



PCN Number: SM110416

Chgnot.doc rev 13 1/14

**Product/Process Change Notification (PCN)**

**Customer:** Digi-Key

**Date:** 11/4/2016

**Customer Part # and/or Lot# affected:** A3906SESTR-T

**Originator:** Scott Mitti

**Phone:** 508-854-5627

**Duration of Change:**

Permanent  Temporary (explain)

**Summary description of change:** Part Change:  Process Change:  Other:

1. Allegro currently manufactures the A3906SESTR-T on the 8" wafer fab ABCD4 technology line at Polar Semiconductor LLC (PSL), Bloomington, MN, USA. Allegro will change manufacturing to the 8" wafer fab line at United Microelectronics Corporation (UMC), Hsinshu, Taiwan utilizing the same ABCD4 technology.

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

1. Allegro currently manufactures the A3906SESTR-T on the 8" wafer fab ABCD4 technology line at Polar Semiconductor LLC (PSL), Bloomington, MN, USA.

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

1. Allegro will change manufacturing to the 8" wafer fab line at United Microelectronics Corporation (UMC), Hsinshu, Taiwan utilizing the same ABCD4 technology.

**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: 3906 (7806)  
Fab Lot #: 1622088LAAA  
Fab Location: UMC  
Package: ES (QFN 4x4)

Number of Leads: 20  
Assembly Location: Carsem  
Tracking Number: 3540  
Lead Finish: 100% Sn

Reason for Qualification: 3906 (7806) - Low Voltage Stepper or Single/Dual DC Motor Driver

Reliability Qualification Results						
3906 (7806) - STR#3540					Requirements	
Stress Test	Abv.	Test #	Test Method	Test Conditions	S.S.	Results
HAST	HAST	A2	JESD22-A110	Ta=130°C, 85% RH, 2 ATM, 0, 96 hrs	77	0 Rejects
High Temperature Operating Life	HTOL	B1	JESD22-A108	Ta=125°C, 0, 1000 hrs	77	0 Rejects
Electrostatic Discharge Human Body Model	HBM	E2	JESD22-A114 / JS-001-2014	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 / JS-002-2014	Test Conditions, Sampling Size are defined in the Test Method		Classification = C3, = 1kV
Latch-Up	LU	E4	JESD78	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. (1 Lot)		0 Rejects; Cpk>1.67

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

Approved by:

*Bob Demers*

Bob Demers  
Product Safety and Reliability  
Allegro MicroSystems, LLC



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**Expected completion date for internal qualification:** Complete

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

**Target implementation date:** April 2017

**Estimated date of first shipment:** May 2017

**Expected sample availability date:** Available Upon Request

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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: \_\_\_\_\_ Date: \_\_\_\_\_ Title: \_\_\_\_\_  
cc: Allegro Sales/Marketing/Quality