

## Product Change Notification - JAON-02XYUD377

#### Date:

05 Sep 2019

Product Category:

Ethernet Switches

#### Affected CPNs:

#### 7 🔁

#### Notification subject:

CCB 3599.002 Final Notice: Qualification of ASE as a new assembly site for selected Micrel KSZ8895 device family 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 ASE as a new assembly site for selected Micrel KSZ8895 device family available in 128L PQFP (14x20x2.72mm) package

## Pre Change:

Assembled at OSE using silver (Ag) bonding wire and G700L mold compound

## Post Change:

Assembled at ASE using gold (Au) bonding wire and EME-G631H mold compound

#### Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Orient Semiconductor Electronics,	ASE Inc. (ASE)
Assembly one	Ltd (OSE)	, (0 =(, (0 = )
Wire material	Ag	Au
Die attach material	CRM-1076WA	CRM-1076WA
Molding compound	G700I	
material	GTOOL	ENIE-603111
Lead frame material	C7025	C7025

#### Impacts to Data Sheet:

None

## Change Impact:

None

## Reason for Change:

To improve productivity and on-time delivery performance by qualifying ASE as a new additional assembly site.

## Change Implementation Status:

In Progress

## **Estimated First Ship Date:**

October 3, 2019 (date code: 1940)

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



#### Time Table Summary:

	September 2019		October 2019						
Workweek	36	37	38	39	40	41	42	43	44
Qual Report Availability	Х								
Final PCN Issue Date	Х								
Estimated Implementation					V				
Date					^				

#### Method to Identify Change:

Traceability code

#### **Qualification Report:**

Please open the attachments included with this PCN labeled as PCN\_#\_Qual Report.

#### **Revision History:**

September 5, 2019: Issued final notification.

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\_JAON-02XYUD377\_Qual\_Report.pdf

Please contact your local <u>Microchip sales office</u> with questions or concerns regarding this notification.

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

JAON-02XYUD377 - CCB 3599.002 Final Notice: Qualification of ASE as a new assembly site for selected Micrel KSZ8895 device family available in 128L PQFP (14x20x2.72mm) package.

Affected Catalog Part Numbers (CPN)

KSZ8895FQXC KSZ8895FQXCA KSZ8895FQXC-TR KSZ8895FQXI KSZ8895FQXIA KSZ8895FQXI-TR KSZ8895MQXC KSZ8895MQXCA KSZ8895MQXC-TR KSZ8895MQXI KSZ8895MQXIA KSZ8895MQXI-TR KSZ8895RQXC KSZ8895RQXCA KSZ8895RQXCA-TR KSZ8895RQXC-TR KSZ8895RQXI KSZ8895RQXIA KSZ8895RQXI-TR



# **QUALIFICATION REPORT SUMMARY**

PCN #: JAON-02XYUD377

Date

July 31, 2019

Qualification of ASE as a new assembly site for selected Micrel KSZ8382Q device family available in 128L PQFP (14x20x2.72mm) package. The selected Micrel KSZ8895 device family available in 128L PQFP (14x20x2.72mm) package will qualify by similarity (QBS).

#### Purpose: Qualification of ASE as a new assembly site for selected Micrel KSZ8382Q device family available in 128L PQFP (14x20x2.72mm) package. The selected Micrel KSZ8895 device family available in 128L PQFP (14x20x2.72mm) package will qualify by similarity (QBS).

#### Summary:

The purpose of this report is to qualify mask XKBC1 (KSZ8382Q) in PQFP 128 LD 14x20x2.7 mm (C2A) package ASE, Taiwan per CCB# 3599 and following guidelines established in Microchip specification QCI-39000, "Worldwide Quality Conformance Requirements".

#### I. Conclusion:

Based on the results, XKBC1(KSZ8382Q) in PQFP 128 LD 14x20x2.7 mm at ASE complies with the reliability guidelines implemented in the qualification plan. Therefore, this part/package can be released to production.

#### II. Device Description:

Device	KSZ8382Q
Document Control Number	ML0820190020
Document Revision	A
CCB No.	3599, 3599.001 and 3599.002

#### III. Qualification Material:

Test Lot	Lot 1	Lot 2	Lot 3
WAFER LOT	DU02917014676.100/	DU02917014676.100/	DU02917014676.100/
	M145H01	M145H01	M145H01
ASSEMBLY LOT	ASE193400588.000	ASE193400590.000	ASE193500003.000
PACKAGE	PQFP 128 LD	PQFP 128 LD	PQFP 128 LD
	14x20x2.7 mm	14x20x2.7 mm	14x20x2.7 mm
QUAL TESTS	PRECOND, HTSL, HAST, UHAST, TC	PRECOND, HAST, UHAST, TC	PRECOND, HAST, UHAST, TC

#### IV. Bill of Materials:

	Assembly site	ASE	
Misc.	BD Number	AAH@K-I-0128-70A640-0	
	MP Code (MPC)	XKBC11C2AA03	
	Part Number (CPN)	KSZ8382Q	
	Paddle size	236x236	
	Material	C7025	
	Manufacturer	SHINKO	
Load Framo	DAP Surface Prep	N/A	
Leau-Flaine	Treatment	N/A	
	Process	Stamp	
	Part Number	K-I-0128-70-A	
	Lead Plating	Matte Sn	
Bond Wire	Material	Au	
Die Attach	Part Number	CRM-1076WA	
	Conductive	Yes	
MC	Part Number	EME-G631H	
	PKG Type	QFP	
<u>PKG</u>	Pin/Ball Count	128	
	PKG width/size	14x20x2.7 mm	
	Die Thickness	15 mils	
Die	Die Size	152x165 mil	
	Fab Process (site)	DongBu/0.11 um	

#### V. Qualification Data:

#### Package Preconditioning

Test Method/Condition	JEDEC J-STD-020D and JESD22-A113F,
	MSL Level 3 soak and +260°C peak Reflow Temperature
Lot #	Results (Fail/Pass)
	Min SS = 231
Lot 1	0/270
Lot 2	0/270
Lot 3	0/270

Pre and Post testing was conducted at +25°C

#### HAST (Highly Accelerated Temperature and Humidity Stress Test)

Test Method/Condition	JESD22-A110, Vin 3.3V & 1.2V, Ta = +130°C/85%RH, 96 HRS . Min SS = 77 units
Lot #	Results (Fail/Pass)
Lot 1	0/82 @ 96 hrs
Lot 2	0/82 @ 96 hrs
Lot 3	0/80 @ 96 hrs

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

#### UNBIASED HAST

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

Pre and Post testing was conducted at +25°C

#### **Temperature Cycling**

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

Pre and Post testing was conducted at +85°C

#### **High Temperature Storage Life**

Test Method/Condition	JESD22-A103, Ta = +175 °C, 504 HRS Min SS = 45 units
Lot #	Results (Fail/Pass)
Lot 1	0/50 @ 504 HRS

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

# VI. Wire Pull/Ball Shear/Solderability

Lot #1:

Test Item	Sample Size/ Unit	Comment
Wire Pull	200wires	Pass
Ball Shear	100 balls	Pass
Solderabilty	22	Pass

Lot #2

Test Item	Sample Size/ Unit	Comment
Wire Pull	200wires	Pass
Ball Shear	100 balls	Pass
Solderabilty	22	Pass

Lot #3

Test Item	Sample Size/ Unit	Comment
Wire Pull	200 wires	Pass
Ball Shear	100 balls	Pass
Solderabilty	22	Pass

## VII. Physical Dimension:

Test Method/Condition	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