Product Change Notification - JAON-05BOEV589

Date:

15 May 2020

Product Category:

Ethernet PHYs

Affected CPNs:

Notification subject:

CCB 2969.002 Final Notice: Qualification of MTAI as a new assembly site for Micrel KSZ8721BT catalog part number (CPN) available in 48L TQFP (7x7x1.0mm) 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 MTAI as a new assembly site for Micrel KSZ8721BT catalog part number (CPN) available in 48L TQFP (7x7x1.0mm) package.

Pre Change:

Assembled at OSE using 8340 die attach, CEL-9200HF molding compound material and MSL 3 classification

Post Change:

Assembled at MTAI using 3280 die attach and G700HA molding compound material and MSL 1 classification

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Orient Semiconductor Electronics, Ltd (OSE)	Microchip Technology Thailand (HQ) (MTAI)
Wire material	Gold (Au)	Gold (Au)
Die attach material	8340	3280
Molding compound material	CEL-9200HF	G700HA
Lead frame material	C7025	C7025
MSL Level	MSL 3	MSL 1
Shipping Media	Bakeable tray (Black)	Non-bakeable tray (Blue)
	See pre and post change comparison	

Impacts to Data Sheet:

None

Change Impact:

None

Reason for Change:

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

Change Implementation Status:

In Progress

Estimated First Ship Date:

June 15, 2020 (date code: 2025)

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

Time Table Summary:

	May 2020					**June 2020**				
Workweek	18	19	20	21	22	23	24	25	26	27
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:

May 15, 2020: 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-05BOEV589_Qual_Report.pdf

PCN_JAON-05BOEV589_Pre and Post Change_Summary.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)

KSZ8721BT

CCB 2969.002
Pre and Post Change Summary
PCN# JAON-05BOEV589

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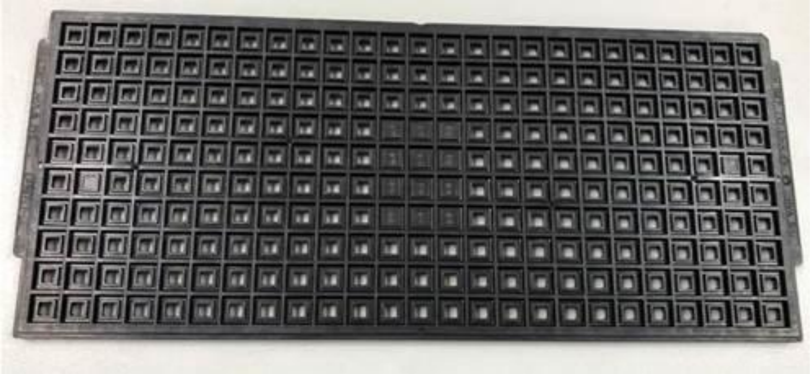
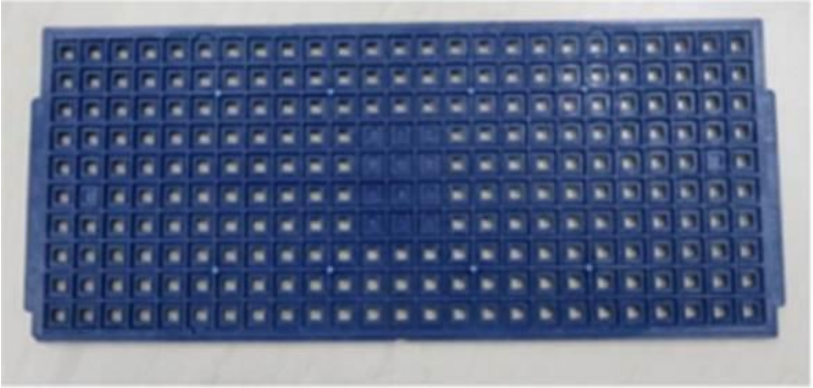
Pre and Post Change

	Pre Change	**Post Change**
Assembly Site	Orient Semiconductor Electronics, Ltd (OSE)	Microchip Technology Thailand (HQ) (MTAI)
MSL Level Classification	MSL 3	MSL 1
Shipping Media	Bakeable tray (Black)	Non-bakeable tray (Blue)
	 	

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QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: JAON-05BOEV589

Date
May 7, 2020

Qualification of MTAI as a new assembly site for selected products available in 64L TQFP (10x10x1mm) package. The qualification of MTAI as a new assembly site for Micrel KSZ8721BT catalog part number (CPN) available in 48L TQFP (7x7x1.0mm) package will qualify by similarity (QBS).

PACKAGE QUALIFICATION REPORT

Purpose	Qualification of MTAI as a new assembly site for selected products available in 64L TQFP (10x10x1mm) package. The qualification of MTAI as a new assembly site for Micrel KSZ8721BT catalog part number (CPN) available in 48L TQFP (7x7x1.0mm) package will qualify by similarity (QBS).
CN	ES112160-21758
QUAL ID	Q17143 Rev. A
CCB No.	2969.002
MP CODE	YGAW19V2XVCE
Part No.	DSPIC33FJ128MC506A-H/PTVAO
Bonding No.	BDM-001387 Rev. A

Package

Type	64L TQFP
Package size	10x10x1 mm

Lead Frame

Paddle size	275 x 275 mils
Material	C7025
Surface	Bare Cu on DAP
Process	Stamped
Lead Lock	No
Part Number	10106403
Treatment	Roughened

Material

Epoxy	3280
Wire	Au wire
Mold Compound	G700HA
Plating Composition	Matte Tin

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI181702332.000	TC03917461622.130	1729WYA
MTAI181902186.000	TC11916341364.100	1731KC3
MTAI181902187.000	TC03918146206.000	1731KC5

Result ☒ Pass ☐ Fail ☐ __________________

64L TQFP (10x10x1 mm) assembled by MTAI pass reliability test per QCI-39000. This package was qualified the Moisture/Reflow Sensitivity Classification Level 1 at 260°C reflow temperature per IPC/JEDEC J-STD-020D standard.

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Moisture/Reflow Sensitivity Classification Test (At MSL Level 1)	85°C/ 85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 (IPC/JEDEC J-STD-020D)	IPC/JEDEC J-STD-020D	135	0/135	Pass	

Precondition Prior Perform Reliability Tests (At MSL Level 1)	**Electrical Test :**+25°C and 150°C System: J750	JESD22-A113	693(0)	693		Good Devices
	Bake 150°C, 24 hrs System: CHINEE			693		
	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH			693		
	3x Convection-Reflow 265°C max			693		
	System: Vitronics Soltec MR1243					
	Electrical Test :+25°C and 150°C System: J750			0/693	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	**Stress Condition:** (Standard) -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H	JESD22-A104		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +150°C System: J750		231(0)	0/231	Pass	77 units / lot
	Bond Strength: Wire Pull (> 2.5 grams)		15 (0)	0/15	Pass	
	Bond Shear (>15.00 grams)		15 (0)	0/15	Pass	
UNBIASED-HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: J750		231(0)	0/231	Pass	77 units / lot
HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. **Bias Volt:** 5.5 Volts System: HAST 6000X	JESD22-A110		231		Parts had been pre-conditioned at 260°C
	Electrical Test: + 25°C ,85°C and 125°C System: J750		231(0)	0/231	Pass	77 units / lot

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 500 hrs System: SHEL LAB **Electrical Test :**+150°C System: J750	JESD22-A103	45(0)	45 0/45	Pass	45 units
Solderability Temp 215°C	**Steam Aging:** Temp 93°C,8Hrs System: SAS-3000 Solder Dipping: Solder Temp.215°C Solder material: SnPb Sn63,Pb37 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	JESD22B-102E	22 (0)	22 22 0/22	Pass	
Solderability Temp 245°C	**Steam Aging:** Temp 93°C,8Hrs System: SAS-3000 Solder Dipping:Solder Temp.245°C Solder material:Pb Free Sn 95.5Ag3.9 Cu0.6 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	JESD22B-102E	22 (0)	22 22 0/22	Pass	
Physical Dimensions	Physical Dimension, 30 units from 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (> 2.5 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>15.00 grams)	JESD22-B116	30 (0) bonds	0/30	Pass	