Pass
High Temperature Operating Life (HTOL)	JEDEC <i>JESD22-A108</i>	3*77	Pass
Early Life Failure Rate (ELFR)	AEC-Q100-008	3*800	Pass
Latch-Up	JEDEC <i>JESD78</i>	1*5	Pass
Electrostatic Discharge <i>Field-Induced Charged Device Model</i>	JEDEC <i>JESD22-C101</i>	3/voltage	Pass
Electrostatic Discharge <i>Human Body Model</i>	ESDA/JEDEC <i>JS-001</i>	3/voltage	Pass

* Preconditioned per JEDEC/IPC J-STD-020