



Product/Process Change Notice - PCN 20_0147 Rev. -

Analog Devices, Inc. Three Technology Way Norwood, Massachusetts 02062-9106

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: HMC788A Die Revision, Assembly Site and Material Change

Publication Date: 17-Mar-2020

Effectivity Date: 19-Jun-2020 *(the earliest date that a customer could expect to receive changed material)*

Revision Description:

Initial Release.

Description Of Change:

Die Changes:

1. Elimination of vias by changing Metal 3 interconnect to Metal 2 on the original MMIC layout.
2. Increase some metal widths to meet current handling requirements.

Assembly material and location changes:

1. Assembly site to be moved from Unisem, Malaysia to ASE Korea.
2. Terminal plating change from Tin to Nickel-Palladium-Gold.
3. Die Attach and molding compound change.

Reason For Change:

To optimize/improve Via robustness to address process package interaction.

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

No change to fit, form, function and reliability.

Summary of Supporting Information:

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

Supporting Documents

Attachment 1: Type: Qualification Results Summary

ADI_PCN_20_0147_Rev_-_Qualification Results_HMC788A Die revision at AEK.pdf

Attachment 2: Type: Detailed Change Description

ADI_PCN_20_0147_Rev_-_HMC788A__Detailed Change Description.pdf

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 (2)				
HMC788A / HMC788ALP2E	HMC788A / HMC788ALP2ETR			

Appendix B - Revision History			
Rev	Publish Date	Effectivity Date	Rev Description
Rev. -	17-Mar-2020	19-Jun-2020	Initial Release.

Qualification Results Summary of LFCSP at ASE (AEK)

QUALIFICATION PLAN / STATUS			
TEST	SPECIFICATION	SAMPLE SIZE	RESULTS
Low Temperature Storage (LTS)	JEDEC <i>JESD22-A119</i>	77	Pass
Temperature Cycle (TC)*	JEDEC <i>JESD22-A104</i>	350	Pass
High Temperature Storage Life (HTSL)	JEDEC <i>JESD22-A103</i>	154	Pass
Solder Heat Resistance (SHR)*	JEDEC/IPC <i>J-STD-020</i>	375	Pass
Electrostatic Discharge <i>Human Body Model</i>	ESDA/JEDEC <i>JS-001</i>	3/voltage	Pass $\pm 750V$
Electrostatic Discharge <i>Field-Induced Charged Device Model</i>	JEDEC <i>JESD22-C101</i>	3/voltage	Pass $\pm 1000V$

* These samples were subjected to preconditioning (per J-STD-020 Level 3) prior to the start of the stress test. Level 3 preconditioning consists of the following: Bake: 24 hrs @ 125°C, Unbiased Soak: 192 hrs @ 30°C, 60%RH, Reflow: 3 passes through an oven with a peak temperature of 260°C.

Qualification Results Summary of 0.5 μ m GaAs PHEMT at WinSemi

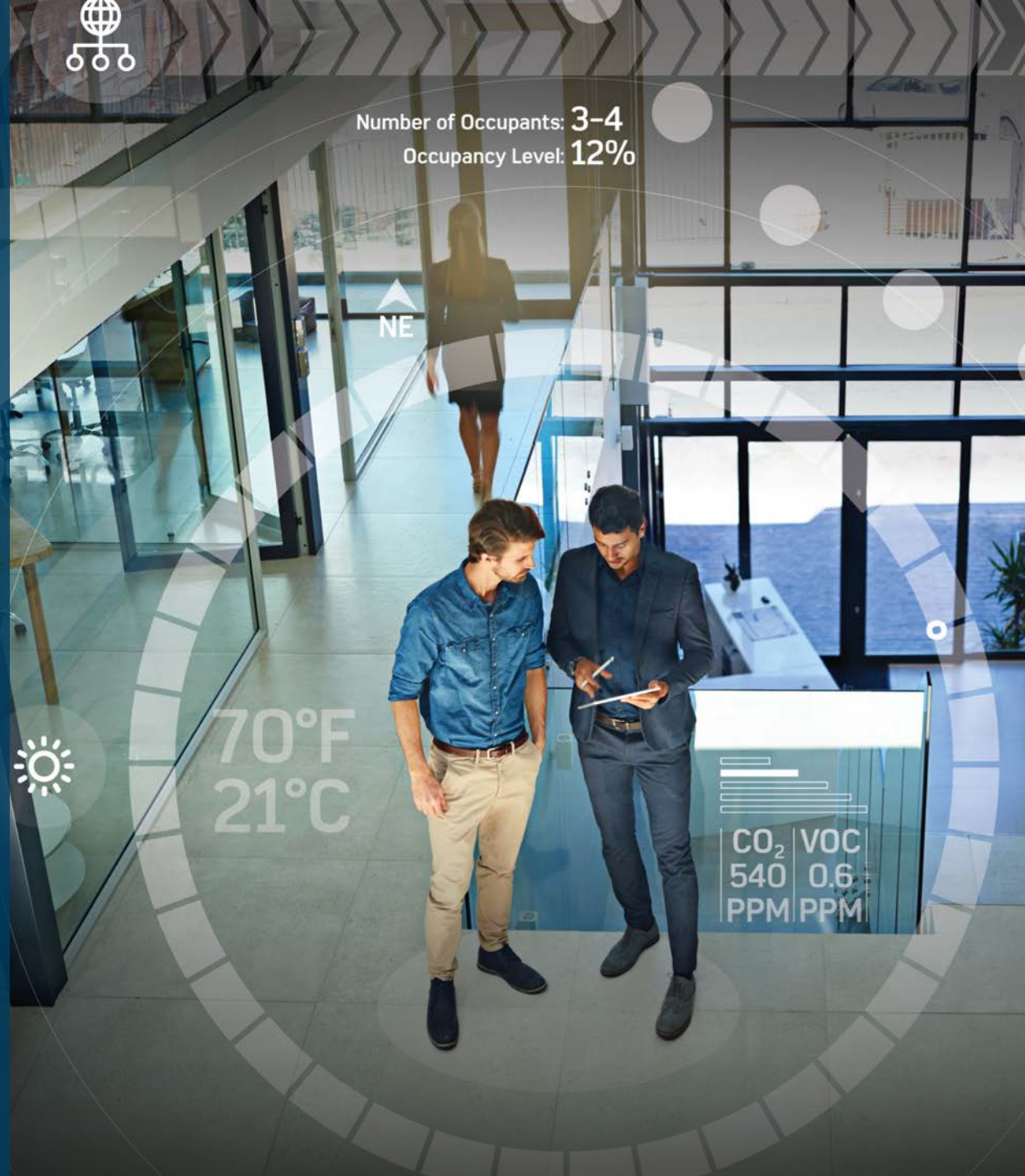
QUALIFICATION RESULTS			
TEST	SPECIFICATION	SAMPLE SIZE	RESULTS
High Temperature Operating Life (HTOL)	JEDEC <i>JESD22-A108</i>	185	Pass
High Temperature Storage Life (HTSL)	JEDEC <i>JESD22-A103</i>	749	Pass



AHEAD OF WHAT'S POSSIBLE™

HMC788A Die Revision, Assembly Site and Material Change

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Detailed Change Description

Commercial Part

Parameter	Current	GoTo
Die rev. – via removal	No	Yes
Assembly Site	Unisem (UG1)	AEK
Lead Frame	100Sn	Ni-Pd-Au
Die Attach	Sumitomo CRM 1076DJ conductive	Hitachi EN 4900GC conductive
Mold Compound	Sumitomo G770HCD	Sumitomo G700LYT
Wire diameter (mils)	1.0	0.8