

PCN Number: UMC OCT14
Chgnot.doc rev 13 1/14

Product/Process Change Notification (PCN)

Customer: NEWARK

Date: 1/21/2015

Customer Part # and/or Lot# affected: A3901SEJTR-T

Originator: J.Hurley

Phone: 508-854-5431

Duration of Change:

Permanent Temporary (explain)

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

Allegro currently manufactures the A3901SEJTR-T at wafer fab, Polar Semiconductor Inc. (PSI), Bloomington, MN, USA using ABCD4 technology. We will add a second source wafer fab known as United Microelectronics Corporation (UMC), Hsinshu, Taiwan using ABCD4 technology.

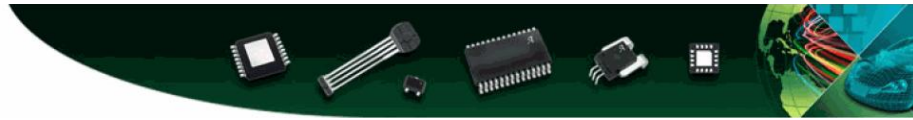
What is the part or process changing from (provide details)?

Allegro currently manufactures the A3901SEJTR-T at wafer fab, Polar Semiconductor Inc. (PSI), Bloomington, MN, USA using ABCD4 technology.

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

The A3901SEJTR-T will have a second source wafer fab known as United Microelectronics Corporation (UMC), Hsinshu, Taiwan using 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

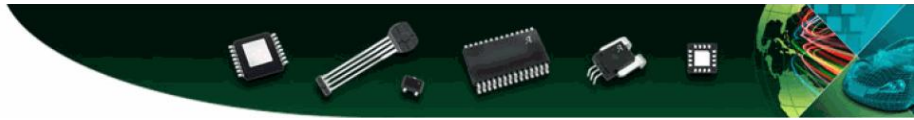
Device: **7801** (3901)
Assy Lot #: **1426341L**
Fab Location: **UMC**
Package: **EJ (QFN)**

Number of Leads: **10**
Assembly Location: **Carsem**
Tracking Number: **2715**
Lead Finish: **100% Sn**

Reason for Qualification: **7801 (3901) – Dual Full Bridge Low Voltage Motor Driver** (PSL-to-UMC transfer of the 3901).

Reliability Qualification Results						
7801W (3901), STR#2715					Requirements	
Stress Test	Abv.	Test #	Test Method	Test Conditions	S.S.	Results
Preconditioning	PC	A1	JESD22-A113/ J-STD-020	85°C/60% RH, 168hrs, Peak Reflow=260°C;	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	-65°C to +150°C, 0, 500 Cydes	77	0 Rejects
High Temperature Reverse Bias Operating Life	HTRB	B1	JESD22-A108	125°C, 0, 1000 hrs	77	0 Rejects
Early Life Failure Rate	ELFR	B2	AEC-Q100-008 / JESD22-A108	125°C, 0, 24 hrs	800	0 Rejects
Wire Bond Pull	WBP	C2	800021	Temp conditions and sample size are defined in the test method.		0 Rejects; Ppk > 1.67
Electrostatic Discharge Human Body Model	HBM	E2	JESD22-A114	Test Conditions, Sampling Size are defined in the Test Method		Classification H2, HBM = 2.5kV
Electrostatic Discharge Charged Device Model	CDM	E3	JESD22-C101	Test Conditions, Sampling Size are defined in the Test Method		Classification = C4, > 1kV
Latch-Up	LU	E4	AEC Q100-004	Test Conditions, Sampling Size are defined in the Test Method		Class II, Level B
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, Inc.* 900019 specification.



Expected completion date for internal qualification: Complete

Expected PPAP availability date: N/A

Target implementation date: June 2015

Estimated date of first shipment: July 2015

Expected sample availability date: Available Now

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