Product Change Notification - RMES-23QFSR050

Date:

10 Jul 2019

Product Category:

Others

Affected CPNs:

Notification subject:

CCB 3816 Final Notice: Qualification of ASSH as a new assembly site for selected Micrel products available in 128L PQFP (14x20x2.72mm) package.

Notification text:

PCN Status:

Final notification

PCN Type:

Manufacturing Change

Microchip Parts Affected:

Please open one of the icons found in the Affected CPNs section above.

NOTE: For your convenience Microchip includes identical files in two formats (.pdf and .xls).

Description of Change:

Qualification of ASSH as a new assembly site for selected Micrel products available in 128L PQFP (14x20x2.72mm) package.

Pre Change:

Assembled at ASE using 2288A die attach and EME-G700A mold compound material.

Post Change:

Assembled at ASSH using CRM-1076WA die attach and CEL-9240HF10AK mold compound material.

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	ASE Kaohsiung (ASE)	ASE-Shanghai (ASSH)
Wire material	Au	Au
Die attach material	2288A	CRM-1076WA
Molding compound material	EME-G700A	CEL-9240HF10AK
Lead frame material	C7025	C7025

Impacts to Data Sheet:

None

Change Impact:

None

Reason for Change:

To improve on-time delivery performance by qualifying ASSH as a new assembly site.

Change Implementation Status:

In Progress

Estimated First Ship Date:

August 10, 2019 (date code: 1932)

NOTE: Please be advised that after the estimated first ship date customers may receive pre and post change parts.

Time Table Summary:

	July 2019					August 2019			
Workweek	27	28	29	30	31	32	33	34	35
Final PCN Issue Date		X							
Estimated Implementation Date						X			

Method to Identify Change:
Traceability code
Qualification Report:
Please open the attachments included with this PCN labeled as PCN_#_Qual_Report.
Revision History:
July 10, 2019: Issued final notification. Attached the qualification report and added estimated first ship date by August 10, 2019.

The change described in this PCN does not alter Microchip's current regulatory compliance regarding the material content of the applicable products.

Attachment(s):
PCN_RMES-23QFSR050_Qual_Report_.pdf

Please contact your local Microchip sales office with questions or concerns regarding this notification.

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Affected Catalog Part Numbers (CPN)

KSZ8997

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: RMES-23QFSR050

Date:
June 17,2019

Qualification of ASSH as a new assembly site for selected Micrel products available in 128L PQFP (14x20x2.72mm) package.

Purpose: Qualification of ASSH as a new assembly site for selected Micrel products available in 128L PQFP (14x20x2.72mm) package.

I. Summary:

The purpose of this report is to qualify TAKD1 (KSZ8997) in 128L PQFP 14x20 mm package at ASEH , Shanghai per CCB# 3816 and following guidelines established in Microchip specification QCI-39000, "Worldwide Quality Conformance Requirements".

II. Conclusion:

Based on the results, the TAKD1 (KSZ8997) in 128L PQFP 14x20 mm package complies with the reliability guidelines implemented in the qualification plan. Therefore, this part/package can be released to production.

III. Device Description:

Device	KSZ8997
Document Control Number	ML062019004K
Document Revision	A

IV. Qualification Material:

Test Lot	Lot 1	Lot 2	Lot 3
DEVICE	KSZ8997 TAKD11C2AA01	KSZ8997 TAKD11C2AA01	KSZ8997 TAKD11C2AA01
WAFER LOT	TC03919011641.100/ DAY338.00	TC03919011641.100/ DAY338.00	TC03919011641.100/ DAY338.00
ASSEMBLY LOT	ASSH192100126.000	ASSH192100127.000	ASSH192200001.000
PACKAGE	128L-PQFP 14x20x2.7 mm	128L-PQFP 14x20x2.7 mm	128L-PQFP 14x20x2.7 mm
QUAL TESTS	PRECOND, HTSL, HAST, UHAST, TC	PRECOND, HAST, UHAST, TC	PRECOND, HAST, UHAST, TC

V. Bill of Materials:

Misc.	Assembly site	ASSH (ASE Shanghai)
	BD Number	B-MCLE0001T-01-00
	MP Code (MPC)	TAKD11C2AA01
	Part Number (CPN)	KSZ8997
	CCB Number	3816
Lead-Frame	Paddle size	315x315 mil
	Material	C7025
	DAP Surface Prep (Spot/Ring/Double ring)	Double Ring Plating
	Treatment (roughened/ brown oxide (BOT) /micro-etched/ none)	Non-roughened
	Process (stamped/Etched)	Stamped
	Lead-lock (Y/N)	N
	Part Number	LF11147
	Lead Plating	Matte Sn
	Strip Size	67.9x223.5 mils
	Strip Density	2x8
Bond Wire	Material	Au
	Wire Diameter	0.8 mil
Die Attach	Part Number	CRM-1076WA
	Conductive	Yes
MC	Part Number	CEL-9240HF10AK
Heat Spreader	Part number	1-HS-01-0000014
	Material	Aluminum
PKG	PKG Type	PQFP
	Pin/Ball Count	128L
	PKG width/size	14x20x2.72mm
Die	Die Thickness	15
	Die Size	273.75x211.16mils
	Fab Process (site)	0.18um TSMC

VI. Qualification Data:

Package Preconditioning

Test Method/Condition	JEDEC J-STD-020D and JESD22-A113F, MSL Level 3 soak and 260ºC peak Reflow Temperature
Lot #	Results (Fail/Pass)
Lot 1	0/255
Lot 2	0/255
Lot 3	0/255

Pre and Post testing was conducted at +25◦C

HAST (Highly Accelerated Temperature and Humidity Stress Test)

Test Method/Condition	JESD22-A110, Vin , Ta = +130ºC/85%RH, 96 HRS Min SS = 77 units
Lot #	Results (Fail/Pass)
Lot 1	0/82
Lot 2	0/82
Lot 3	0/82

Pre and Post testing was conducted at +25◦C, +85◦C

UNBIASED HAST

Test Method/Condition	JESD22-A118, Ta = +130ºC/85%RH, 96HRS Min SS = 77 units
Lot #	Results (Fail/Pass)
Lot 1	0/82
Lot 2	0/82
Lot 3	0/82

Pre and Post testing was conducted at +25◦C

Temperature Cycling

Test Method/Condition	JESD22-A104, Ta = -65ºC/+150 ºC, 500 CYC Min SS = 77 units
Lot #	Results (Fail/Pass)
Lot 1	0/82, WPS after TCY: 0 fail/5
Lot 2	0/82
Lot 3	0/82

Pre and Post testing was conducted at +85◦C

High Temperature Storage Life

Test Method/Condition	JESD22-A103, Ta = +150 ºC, 1008 HRS Min SS = 45 units
Lot #	Results (Fail/Pass)
Lot 1	0/50

Pre and Post testing was conducted at +25◦C, +85◦C

VII. Wire Pull/Ball Shear

Lot #1:

Test Item	Sample Size/ Unit	Comment
Wire Pull	35 wires	Pass
Ball Shear	35 balls	Pass
Solderabilty	22	Pass

Lot #2

Test Item	Sample Size/ Unit	Comment
Wire Pull	35 wires	Pass
Ball Shear	35 balls	Pass
Solderabilty	22	Pass

Lot #3

Test Item	Sample Size/ Unit	Comment
Wire Pull	35 wires	Pass
Ball Shear	35 balls	Pass
Solderabilty	22	Pass

VIII. Physical Dimension:

Test Method/Condition	Measure per JESD22 B100 and B108 Min SS = 10 units / lot
Lot #	Results (Fail/Pass)
Lot 1	0/10 Pass
Lot 2	0/10 Pass
Lot 3	0/10 Pass