



PCN Number: SM010218

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Product/Process Change Notification (PCN)

Customer: Digi-Key

Date: 01/02/2018

Customer Part # and/or Lot# affected: A4931METTR-T

Originator: Scott Mitti

Phone: 508-854-5627

Duration of Change:

Permanent Temporary (explain)

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

Allegro currently manufactures the A4931METTR-T at wafer fab, Polar Semiconductor LLC (PSL), Bloomington, MN, USA, utilizing 8” ABCD5 technology. Allegro will be changing wafer fab manufacturing to the 8” ABCD5 technology wafer line at United Microelectronics Corporation (UMC), Hsinshu, Taiwan.

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

Allegro currently manufactures the A4931METTR-T at wafer fab, Polar Semiconductor LLC (PSL), Bloomington, MN, USA, utilizing 8” ABCD5 technology.

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

Allegro will be changing wafer fab manufacturing for A4931METTR-T to the 8” ABCD5 technology wafer line at United Microelectronics Corporation (UMC), Hsinshu, Taiwan.

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: **4931** (966411)
Assy Lot #: **1732564LAAA**
Number of Leads: **28**
Fab Location: **UMC**

Package: **ET (5x5 MLP)**
Assembly Location: **Carsem**
Lead Finish: **100% Sn**
Tracking Number: **4104**

Reason for Qualification: **4931 - (966411) - 3-Phase Brushless DC Motor Pre-Driver**

| Reliability Qualification Results | | | | | | |
|---|------|--------|--------------|---|------|--------------------------------|
| 4931, STR#4104 | | | | | | Requirements |
| Stress Test | Abv. | Test # | Test Method | Test Conditions | S.S. | Results |
| HAST | HAST | A2 | JESD22-A110 | 130°C, 2 ATM, 60% RH, 0, 96 hrs | 77 | 0 Rejects |
| High Temperature Operating Life | HTOL | B1 | JESD22-A108 | 125°C, 0, 168 hrs | 77 | 0 Rejects |
| Electrostatic Discharge Human Body Model (STR#4047) | HBM | E2 | JESD22-A114 | Test Conditions, Sampling Size are defined in the Test Method | | Classification 1C, HBM = 1.5kV |
| Electrostatic Discharge Charged Device Model | CDM | E3 | JESD22-C101 | Test Conditions, Sampling Size are defined in the Test Method | | Classification = C3, >1kV |
| Latch-Up (STR#4047) | 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. | | 0 Rejects; Cpk>1.67 |

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

Approved by:

Robert Demers

Robert Demers
Sr. 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: June 2018

Estimated date of first shipment: July 2018

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