



PCN Number:

July 2015

Product/Process Change Notification (PCN)

Customer: Digi-Key

Date: July 24, 2015

Catalog / Customer Part # and/or Lot# affected: A4447SLJTR-T

Originator: J. Hurley Phone: 508.854.5431 Email: Jhurley@allegromicro.com

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

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

- 1. The A4447SLJTR-T will change from being manufactured on the 6" wafer line at wafer fab, Polar Semiconductor LLC (PSL), Bloomington, MN, USA utilizing ABCD4 technology to the 8" wafer line at Polar Semiconductor LLC (PSL), Bloomington, MN, USA utilizing ABCD4-8 technology.
2. The A4447SLJTR-T will change from being manufactured with Gold Bond Wires at Carsem China to being manufactured with Copper Bond Wires at Carsem China.
3. The A4447SLJTR-T will change from Final Test at Allegro MicroSystems, Inc. Manila, Philippines (AMPI) to Final Test at Allegro MicroSystems Thailand, Company Ltd. (AMTC)

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

- 1. Allegro currently manufactures the A4447SLJTR-T on the 6" wafer line at wafer fab, Polar Semiconductor LLC (PSL), Bloomington, MN, USA, utilizing ABCD4 technology.
2. The A4447SLJTR-T is manufactured with Gold Bond Wires at Carsem China.
3. Allegro currently final tests the A4447SLJTR-T at Allegro MicroSystems, Inc. Manila, Philippines (AMPI)

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

- 1. The A4447SLJTR-T will be manufactured on the 8" wafer line at wafer fab, Polar Semiconductor LLC (PSL) Bloomington, MN, USA, utilizing ABCD4-8 technology.
2. The A4447SLJTR-T will be manufactured with Gold Bond Wires at Carsem China.
3. 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 results below) Yes  No (explain)

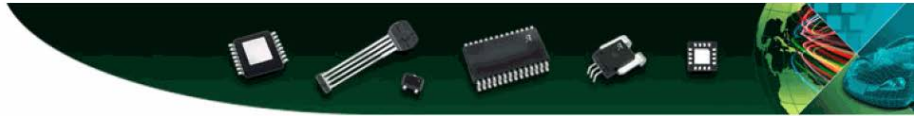
**Reliability Qualification Results**

Device: 4447 (9347)      Number of Leads: 8  
 Assy Lot #: 1442120UAAA, 1524832UAAA      Assembly Location: Unisem  
 Fab Location: UMC      Tracking Number: 2823, 3028  
 Package: LJ (eSOIC)      Lead Finish: 100% Sn

Reason For Qualification: 4447 (9347) - High Voltage Step Down Regulator (UMC Fab Transfer)

Reliability Qualification Results						
9347, 4447 - STR#2823, STR#3028					Requirements	
Stress Test	Abv.	Test #	Test Method	Test Conditions	S.S.	Results
HAST	HAST	A2	JESD22-A110	130°C, 2 ATM, 85% RH, 0, 96 hrs	77	0 Rejects
High Temperature Reverse Bias Operating Life	HTRB	B1	JESD22-A108	125°C, 0, 408hrs	77	0 Rejects
Electrostatic Discharge Human Body Model	HBM	E2	JESD22-A114	Test Conditions, Sampling Size are defined in the Test Method		Classification 1C, HBM = 1.5 kV
Electrostatic Discharge Charged Device Model	CDM	E3	JESD22-C101	Test Conditions, Sampling Size are defined in the Test Method		Classification = C3, = 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
Review of previous Electrical Distributions vs. New results	A-vs.-B	E5-B	AEC Q100-009	Tri-Temp Electrical Distributions	30 pcs/lot	0 Rejects; Cpk > 1.67 Review Approved.

This device qualification is considered to be passing all environmental stress evaluations per the Allegro MicroSystems, 900019 specification.




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**Expected completion date for internal qualification: Wafer fab and Assembly Complete**

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.

**Expected PPAP availability date:** N/A

**Target implementation date:** October 2015

**Estimated date of first shipment:** November 2015

**Expected sample availability date:** July 2015.

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**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:  
 cc: Allegro Sales/Marketing/Quality

Date:

Title: