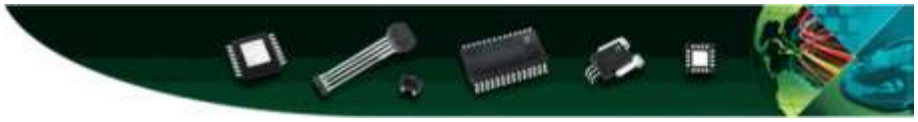

PCN Number: 01082016
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Product/Process Change Notification (PCN)

Customer: Newark **Date:** June 14, 2016

Customer Part # and/or Lot# affected:

A3212ELHLU-T	A3212LLHLU-T	A3212EUA-T
A3212ELHLT-T	A3212LLHLT-T	A3212LUA-T
A3212ELHLX-T	A3212LLHLX-T	

Originator: Stylianos Kalakonas **Phone:** 603-626-2484 **Fax:** 603-641-5336

Duration of Change: Permanent [X] Temporary (explain) [ ]

Summary description of change: Part Change: [X] Process Change: [ ] Other: [ ]

Allegro will discontinue manufacturing the PCN listed parts on the 6” diameter wafers CMOS DABIC5 process and replace them with 8” diameter wafer CMOS DABIC8E process meeting the same datasheet specifications.

What is the part or process changing from (provide details)?

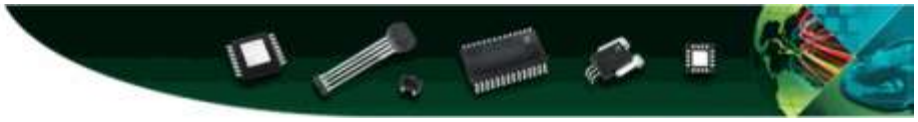
1. Allegro currently manufactures the PCN listed parts on the 6” diameter wafers with the CMOS DABIC5 process.
2. Allegro currently manufactures wafers for the PCN listed parts at Polar Semiconductor Inc. (PSI), Bloomington, MN, USA using DABIC5 technology.

What is the part or process changing to (describe the anticipated impact of this change on form, fit and/or function)?

1. Allegro will manufacture the PCN listed parts on 8” diameter wafers with the CMOS DABIC8E process.
2. Allegro will manufacture the PCN listed parts at the contract manufacturer wafer fabrication facility known as United Microelectronics Corporation (UMC), Hsinchu Taiwan. Devices from this wafer fabrication facilities are in full compliance with the electrical and dimensional parameters on the existing Allegro published datasheet.

There is no significant impact to form fit or function for these part changes.

Note: Validation of equivalence within a specific application is at the discretion of the Customer.



Reliability Qualification Results

Device: **A3212LUA-T**
Assy Lot #: **1445235DDAB**
Fab Location: **UMC**
Package: **UA (SIP)**

Number of Leads: **3**
Assembly Location: **AMPI**
Tracking Number: **2630**
Lead Finish: **100% Sn**

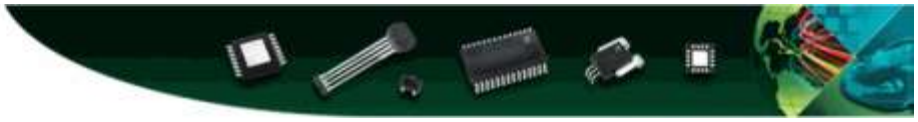
Reason for Qualification: ***DABIC8E - Micropower, Ultrasensitive Hall-Effect Switches at UMC***

Reliability Qualification Results						
STR#2630					**Requirements**	
Stress Test	**Abv.**	**Test #**	**Test Method**	**Test Conditions**	**S.S.**	**Results**
Preconditioning	PC	A1	JESD22-A113/ J-STD-020	85°C/60% RH, 168 hrs, Peak Reflow=260°C; MSL3, (HAST, AC, TC)	231	0 Rejects
HAST	HAST	A2	JESD22-A110	130°C, 2 ATM, 85% RH, 0, 96 hrs	77	0 Rejects
Autoclave	AC	A3	JESD22-A102	121°C, 100% RH, 15 PSIG, 0, 96 hrs	77	0 Rejects
Temperature Cycle	TC	A4	JESD22-A104	-50°C to +150°C, 0, 500, 1000 Cycles	77	0 Rejects
High Temperature Operating Life	HTOL	B1	JESD22-A108	150°C, 0, 1000 hrs	77	0 Rejects
Very High Temperature Operating Life	VHTB	B1-A	JESD22-A108	175°C, 0, 250, 500 hrs	77	0 rejects
Early Life Failure Rate	ELFR	B2	AEC-Q100-008 / JESD22-A108	150°C, 0, 48 hrs	1000	0 Rejects
Wire Bond Pull	WBP	C2	Mil-Std-883 Method 2011	Temp conditions and sample size are defined in the test method. (after TC)		0 Rejects; Ppk>1.67
Electrostatic Discharge Human Body Model	HBM	E2	AEC-Q100-002	Test Conditions, Sampling Size are defined in the Test Method		Classification H2B, HBM = > 5.5kV
Electrostatic Discharge Charged Device Model	CDM	E3	AEC-Q100-011	Test Conditions, Sampling Size are defined in the Test Method		Classification = C6, > 1kV
Latch-Up	LU	E4	AEC Q100-004	Test Conditions, Sampling Size are defined in the Test Method		Class II, Level A
Electrical Distributions	ED	E5	AEC Q100-009	Tri-Temp Electrical Distributions	30 pcs	0 Rejects; Cpk>1.67

This device qualification is considered to be passing all environmental stress evaluations per the *Allegro MicroSystems, LLC* 900019 specification and AEC-Q100.

Approved by:

Bob Demers
Product Safety and Reliability
Allegro MicroSystems, LLC



Reliability Qualification Results

Device: **A3212LLH-T**
Assy Lot #: **1444831KNAA**
Fab Location: **UMC**
Package: **LH (SOT-23W)**

Number of Leads: **3**
Assembly Location: **Carsem**
Tracking Number: **2733**
Lead Finish: **100% Sn**

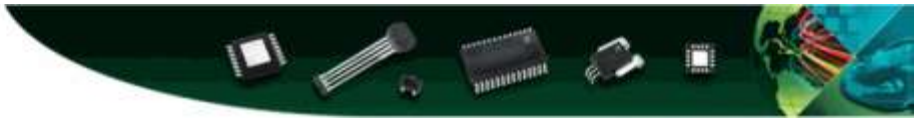
Reason for Qualification: ***DABIC8E - Micropower, Ultrasensitive Hall-Effect Switches at UMC***

Reliability Qualification Results						
STR#2733					**Requirements**	
Stress Test	**Abv.**	**Test #**	**Test Method**	**Test Conditions**	**S.S.**	**Results**
Preconditioning	PC	A1	JESD22-A113/ J-STD-020	85°C/60% RH, 168 hrs, Peak Reflow=260°C; MSL3, (HAST, AC, TC)	231	0 Rejects
HAST	HAST	A2	JESD22-A110	130°C, 2 ATM, 85% RH, 0, 96 hrs	77	0 Rejects
Autoclave	AC	A3	JESD22-A102	121°C, 100% RH, 15 PSIG, 0, 96 hrs	77	0 Rejects
Temperature Cycle	TC	A4	JESD22-A104	-50°C to +150°C, 0, 500, 1000 Cycles	77	0 Rejects
High Temperature Operating Life	HTOL	B1	JESD22-A108	150°C, 0, 1000 hrs	77	0 Rejects
Very High Temperature Operating Life	VHTB	B1-A	JESD22-A108	175°C, 0, 250, 500 hrs	77	0 rejects
Early Life Failure Rate	ELFR	B2	AEC-Q100-008 / JESD22-A108	150°C, 0, 48 hrs	1000	0 Rejects
Wire Bond Pull	WBP	C2	Mil-Std-883 Method 2011	Temp conditions and sample size are defined in the test method. (after TC)		0 Rejects; Ppk>1.67
Electrostatic Discharge Human Body Model	HBM	E2	AEC-Q100-002	Test Conditions, Sampling Size are defined in the Test Method		Classification H2B, HBM = > 5.5kV
Electrostatic Discharge Charged Device Model	CDM	E3	AEC-Q100-011	Test Conditions, Sampling Size are defined in the Test Method		Classification = C6, > 1kV
Latch-Up	LU	E4	AEC Q100-004	Test Conditions, Sampling Size are defined in the Test Method		Class II, Level A
Electrical Distributions	ED	E5	AEC Q100-009	Tri-Temp Electrical Distributions	30 pcs	0 Rejects; Cpk>1.67

This device qualification is considered to be passing all environmental stress evaluations per the *Allegro MicroSystems, LLC* 900019 specification and AEC-Q100.

Approved by:

Bob Demers
Product Safety and Reliability
Allegro MicroSystems, LLC



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Is a PPAP update required?	Yes	X	No	
Is reliability testing required?	Yes	X	No (explain)	

Expected completion date for internal qualification: Complete

Expected PPAP availability date: Upon request

Estimated date of first shipment: October 2016

Expected sample availability date: Available

Customer Approval Required:	**Yes**		**Date Required:**
	No	X	**Notification Only**

Please note: It is our intention to inform our customer of changes as early as possible. Under Allegro's procedure for product/process change notification, Allegro strives, based on its technical judgment, to provide notification of significant changes that may affect form, fit or function. However, as Allegro cannot ensure evaluation of product/process changes for each and every application; the customer retains responsibility to validate the impact of a change on its application suitability. If samples are needed for validation of a change, requests may be made via the contact information provided herein. Please contact your Account Manager or local Sales contact for any questions. We would kindly request your consideration so we can meet our target date for implementation. Unless both parties agree to extend the implementation date, this change will be implemented as scheduled.

Customer comments/Conditions of Acceptance:

Approved by: Date: Title:

cc: Allegro Sales/Marketing/Quality