



PCN Number: SM030817

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Product/Process Change Notification (PCN)

Customer: Digi-Key

Date: 3/8/2017

Customer Part # and/or Lot# affected: A6850KLTR-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 A6850KLTR-T on the 6" wafer fab ABCD4 technology line at Polar Semiconductor LLC (PSL), Bloomington, MN, USA. The 6" wafer fab line will be closing. Allegro will change manufacturing to the 8" ABCD4 technology wafer fab line at Polar Semiconductor LLC (PSL), Bloomington, MN, USA
2. The A6850KLTR-T will have an additional final test location: Allegro MicroSystems (Thailand) Co., Ltd. (AMTC).

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

1. Allegro currently manufactures the A6850KLTR-T on the 6" wafer fab ABCD4 technology line at Polar Semiconductor LLC (PSL), Bloomington, MN, USA. The 6" wafer fab line will be closing.
2. The A6850KLTR-T final test location is Allegro MicroSystems, Inc, Manila, Philippines.

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

1. The A6850KLTR-T will transition to the 8 inch wafer fab ABCD4 technology line at Polar Semiconductor LLC (PSL), Bloomington, MN, USA..
2. The A6850KLTR-T will have an additional final test location: Allegro MicroSystems (Thailand) Co., Ltd. (AMTC).

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 attached plan)

Yes

No (explain)



Reliability Qualification Results

Device: 6850 (6852)
Assy Lot #: 1627034KAAA
Number of Leads: 8
Fab Location: PSL

Package: L (SOIC)
Assembly Location: Carsem
Lead Finish: 100% Sn
Tracking Number: 3541

Reason for Qualification: 6850 (6852) – to qualify the 8" version of the PSL's 6" automotive 6850AFA. Dual Channel Switch Interface IC

Reliability Qualification Results						
6850 - (6852), STR#3541						Requirements
Stress Test	Abv.	Test #	Test Method	Test Conditions	S.S.	Comments
Preconditioning	PC	A1	JESD22-A113 / J-STD-020	85°C/60% RH, 168 hrs, Peak Reflow=260°C; MSL2, (HAST, AC, TC)	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 +175°C, 0, 500, 1000 Cycles	77	0 Rejects
High Temperature Operating Life	HTOL	B1	JESD22-A108	150°C, 0, 1000 hrs	77	0 Rejects
Early Life Failure Rate	ELFR	B2	AEC-Q100-008 / JESD22-A108	150°C, 0, 48 hrs	800	0 Rejects
Wire Bond Pull	WBP	C2	Mil-Std-883 Method 2011	Temp conditions and sample size are defined in the test method. (after TC)		0 Rejects; Ppk>1.67
Electrostatic Discharge Human Body Model	HBM	E2	AEC-Q100-002	Test Conditions, Sampling Size are defined in the Test Method		Classification 2, HBM = 2.5kV
Electrostatic Discharge Charged Device Model	CDM	E3	AEC-Q100-011	Test Conditions, Sampling Size are defined in the Test Method		Classification = C6, > 1kV
Latch-Up	LU	E4	AEC Q100-004			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, 900019 specification and AEC-Q100.

Approved by:

Bob Demers
Bob Demers
Product Safety and Reliability
Allegro MicroSystems, LLC



Expected completion date for internal qualification: Complete

Expected PPAP availability date: N/A

Target implementation date: February 2018

Estimated date of first shipment: March 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