



PCN Number: June 16

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Product/Process Change Notification (PCN)

Customer: Newark

Date: 6/9/2016

Customer Part # and/or Lot# affected: A3968SLBTR-T

Originator: J.Hurley

Phone: 508-854-5491

Duration of Change:

Permanent

☒

Temporary (explain)

☐

Summary description of change:

Part Change: ☐

Process Change:

☒

Other:

☐

1. Allegro currently manufactures the A3968SLBTR-T at wafer fab, Polar Semiconductor LLC (PSL), Bloomington, MN, USA, utilizing 6" DABIC5 technology.
2. The above listed device will have an additional final test location: Allegro MicroSystems (Thailand) Co., Ltd. (AMTC).

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

1. Allegro currently manufactures the A3968SLBTR-T at wafer fab, Polar Semiconductor LLC (PSL), Bloomington, MN, USA, utilizing 6" DABIC5 technology.
2. In addition to the current Allegro MicroSystems, LLC test facility location in Manila Philippines, a second test facility referred to as Allegro MicroSystems (Thailand) Co., Ltd. (AMTC) located in Saraburi, Thailand will be added as a primary site.

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

1. The A3968SLBTR-T will transition to an 8 inch device a wafer fab, Polar Semiconductor LLC (PSL), Bloomington, MN, USA.
2. Allegro will be expanding its manufacturing capabilities with the addition of a new, wholly-owned integrated circuit test facility located in Saraburi, Thailand. The same make and model test equipment will be utilized and test site transfer buy off data will be on file for each device before production begins.

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



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Is a PPAP update required?

Yes ☐

No ☒

Is reliability testing required?
(If Yes, refer to attached plan)

Yes ☒

No (explain) ☐

Reliability Qualification Results

Device: 7868 (4968)
Fab Location: PSL
Assy Lot #: 1512709KAAA
Package: LB (SOIC)

Number of Leads: 16
Assembly Location: Carsem
Lead Finish: 100% Sn
Tracking Number: 2945

Reason For Qualification: 7868 (4968) - Dual Full-Bridge PWM Motor Driver

Reliability Qualification Results						
7868 (4968), STR#2945					Requirements	
Stress Test	Abv.	Test #	Test Method	Test Conditions	S.S.	Results
Preconditioning	PC	A1	JESD22-A113 / J-STD-020	30°C/60% RH, 192 hrs, Peak Reflow=260°C; (HAST, AC, TC)	231	0 Rejects
HAST	HAST	A2	JESD22-A110	130°C, 2 ATM, 60% 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	-65°C to +175°C, 0, 500, 1000 Cycles	77	0 Rejects
High Temperature Storage Life	HTSL	A6	JESD22-A103	175°C, 0, 1000 hrs	77	0 Rejects
High Temperature Operating Life	HTOL	B1	JESD22-A108	125°C, 0, 1000 hrs	77	0 Rejects
Early Life Failure Rate (STR#3375)	ELFR	B2	AEC-Q100-008 / JESD22-A108	125°C, 0, 48 hrs	800	0 Rejects
Electrostatic Discharge Human Body Model	HBM	E2	AEC-Q100-002	Test Conditions, Sampling Size are defined in the Test Method	Classification H1C, HBM = 2.0 kV	
Electrostatic Discharge Charged Device Model	CDM	E3	AEC-Q100-011	Test Conditions, Sampling Size are defined in the Test Method	Classification = C6, = 1kV	
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; Cpk>1.67	
Electrical Distributions	ED	E5	AEC Q100-009	Electrical Distributions - (30 pcs/3lots)	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

Bob Demers
Product Safety and Reliability
Allegro MicroSystems, LLC



Expected completion date for internal qualification: Complete

Expected PPAP availability date: N/A

Target implementation date: December 2016

Estimated date of first shipment: January 2017

Expected sample availability date: Available Upon Request

Customer Approval Required: Yes ☐ **Date Required:**
No ☒ **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