



Product/Process Change Notice - PCN 24_0237 Rev. -

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.

PCN Title:	External RBIAS Resistor (R2) Revision for ADL8107
Publication Date:	22-Nov-2024
Effectivity Date:	24-Feb-2025 <i>(the earliest date that a customer could expect to receive changed material)</i>
Revision Description:	Initial Release.

Description Of Change:

External RBIAS resistor (R2) has been changed from 4120 Ohm to 7150 Ohm to maintain 90mA, nominal bias current (IDQ).

Reason For Change:

To improve uniformity of the nominal bias current, Idq, with the external RBIAS resistor.

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

No changes to form, function, and reliability. Fit has been changed as a result of R2, external RBIAS resistor value.

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

New material will be identified by date code.

Summary of Supporting Information:

This change will be reflected within the REV C Product Data Sheet and REV B User Guide.

Supporting Documents:

Attachment 1: Type: Qualification Results Summary

[ADI_PCN_24_0237_Rev_-Metal Mask Change Qualification Results.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:	Korea:	Rest of Asia:
PCN_Americas@analog.com	PCN_Europe@analog.com	PCN_Japan@analog.com	PCN_Korea@analog.com	PCN_ROA@analog.com

Appendix A - Affected ADI Models:

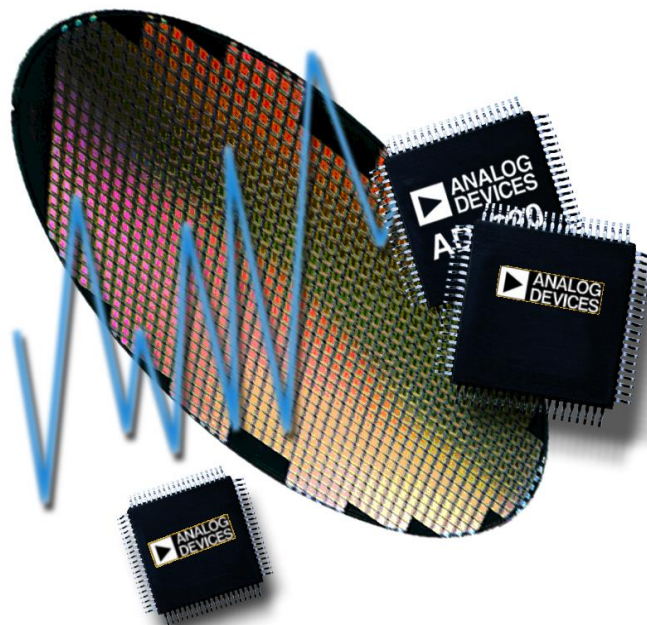
Added Parts On This Revision - Product Family / Model Number (2)

ADL8107 / ADL8107ACPZN

ADL8107 / ADL8107ACPZN-R7

Appendix B - Revision History:

Rev	Publish Date	Effectivity Date	Rev Description
Rev. -	22-Nov-2024	24-Feb-2025	Initial Release.



Reliability Report

Report Title:	ADL8107 Metal Mask Change Qualification
Report Number:	23152
Revision:	A
Date:	6 November 2024

Summary

This report documents the successful completion of the reliability qualification requirements for the release of the ADL8107 product in an 8-LFCSP package. The ADL8107 is a gallium arsenide (GaAs), monolithic microwave IC (MMIC), pseudomorphic high electron mobility transistor (pHEMT), low noise, wideband, high linearity amplifier that operates from 6 GHz to 18 GHz.

Die/Fab Product Characteristics

Table 1: Die/Fab Product Characteristics

Product Characteristics	Product
Generic	ADL8107
Die Id	GP675
Die Size (mm)	0.95 x 0.95
Wafer Fabrication Site	WinSemi
Wafer Fabrication Process	pHEMT
Die Substrate	GaAs
Metallization / # Layers	Au/2
Passivation	SiN

Die/Fab Test Results

Table 2: Die/Fab Test Results

Test Name	Spec	Conditions	Generic	Lot #	Fail/SS
High Temperature Operating Life (HTOL) ¹	JESD22-A108	150°C<Tj<175°C, Biased, 1,000 Hours	HMC8412LP2FE	Q14487.HO1	0/77
				Q14487.HO2	0/77
				Q14487.HO3	0/77
			HMC8413LP2FE	Q14497.HO5	0/77
			ADL8104	Q18823.1.HO2	0/77
			HMC8411	Q18823.1.HO1	0/77
				Q18823.1.HO3	0/77
			HMC8413	Q18823.1.HO5	0/77
				Q18823.1.HO6	0/77
High Temperature Storage Life (HTSL)	JESD22-A103	150°C, 1,000 Hours	HMC8411LP2FE	Q14156.HS1	0/77
			HMC8412LP2FE	Q14487.HS1	0/77
			HMC8413LP2FE	Q14497.HS1	0/77
			ADL8104	Q18823.1.HS1	0/77
				Q18823.1.HS2	0/77
			HMC8411	Q21525.1.HT1	0/77

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

Package/Assembly Product Characteristics**Table 3: Package/Assembly Product Characteristics**

Product Characteristics	Product
Generic	ADL8107
Package	8-LFCSP
Body Size (mm)	2.00 x 2.00 x 0.85
Assembly Location	ASE
MSL/Peak Reflow Temperature(°C)	1 / 260°C
Mold Compound	Sumitomo G700LYT
Die Attach	Hitachi EN 4900GC conductive
Leadframe Material	Copper
Lead Finish	Ni/Pd/Au
Wire Bond Material/Diameter (mils)	MKE R 2N Gold / 1.00

Package/Assembly Test Results

Table 4: Package/Assembly Test Results

Test Name	Spec	Conditions	Generic	Lot #	Fail/SS
High Temperature Storage Life (HTSL)	JESD22-A103	150°C, 1,000 Hours	ADEMA127	Q22104.1.1	0/77
				Q22104.1.2	0/77
			ADL8103	Q21406.1.HS1	0/77
			ADL8109	Q21358.1.HS1	0/77
			ADL8122	Q21694.1.HS1	0/77
			HMC8411	Q21525.1.HT1	0/77
		-55°C, 1,000 Hours	HMC8411	Q21525.1.LT1	0/77
				Q21525.2.LT2	0/77
				Q21525.3.LT3	0/77
			HMC8413	Q21120.1.LTS	0/77
Solder Heat Resistance (SHR)	J-STD-020	MSL-1	ADL8107	Q23152.1.SH1	0/30
Temperature Cycling (TC) ¹	JESD22-A104	-65°C/+150°C, 1,000 Cycles	ADH8412S	Q21111.1.TCT	0/77
				Q21111.2.TCT	0/77
				Q21111.3.TCT	0/77
			ADL8109	Q21358.1.TC1	0/77
				Q21358.2.TC2	0/77
				Q21358.3.TC3	0/77
			ADL8140	Q22655.1.TC1	0/77
				Q22655.3.TC3	0/77
			HMC8411	Q21525.1.TC1	0/77
				Q21525.3.TC3	0/77

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

ESD Test Results

Table 5: ESD Test Result

ESD Model	Generic	Package	ESD Test Spec	RC Network	Highest Pass Level	Class
FICDM	ADL8107	8-LFCSP	JS-002	1 Ω , Cpkg	$\pm 500\text{V}$	C2a
HBM	ADL8107	8-LFCSP	JS-001	1.5k Ω , 100pF	$\pm 250\text{V}$	1A

Approvals

Reliability Engineer: Carl Bunis