MICROCHIP

Product Change Notification - LIAL-25IXJB026

Date:

04 Jan 2019

Product Category:

Ethernet Switches

Affected CPNs:

Notification subject:

CCB 3287, 3287.001 Final Notice: Qualification of ASE as a new assembly site for selected products of the 0.18um wafer technology available in 64L (10x10x1.4mm) and 48L LQFP (7x7x1.4 mm) packages.

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 ASE as a new assembly site for selected products of the 0.18um wafer technology available in 64L (10x10x1.4mm) and 48L LQFP (7x7x1.4 mm) packages.

Pre Change:

Assembled at TICP assembly site using EN4900 die attach material and CEL-9200 mold compound material.

Post Change:

Assembled at ASE assembly site using CRM-1076WA die attach material and EME-G631H mold compound material.

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Taiwan IC Packing Corp. (TICP)	ASE Inc. (ASE)
Wire material	Au	Au
Die attach material	EN4900	CRM-1076WA
Molding compound material	CEL-9200	EME-G631H
Lead frame material	C7025	C7025

Impacts to Data Sheet:

None

Change Impact

None

Reason for Change:

To improve manufacturability by qualifying ASE as new assembly site

Change Implementation Status:

In Progress

Estimated First Ship Date:

February 04, (date code: 1906)

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

post change parts.

Time Table Summary:

	March 2018					-->	January 2019					February 2019			
Workweek	09	10	11	12	13		01	02	03	04	05	06	07	08	09
Initial PCN Issue Date	X														
Qual Report Availability							X								
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:

March 1, 2018: Issued initial notification.

March 21, 2018: Revised this initial notification to be issued to all affected customers.

March 28, 2018: Re-issued initial notification to update the subject with reference to CCB 3287.001.

January 04, 2019: Issued final notification. Attached the Qualification Report. Revised the affected parts list. Provided estimated first ship date on February 04, 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_LIAL-25IXJB026_Qual_Report.pdf

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

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If you wish to change your PCN profile, including opt out, please go to the PCN home page select login and sign into your myMicrochip account. Select a profile option from the left navigation bar and make the applicable selections.

Affected Catalog Part Numbers (CPN)

KSZ8863FLL
KSZ8863FLLI
KSZ8863FLLI-TR
KSZ8863FLL-TR
KSZ8863MLL
KSZ8863MLLI
KSZ8863MLLI-TR
KSZ8863RLL
KSZ8863RLLI
KSZ8863RLLI-TR
KSZ8873FLL
KSZ8873FLLI
KSZ8873MLL
KSZ8873MLLI
KSZ8873MLLJ
KSZ8873MML
KSZ8873MMLI
KSZ8873RLL
KSZ8873RLLI
KSZ8873RLLI-TR
SPNZ801077
SPNZ801080

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: LIAL-25IXJB026

Date
December 6, 2018

Qualification of ASE as a new assembly site for selected products of the 0.18um wafer technology available in 64L LQFP (10x10x1.4mm) package. The selected products 48L LQFP (7x7x1.4 mm) package will qualify by similarity (QBS)

Purpose: Qualification of ASE as a new assembly site for selected products of the 0.18um wafer technology available in 64L (10x10x1.4mm) LQFP package. The selected products 48L LQFP (7x7x1.4 mm) package will qualify by similarity (QBS)

CCB No.: 3287 and 3287.001

Device Description:

Device	KSZ8773MLL
Mask	TKDC1
Process	Dong Bu 0.18um
Document Control Number	ML122018001A
Document Revision	A

Qualification Material:

Test Lot	Lot 1	Lot 2	Lot 3
DEVICE	KSZ8773MLL (TKDC11CEAA02)	KSZ8773MLL (TKDC11CEAA02)	KSZ8773MLL (TKDC11CEAA02)
MASK, REV	TKDC1	TKDC1	TKDC1
WAFER FAB	Dong Bu	Dong Bu	Dong Bu
WAFER PROCESS	0.18um	0.18um	0.18um
WAFER LOT	DU02918469208.100/ P6V531.00	DU02918469208.100/ 17CG48	DU02918469208.100/ 17CG48
ASSEMBLY LOT	ASE190900034.000	ASE190900032.000	ASE190900031.000
PACKAGE	64L-LQFP 10x10x1.4 mm	64L-LQFP 10x10x1.4 mm	64L-LQFP 10x10x1.4 mm
ASSEMBLY SITE	ASE, Taiwan	ASE, Taiwan	ASE, Taiwan
FINAL TEST LOCATION	OSE, Taiwan	OSE, Taiwan	OSE, Taiwan
Project#	38080-1	38080-2	38080-3
QUAL TESTS	PRECOND, HTSL, HAST, UHAST, TC	PRECOND, HAST, UHAST, TC	PRECOND, HAST, UHAST, TC

Bill of Materials:

Misc.	Assembly site	ASE
	BD Number	AAH@08031A420-A
	MP Code (MPC)	TKDC11CEAA02
	Part Number (CPN)	KSZ8873MLL
Lead-Frame	Paddle size	5.0 mm X 5.0 mm
	Material	C7025
	Surface Treatment	Non-Rough
	Process	Stamped
	Part Number	1100697124
	Lead Plating	Double Ring Ag Plating
Bond Wire	Material	Au

Die Attach	Part Number	CRM-1076WA
	Conductive	Yes
MC	Part Number	EME-G631H
PKG	PKG Type	LQFP
	Pin/Ball Count	64
	PKG width/size	7 X 7 X 1.4 mm
Die	Die Thickness	14 mils
	Die Size	3.100 mm X 3.300 mm
	Fab Process (Site)	180 nm (DongBu)

Qualification Data:

Package Preconditioning

Test Method/Condition	JEDEC J-STD-020D and JESD22-A113F, MSL Level 1 soak and 260ºC peak Reflow Temperature
Lot #	Results (Fail/Pass)
Lot 1	0/260, CSAM pass (SS = 45, attachments 1 & 2)
Lot 2	0/260, CSAM pass (SS = 45, attachments 3 & 4)
Lot 3	0/260, CSAM pass (SS = 45, attachments 5 & 6)

Post testing was conducted at +25◦C

HAST (Highly Accelerated Temperature and Humidity Stress Test)

Test Method/Condition	JESD22-A110, Vin = +3.3V, Ta = +130ºC/85%RH, 96 HRS Min SS = 77 units
Lot #	Results (Fail/Pass)
Lot 1	0/82
Lot 2	0/82
Lot 3	0/81 * (*1 invalid reject- FA2018-006544)

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,
Lot 2	0/82

Lot 3	0/82

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

High Temperature Storage Life

Test Method/Condition	JESD22-A103, Ta = +150 ℃, 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

Wire Pull/Ball Shear

Lot #1:

Test Item	Sample Size/ Unit	Defect	Max	Min	Avg	Std	Cpk	Criteria/Unit	Comment
Wire Pull	200 wires		6.92	5.05	5.92	0.40	3.25	2.000/G	Pass
Ball Shear	100 balls		18.85	14.10	16.09	1.30	2.08	8.000/G	Pass
Solderabilty	22	0							Pass

Lot #2

Test Item	Sample Size/ Unit	Defect	Max	Min	Avg	Std	Cpk	Criteria/Unit	Comment
Wire Pull	200 wires		6.66	4.77	5.98	0.40	3.25	2.000/G	Pass
Ball Shear	100 balls		19.36	15.5	17.58	0.88	3.62	8.000/G	Pass
Solderabilty	22	0							Pass

Lot #3

Test Item	Sample Size/ Unit	Defect	Max	Min	Avg	Std	Cpk	Criteria/Unit	Comment
Wire Pull	200 wires		7.09	5.00	5.90	0.45	2.86	2.000/G	Pass
Ball Shear	100 balls		18.61	14.04	16.42	1.03	2.73	8.000/G	Pass
Solderabilty	22	0							Pass