Product/Process Change Notification (PCN)

Customer: Digi-Key   **Date: 06/21/17**

Customer Part # and/or Lot# affected: A3938SLDTR-T

Originator: Scott Mitti   **Phone: (508) 854-5627**

Duration of Change: Permanent | X | Temporary (explain) | |

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

1. Allegro currently manufactures the A3938SLDTR-T on the 6" wafer fab ABCD3 technology line at Polar Semiconductor LLC (PSL), Bloomington, MN, USA. Allegro will closing the 6" wafer line in March 2018 and will transition manufacturing to the 8" ABCD3 technology wafer fab line at Polar Semiconductor LLC (PSL), Bloomington, MN, USA.

2. Allegro will permanently close its wafer probe operations in Worcester, Massachusetts, USA by March 31, 2018. Wafer probe operations will be moved to Allegro MicroSystems Philippines, Inc. (AMPI) located in Manila, Philippines for the part numbers listed in this PCN.

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

1. Currently the A3938SLDTR-T is manufactured on Polar Semiconductor LLC (PSL), Bloomington, MN, USA 6" wafer fab ABCD3 technology line.

2. Currently the A3938SLDTR-T is probed in Allegro's Worcester facility.

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

1. The A3938SLDTR-T will be manufactured on Polar Semiconductor LLC (PSL), Bloomington, MN, USA 8" wafer fab ABCD3 technology line.
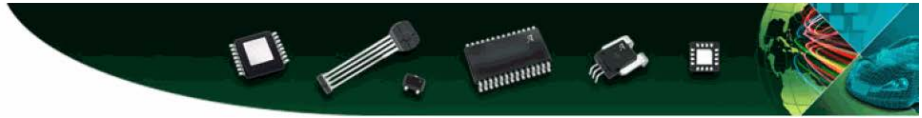
2. Probe location for the A3938SLDTR-T will be moved to AMPI. Allegro is utilizing the same probe equipment, test programs and test methodologies in its Philippine facility as is currently being performed in its US facility. Relocation of probe operations reduces movement of wafers between factories shortening overall cycle time and minimizing wafer handling. All expansions of probe capability and capacity will now occur at AMPI to support Allegro's future business growth.

Is a PPAP update required?   Yes [ ]   No [X]

Is reliability testing required?   Yes [X]   No (explain) [ ]
  (If Yes, refer to attached plan)

See Below

Reliability Qualification Results

Device: 3938 (7828)   Package: LD (TSSOP)
Assy Lot #: 1645274KAAA`   Assembly Location: Carsem
Number of Leads: 38   Lead Finish: 100% SN
Fab Location: PSL   Tracking Number: 3763

Reason for Qualification: *3938 (7828) - Three-Phase Power MOSFET Controller*

Reliability Qualification Results

3938 (7828), STR#3763

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 Operating Life	HTOL	B1	JESD22-A108	Ta = 150°C, 0, 1000 hrs	77	0 Rejects
Electrostatic Discharge Human Body Model(STR#3813)	HBM	E2	JS-001-2014	Test Conditions, Sampling Size are defined in the Test Method		Classification 1B, HBM =500 V
Latch-Up	LU	E4	JESD78	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

(Requirements column spans S.S. and Results)

This device qualification is considered to be passing all environmental stress evaluations per the *Allegro MicroSystems, LLC* 900019 specification and JESD47.

Approved by:

Bob Demers

Bob Demers
Product Safety and Reliability
Allegro MicroSystems, LLC

Allegro MicroSystems, LLC   *Proprietary*

Expected completion date for internal qualification: Complete

Expected Data availability date: N/A

Target implementation date: December 2017

Estimated date of first shipment: January 2018

Expected sample availability date: Available by request

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

Please note: It is our intention to inform our customer of changes as early as possible.   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.