

## Product Change Notification - KSRA-05XGMC821

**Date:**

14 Aug 2019

**Product Category:**

Ethernet Switches; Ethernet Controllers

**Affected CPNs:**

**Notification subject:**

CCB 3861 and 3861.001 Initial Notice: Qualification of ASE as a new assembly site for selected products available in 100L LFBGA (9x9x1.38mm and 10x10x1.42mm) packages.

**Notification text:**
**PCN Status:**

Initial 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 available in 100L LFBGA (9x9x1.38mm and 10x10x1.42mm) packages.

**Pre Change:**

Assembled at OSE assembly site using 2300 die attach, E770 molding compound materials and 25+/-10um solder mask thickness.

**Post Change:**

Assembled at ASE assembly site using 2100 die attach, KE-G1250NAS molding compound materials and 30 +/-10um solder mask thickness.

**Pre and Post Change Summary:**

|                           |                           | Pre Change                                  | Post Change    |
|---------------------------|---------------------------|---|----------------|
| Assembly Site             |                           | Orient Semiconductor Electronics, Ltd (OSE) | ASE Inc. (ASE) |
| Wire material             |                           | Au  | Au             |
| Die attach material       |                           | 2300  | 2100           |
| Molding compound material |                           | E770  | KE-G1250NAS    |
| Substrate material        | Core                      | HL832NX                                     | HL832NX        |
|                           | Solder Mask               | AUS308                                      | AUS308         |
|                           | Solder Mask Thickness     | 25+/-10um                                   | 30+/-10 um     |
| Solder Ball               | 100L LFBGA (10x10x1.42mm) | SAC405                                      | SAC405         |

|  |                            |        |        |
|--|----------------------------|--------|--------|
|  | )                          |        |        |
|  | 100L LFBGA<br>(9x9x1.38mm) | SAC305 | SAC305 |

**Impacts to Data Sheet:**

None

**Change Impact:**

None

**Reason for Change:**

To improve on time delivery performance by qualifying ASE as a new assembly site

**Change Implementation Status:**

In Progress

**Estimated Qualification Completion Date:**

October 2019

Note: Please be advised the qualification completion times may be extended because of unforeseen business conditions however implementation will not occur until after qualification has completed and a final PCN has been issued. The final PCN will include the qualification report and estimated first ship date. Also note that after the estimated first ship date guided in the final PCN customers may receive pre and post change parts.

**Time Table Summary:**

| Workweek                 | August 2019 |    |    |    |    | --> | October 2019 |    |    |    |    |
|--------------------------|-------------|----|----|----|----|-----|--------------|----|----|----|----|
|                          | 31          | 32 | 33 | 34 | 35 |     | 40           | 41 | 42 | 43 | 44 |
| Initial PCN Issue Date   |             |    |    | X  |    |     |              |    |    |    |    |
| Qual Report Availability |             |    |    |    |    |     |              |    | X  |    |    |
| Final PCN Issue Date     |             |    |    |    |    |     |              |    | X  |    |    |

**Method to Identify Change:**

Traceability code

**Qualification Plan:**

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

**Revision History:**

**August 14, 2019:** Issued initial 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\\_KSRA-05XGMC821\\_Qual\\_Plan.pdf](#)

Please contact your local [Microchip sales office](#) with questions or concerns regarding this notification.

**Terms and Conditions:**

If you wish to receive Microchip PCNs via email please register for our PCN email service at our



[PCN home page](#) select register then fill in the required fields. You will find instructions about registering for Microchips PCN email service in the [PCN FAQ](#) section. 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)

KSZ8841-16MBL  
KSZ8841-16MBLI  
KSZ8842-16MBL  
KSZ8842-16MBLI  
KSZ8842-16MBLI-TR  
KSZ8893MBL  
KSZ8893MBLI  
KSZ8893MBL-TR



## **QUALIFICATION PLAN SUMMARY**

**PCN#: KSRA-05XGMC821**

**Date:**  
**June 12, 2019**

**Qualification of ASE as a new assembly site for selected products available in 100L LFBGA (9x9x1.38mm and 10x10x1.42mm) packages.**

**Purpose:** Qualification of ASE as a new assembly site for selected products available in 100L LFBGA (9x9x1.38mm and 10x10x1.42mm) packages.

**CCB No.:** 3861 and 3861.001

|                   |  |   |
|-------------------|--|---|
| <b>Misc.</b>      | Assembly site                            | ASE   |
|                   | BD Number                                | AAH@A27117004-0                               |
|                   | MP Code (MPC)                            | TARA17AAAA02                                  |
|                   | Part Number (CPN)                        | KSZ8842-16MBLI                                |
|                   | MSL information                          | MSL3 / 260                                    |
|                   | Assembly Shipping Media (T/R, Tube/Tray) | Tray (Shinon 150'C SL-BG101024TJ-4)           |
|                   | Base Quantity Multiple (BQM)             | 240pcs (10x24) - tray MPC<br>1000pcs – TR MPC |
|                   | Reliability Site                         | MCHP SJ Rel                                   |
|                   | Core Material                            | HL832NX                                       |
| <b>Substrate</b>  | Core Thickness                           | 200+/-30                                      |
|                   | L1/L2 Thickness                          | 18um  |
|                   | SM Material                              | AUS308  |
|                   | Process                                  | Normal  |
|                   | SM Thickness                             | 30+/-10                                       |
|                   | Part Number                              | 1224038101 (design# A27117-0)                 |
|                   | Drill Size                               | 150 (5.9mil)                                  |
|                   | Line/Space Specs                         | 50 (1.97mil)                                  |
| <b>Bond Wire</b>  | Material                                 | Au  |
| <b>Die Attach</b> | Part Number                              | 2100AC  |
|                   | Conductive                               | Yes   |
| <b>MC</b>         | Part Number                              | KE-G1250NAS                                   |
| <b>PKG</b>        | PKG Type                                 | LFBGA   |
|                   | Pin/Ball Count                           | 100   |
|                   | PKG width/size                           | 10x10x1.42mm                                  |
|                   | Ball Pitch/Size                          | 1.0mm / 0.5mm                                 |
|                   | Solder Ball Material                     | SAC405  |
| <b>Die</b>        | Die Thickness                            | 7 mils  |
|                   | Die Size                                 | 120x190mils                                   |
|                   | Fab Process (site)                       | TSMC 0.15um                                   |

| Test Name  | Conditions   | Sample Size | Min. Qty of Spares per Lot (should be properly marked) | Qty of Lots | Total Units | Fail Accept Qty  | Est. Dur. Days | Special Instructions  |
|--|--|-------------|--|-------------|-------------|------------------|----------------|---|
| Wire Bond Pull - WBP                                 | Mil. Std. 883-2011   | 5           | 0  | 1           | 5           | 0 fails after TC | 5              | 30 bonds from a min. 5 devices.   |
| Wire Bond Shear - WBS                                | CDF-AEC-Q100-001   | 5           | 0  | 1           | 5           |                  | 5              | 30 bonds from a min. 5 devices.   |
| Solder Ball Shear                                    | JESD22B117A  | 5           | 0  | 3           | 15          |                  | 5              | 10 balls/5 units. Parts should gone Preconditioning   |
| High Temperature Storage Life (HTSL)                 | JESD22A-103. 150°C for 1008 hours. Read points at 0, 504, and 1008 hours. Electrical test pre and post stress at +25°C and hot temp.   | 45          | 5  | 1           | 50          | 0                | 45             | Spare should be properly identified.  |
| Preconditioning - Required for surface mount devices | +150°C Bake for 24 hours, moisture loading requirements per MSL level + 3X reflow at peak reflow temperature per Jecel STD-020E for package type; Electrical test pre and post stress at +25°C. JESD22A113. MSL3 260'C | 231         | 15   | 3           | 738         | 0                | 15             | Spares should be properly identified. 231 parts from each lot to be used for HAST, UHAST & Temp Cycle test. |
| Unbiased HAST  | JESD22A110. +130°C/85% RH for 96 hours or +110°C/85% RH for 264 hours. Electrical test pre and post stress at +25°C.   | 77          | 5  | 3           | 246         | 0                | 10             | Spare should be properly identified. Use the parts which have gone through Pre-conditioning.                |
| Temp Cycle   | JESD22A104. -55°C to +125°C for 1000 cycles or -65°C to +150°C for 500 cycles . Electrical test pre and post stress at hot temp. WBP, on 5 devices from 1 lot, test following Temp Cycle stress.                       | 77          | 5  | 3           | 246         | 0                | 30             | Spare should be properly identified. Use the parts which have gone through Pre-conditioning.                |