

Product/Process Change Notification (PCN)

Customer: NEWARK

Date: 10/20/2015

Customer Part # and/or Lot# affected:

A4985SLPTR-T
A5984GLPTR-T

Originator: J.Hurley

Phone: 508-854-8491

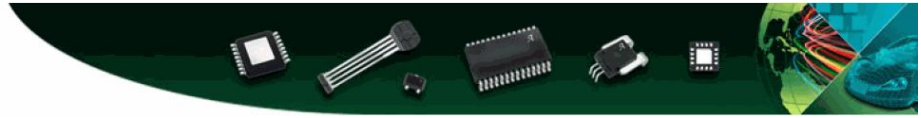
Duration of Change: Permanent Temporary (explain)

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

1. The listed device (s) are assembled at Jiangsu Changjiang Electronics Tech (JCET), Jiangyin, Jiangsu, China. JCET will eliminate the manufacturing of the package in **December 2015** at this location. Allegro MicroSystems will move assembly to Unisem-Ipoh, Perak, Malaysia.
2. The listed device (s) will change from final test at Allegro MicroSystems, Inc. Manila, Philippines (AMPI) to final test at Allegro MicroSystems Thailand Company, Ltd. located in Saraburi, Thailand (AMTC)

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

1. The devices listed are assembled at Jiangsu Changjiang Electronics Tech (JCET), Jiangyin, Jiangsu, China.
2. Allegro currently performs final test at Allegro MicroSystems, Inc. Manila, Philippines (AMPI).



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

1. Allegro will move assembly of the devices to Unisem-Ipoh, Perak, Malaysia. This assembly location is already qualified for this package.
2. Allegro will perform final test at Allegro MicroSystems Thailand Company, Ltd. located in Saraburi, Thailand, a wholly-owned integrated circuit test facility. 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

Is a PPAP update required?

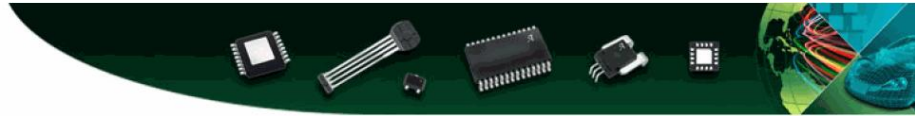
Yes

No

Is reliability testing required?
(If Yes, refer to attached plan)

Yes

No (explain)



Summary:

This qualification is considered to be passing all environmental stress evaluations per the Allegro MicroSystems, LLC, 900019 Qualification specification for Unisem LP-eTSSOP 1.27 mm lead pitch package family. Qualifications were performed using the 16, 20, 24 and 28 lead LP package.

The LP- Copper-Wire package manufactured at Unisem meets and exceeds the qualification requirements required per JESD47 Stress Test Qualification for Integrated circuits.

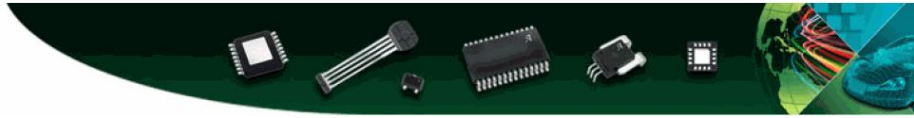
Reference Qualification tracking numbers: 2980, 2979, 2981, 2983, 3023, 3011

Detailed Data: *Unisem LP Copper-Wire*

Package: LP, eTSSOP (exposed thermal pad)
 Assembly Location: Unisem
 Mold Compound: G700M
 Lead Finish: 100% Tin
 Die Attach Material: 84-1
 Bond Wire: Copper (CuPd)

Tests Summary

Stress	Test Method	Test Condition	Sample Size	Results	# of Lots
Preconditioning	J-STD-020 /JESD22-A113	85°C/60% RH, 168 hrs Peak Temp: 260C	(HAST, AC, TC samples)	0 rejects	6
HAST	JESD22-A110	130°C/85% RH 96, 192 hrs.	77	0 rejects	6
AC	JESD22-A102	121°C, 100% RH 96, 192 hrs.	77	0 rejects	2
TC	JESD22-A104	-65°C to +150°C 500 cycles	77	0 rejects	6
HTSL	JESD22-A103	150°C, 1000 hrs	77	0 rejects	4
Wire Bond Pull	Mil-STD-2011	Method 2011	5	Cpk > 1.67	6
HTOL	JESD22-A108	125°C, 1000 hrs	77	0 rejects	2



Stress	Test Method	Test Condition	Sample Size	Results	# of Lots
ELFR	JESD22-A104	125°C, 48 hrs	800	0 rejects	1
Solderability	JESD22-B102		15	0 rejects > 95% Lead Coverage	1
Ball Shear Strength			30	Cpk > 1.67	3
Wire Pull Strength			30	Cpk > 1.67	3
Wire Sweep			10	Cpk > 1.67	3
Physical Dimensions			5	Cpk > 1.67	6

ESD-HBM and CDM was performed on each of the 6 different devices used in this qualification, no ESD differences were observed.

Expected completion date for internal qualification: Complete

Expected PPAP availability date: N/A

Target implementation date: December 2015

Estimated date of first shipment: January 2016

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:
cc: Allegro Sales/Marketing/Quality

Date:

Title: