Product/Process Change Notice - PCN 23_0095 Rev. A

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

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.

Note: Revised fields are indicated by a red field name. See Appendix B for revision history.

PCN Title:	Qualification of an Alternate Adhesive Material and Molding Compound for Select LFCSP Packages
Publication Date:	17-Jul-2023
Effectivity Date:	18-Sep-2023 *(the earliest date that a customer could expect to receive changed material)*
Revision Description:	Update current mold material of detailed change description from EN8900 to Ablestik 8900NC.

Description Of Change:

Qualification of an alternate adhesive material and molding compound for select LFCSP packages (LFCSP with non-conductive epoxy).
1. Adhesive material: Hitachi EN4300
2. Mold compound: Sumitomo G700LA.

Reason For Change:

Additional adhesive material and molding compound for increased capability.

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

The devices' fit, form, function and reliability as specified by the Product Data Sheet will be unaffected by these changes. The package outline dimension and lead footprint dimension will remain the same for LFCSP packages.

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

Date Code and Lot number will be used for product identification.

Summary of Supporting Information:

Qualification has been performed per Industry Standard Test Methods. See attached Qualification Results Summary.

Supporting Documents

Attachment 1: Type: Detailed Change Description

ADI_PCN_23_0095_Rev_A_Detailed_Change_Description.pdf...

Attachment 2: Type: Qualification Results Summary

ADI_PCN_23_0095_Rev_A_ADG5207 Qualification Report.pdf...

Note: If applicable, the device material declaration will be updated due to material change.

ADI Contact Information:

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

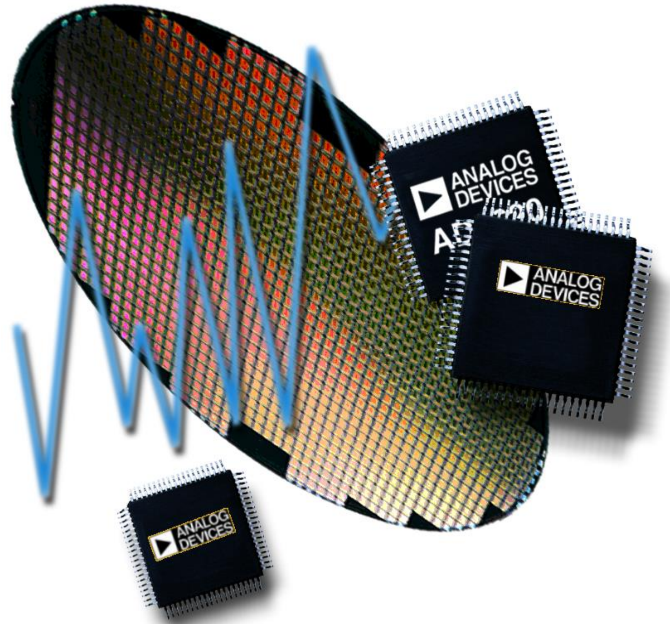
Americas:	Europe:	Japan:	Rest of Asia:
PCN_Americas@analog.com	PCN_Europe@analog.com	PCN_Japan@analog.com	PCN_ROA@analog.com

Appendix A - Affected ADI Models:

Existing Parts - Product Family / Model Number (18)				
AD590 / AD590JCPZ-R5	AD590 / AD590JCPZ-RL7	ADG5204 / ADG5204BCPZ-RL7	ADG5206 / ADG5206BCPZ-RL7	ADG5207 / ADG5207BCPZ-RL7
ADG5208 / ADG5208BCPZ-RL7	ADG5209 / ADG5209BCPZ-RL7	ADG5212 / ADG5212BCPZ-RL7	ADG5213 / ADG5213BCPZ-RL7	ADG5233 / ADG5233BCPZ-RL7
ADG5234 / ADG5234BCPZ-RL7	ADG5236 / ADG5236BCPZ-RL7	ADG5404 / ADG5404BCPZ-REEL7	ADG5408 / ADG5408BCPZ-REEL7	ADG5409 / ADG5409BCPZ-REEL7
ADG5413 / ADG5413BCPZ-REEL7	ADG5433 / ADG5433BCPZ-REEL7	ADG5436 / ADG5436BCPZ-REEL7		

Appendix B - Revision History:

Rev	Publish Date	Effectivity Date	Rev Description
Rev. -	16-Jun-2023	18-Sep-2023	Initial Release
Rev. A	17-Jul-2023	18-Sep-2023	Update current mold material of detailed change description from EN8900 to Ablestik 8900NC.



Reliability Report

Report Title: ADG5207 5x5 LFCSP at JC2 Qualification

Report Number: 20397

Revision: A

Date: 26 May 2023

Summary

This report documents the successful completion of the reliability qualification requirements for the release of 5x5 LFCSP package at JCET(JC2). The ADG5207 is a monolithic CMOS analog multiplexer comprising of 8 differential channels. The ADG5207 switches one of eight differential inputs to a common differential output, as determined by the 3-bit binary address lines, A0, A1, and A2.

An EN input on the device enables or disables the device. When EN is low, the device is disabled, and all channels switch off. The ultralow capacitance and charge injection of this switch makes it an ideal solution for data acquisition and sample-and-hold applications, where low glitch and fast settling are required. Fast switching speed coupled with high signal bandwidth make this device suitable for video signal switching.

Die/Fab Product Characteristics

Table 1: Die/Fab Product Characteristics- 0.8 - 2.0um CMOS

Product Characteristics	Product(s) to be qualified
Generic/Root Part #	ADG5207
Die Id	8YM21 A
Die Size (mm)	2.12 x 3.06
Wafer Fabrication Site	ADI-Limerick
Wafer Fabrication Process	0.8 - 2.0um CMOS
Die Substrate	Si
Metallization / # Layers	AlSi(1.0%)Cu(0.5%)/2
Passivation	undoped-oxide/OxyNitride

Package/Assembly Product Characteristics

Table 2: Package/Assembly Product Characteristics - 32-LFCSP at JCET (JC2)

Product Characteristics	Product(s) to be qualified
Generic/Root Part #	ADG5207
Package	32-LFCSP
Body Size (mm)	5.00 x 5.00 x 0.75
Assembly Location	JCET (JC2)
MSL/Peak Reflow Temperature(°C)	3 / 260°C
Mold Compound	Sumitomo G700LA
Die Attach/Underfill/TIM	Ablestik EN4300
Leadframe Material	Copper
Lead Finish	100Sn
Wire Bond Material/Diameter (mils)	4N Gold / 0.80

Package/Assembly Test Results

Table 3: Package/Assembly Test Results - LFCSP at JCET (JC2)

Test Name	Spec	Conditions	Generic/Root Part #	Lot #	Fail/SS
High Temperature Storage Life (HTSL)	JESD22-A103	150°C, 1,000 Hours	ADG5207	Q20397.1.HS1	0/77
Solder Heat Resistance (SHR)	J-STD-020	MSL-3	ADG5207	Q20397.1.SH1	0/11
				Q20397.2.SH2	0/11
				Q20397.3.SH3	0/11
Temperature Cycling (TC)[1]	JESD22-A104	-65°C/+150°C, 500 Cycles	ADG5207	Q20397.1.TC1	0/77
				Q20397.2.TC2	0/77
				Q20397.3.TC3	0/77
Unbiased HAST (UHST)[1]	JESD22-A118	130C 85%RH 33.3 psia, 96 Hours	ADG5207	Q20397.2.UH1	0/77
				Q20397.2.UH2	0/77
				Q20397.3.UH3	0/77

[1] These samples were subjected to preconditioning at MSL 3 with 3x reflow peak temp of 260°C prior to the start of the stress test.

ESD and Latch-Up Test Results

Table 4: ESD Test Result

ESD Model	Generic/Root Part #	Package	ESD Test Spec	RC Network	Highest Pass Level	Class
FICDM	ADG5207	32-LFCSP	JS-002	1Ω, Cpkg	±1250V	C3

Approvals

Reliability Engineer: Pernell Marc Mosuela

ANALOG DEVICES
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Qualification of New Adhesive Material and Molding Compound for Select LFCSP Packages

Detailed Change Description

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Qualification of New Adhesive Material and Molding Compound for Select LFCSP Packages

ANALOG DEVICES
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- For NiPdAu-Plating lead frame

BOM	Current	Newly added
Adhesive	Ablestik 8900NC	Hitachi EN4300
Molding Compound	Hitachi CEL 9220HF13	Sumitomo G700LA

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Qualification of New Adhesive Material and Molding Compound for Select LFCSP Packages

ANALOG DEVICES
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- For Ag-plating lead frame

BOM	Current	Newly added
Adhesive	Ablestik 8900NC	Hitachi EN4300
Molding Compound	Sumitomo G770	Sumitomo G700LA

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