Product Change Notification - LIAL-31DUML707

Date:
04 Oct 2019
Product Category:
Others; Ethernet PHYs
Affected CPNs:

Notification subject:
CCB 3771 Final Notice: Qualification of GTK as a new assembly site for selected Micrel KSZ87XX device family available in 48L SSOP (15.8x7.6mm) 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 GTK as a new assembly site for selected Micrel KSZ87XX device family available in 48L SSOP (15.8x7.6mm) package.

Pre Change:
Assembled at OSE using 8340 die attach, CEL-9220HF mold compound and C7025 lead frame material

Post Change:
Assembled at GTK using EN-4900GC die attach, G600F mold compound and A194 lead frame material

Pre and Post Change Summary:

		Pre Change	Post Change
Assembly Site		Orient Semiconductor Electronics, Ltd (OSE)	GREATEK ELETRONIC INC. (GTK)
Wire material		Au	Au
Die attach material	**Bottom die**	8340	EN-4900GC
	Top die*	QMI-550	HR-5104
Molding compound material		CEL-9220HF	G600F
Lead frame material		C7025	A194

*applicable only for multi-die products.

Impacts to Data Sheet:
None

Change Impact:
None

Reason for Change:
To improve on-time delivery performance by qualifying GTK as a new assembly site.

Change Implementation Status:
In Progress

Estimated First Ship Date:
November 4, 2019 (date code: 1945)

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

	April 2019					-->	October 2019					November 2019			
Workweek	14	15	16	17	18		40	41	42	43	44	45	46	47	48
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:
April 2, 2019: Issued initial notification
October 4, 2019: Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on November 4, 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-31DUML707_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)

KSZ8721B
KSZ8721BI
KSZ8721BI-TR
KSZ8721B-TR
KSZ8721SL
KSZ8721SLI
KSZ8721SLI-TR
KSZ8721SL-TR
SPNZ801026-TR
SPNZ801027-TR

QUALIFICATION REPORT SUMMARY

PCN#: LIAL-31DUML707

Date
September 23, 2019

Qualification of GTK as a new assembly site for selected Micrel KSZ87XX device family available in 48L SSOP (15.8x7.6mm) package.

Purpose: **Qualification of GTK as a new assembly site for selected Micrel KSZ87XX device family available in 48L SSOP (15.8x7.6mm) package.**

Summary:

The purpose of this report is to qualify 36063(KSZ8721SL) in 48L SSOP 15.8x7.6mm at Greatek, Taiwan per CCB# 3771 and following guidelines established in Microchip specification QCI-39000, "Worldwide Quality Conformance Requirements".

I. Conclusion:

Based on the results, 36063(KSZ8721SL) in 48L SSOP at Greatek complies with the reliability guidelines implemented in the qualification plan. Therefore, this part/package can be released to production.

II. Device Description:

Device	KSZ8721SL
Document Control Number	ML092019006V
Document Revision	A
CCB No.	3771

III. Qualification Material:

Test Lot	Lot 1	Lot 2	Lot 3
WAFER LOT	TC03919426416.000	TC03919426416.000	TC03919426416.000
ASSEMBLY LOT	GTK200100020.000	GTK200100001.000	GTK200100002.000
PACKAGE	SSOP 48 LD 15.8x7.6mm	SSOP 48 LD 15.8x7.6mm	SSOP 48 LD 15.8x7.6mm
QUAL TESTS	PRECOND, HTSL, HAST, UHAST, TC	PRECOND, HAST, UHAST, TC	PRECOND, HAST, UHAST, TC

IV. Bill of Materials

Miscellaneous	Assembly site	GTK
	BD Number	GTK1903155A
	MP Code (MPC)	360631E6AA01
	Part Number (CPN)	KSZ8721SL
	CCB No.	3771
Lead-Frame	Paddle size	150x150mil
	Material	A194
	DAP Surface Prep (Spot/Ring/DRP)	Double Ring
	Treatment (roughened/ brown oxide (BOT) /micro-etched/ none)	None
	Process (stamped/Etched)	Stamped
	Lead-lock (Y/N)	No
	Part Number	11-0248W-004
	Lead Plating (Matte Sn, SnPb, PPF)	Matte Sn
	Strip Size	213.06*58.42
	Strip Density	40units (4x10)
Bond Wire	Material	Au
	Wire Diameter	1.0mil
Die Attach	Part Number (Bottom Die)	EN-4900GC
	Conductive	Yes
	Part Number (Top Die)	HR-5104
	Conductive	No
Mold Compound	Part Number	G600F
PKG	PKG Type	SSOP
	Pin/Ball Count	48
	PKG width/size	15.8x7.6mm
Die	Die Thickness (Bottom Die)	8 mils
	Die Size	78.71 x 84.21
	Fab Process (site)	TSMC 0.25um
	Die Thickness (Top Die)	8 mils
	Die Size	38.98 x 46.06
	Fab Process (site)	TMPE_NON_150K

V. 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) Min SS = 231
Lot 1	0/255
Lot 2	0/255
Lot 3	0/255

Pre and Post testing was conducted at +25◦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 @ 96 hrs
Lot 2	0/82 @ 96 hrs
Lot 3	0/82 @ 96 hrs

Pre and Post testing was conducted at +25◦C

HAST

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 @ 96 hrs
Lot 2	0/82 @ 96 hrs
Lot 3	0/82 @ 96 hrs

Pre and Post testing was conducted at +25◦C and +85◦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 @500 cyc ; WBP 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 = +150 °C, 504 HRS and 1008 HRS Min SS = 45 units
Lot #	Results (Fail/Pass)
Lot 1	0/50 @ 504 HRS and 0/50 @ 1008 hrs

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

VI. Wire Pull/Ball Shear/Solderability

Lot #1:

Test Item	Sample Size	Comment
Wire Pull	30 wires	Pass
Ball Shear	35 balls	Pass
Solderabilty	22	Pass

Lot #2

Test Item	Sample Size	Comment
Wire Pull	30 wires	Pass
Ball Shear	35 balls	Pass
Solderabilty	22	Pass

Lot #3

Test Item	Sample Size	Comment
Wire Pull	30 wires	Pass
Ball Shear	35 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