Product Change Notification - RMES-23CSSZ273

Date:
24 Feb 2020
Product Category:
Ethernet PHYs
Affected CPNs:

Notification subject:
CCB 3437 Final Notice: Qualification of GTK as a new assembly site for selected Micrel KSZ9021xx device family available in 64L LQFP (10x10x1.4mm) 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 KSZ9021xx device family available in 64L LQFP (10x10x1.4mm) package.

Pre Change:
Assembled at TICP using CEL-9200 mold compound material
Post Change:
Assembled at GTK using G700H mold compound
Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Taiwan IC Packing Corp (TICP)	GREATEK ELETRONIC INC. (GTK)
Wire material	Au	Au
Die attach material	EN4900	EN4900
Molding compound material	CEL-9200	G700H
Lead frame material	C7025	C7025

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:

March 24, 2020 (date code: 2013)
Note: Please be advised that after the estimated first ship date customers may receive pre and post change parts.

Time Table Summary:

	June 2019					->	February 2020					March 2020				
Workweek	22	23	24	25	26		05	06	07	08	09	10	11	12	13	14
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:
June 26, 2019: Issued initial notification.
February 24, 2020: Issued final notification. Attached the qualification report. Revised the notification subject/description of change to state the device family affected.
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_RMES-23CSSZ273_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)

KSZ9021RL

KSZ9021RLI

Qualification Report Summary

PCN #: RMES-23CSSZ273

Date:
January 15, 2020

Qualification of GTK as a new assembly site for selected Micrel KSZ9021xx device family available in 64L LQFP (10x10x1.4mm) package.

I. Summary:

The purpose of this report is to qualify Mask #TASA1 (KSZ9021RL) in Epad LQFP 10x10x 1.4mm, 64 leads package at Greatek, Taiwan, per CCB# 3437, following guidelines established in Microchip specification QCI-39000, “Worldwide Quality Conformance Requirements”.

II. Conclusion:

Based on the test results, Mask #TASA1 (KSZ9021RL) in Epad LQFP 10x10x 1.4mm, 64 leads package at Greatek, Taiwan package pass the reliability tests required for release to production.

III. Device Description:

Device	KSZ9021RLI
MPC	TASA17CFAA01
CCB No	3437
Document Control Number	ML022020000U
Document Revision	A

IV. Qualification Material:

Test Lot	Lot 1	Lot 2	Lot 3
ASSEMBLY LOT	GTK201200026.000	GTK201200027.000	GTK201300001.000
PACKAGE	64L-LQFP EP 10x10x 1.4mm	64L-LQFP EP 10x10x 1.4mm	64L-LQFP EP 10x10x 1.4mm
QUAL TESTS	PRECOND, HTSL, HAST, UHAST, TC	PRECOND, HAST, UHAST, TC	PRECOND, HAST, UHAST, TC

V. Bill of Materials:

Misc.	Assembly site	GTK
	BD Number	GTK1903231C
	MP Code (MPC)	TASA17CFAA01
	Part Number (CPN)	KSZ9021RLI
Lead-Frame	Paddle size	275 x 275 mils
	Material	C7025
	DAP Surface Prep	Double Ring
	Treatment	None
	Process	Etched
	Lead-lock	No
	Part Number	11-08064-206
	Lead Plating	Matte Sn
	Strip Size	215.5*45.7mm
	Strip Density	Matrix (2 rows), 20unit/strip, 2x10
Bond Wire	Material	Au
Die Attach	Part Number	EN-4900GC
	Conductive	Yes
MC	Part Number	G700H
PKG	PKG Type	LQFP (epad)
	Pin/Ball Count	64
	PKG width/size	10x10x1.4

VI. 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)
Lot 1	0/255
Lot 2	0/255
Lot 3	0/255

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, Ta = +130ºC/85%RH, 96 HRS Min SS = 77 units
Lot #	Results (Fail/Pass)
Lot 1	0/79 @ 96 hrs
Lot 2	0/79 @ 96 hrs
Lot 3	0/79 @ 96 hrs

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

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 @ 500 cycles WBP: 0 fails/5
Lot 2	0/82 @ 500 cycles
Lot 3	0/82 @ 500 cycles

Pre and Post testing was conducted at +85◦C

High Temperature Storage Life

Test Method/Condition	JESD22-A103, Ta = +150 ºC, 500 HRS Min SS = 45 units
Lot #	Results (Fail/Pass)
Lot 1	0/50 @ 500 hrs

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

VII. Wire Pull/Ball Shear

Lot #1:

Test Item	Sample Size/ Unit	Comment
Wire Pull	30 wires	Pass
Ball Shear	30 balls	Pass
Solderability	22 units	Pass

Lot #2

Test Item	Sample Size/ Unit	Comment
Wire Pull	30 wires	Pass
Ball Shear	30 balls	Pass
Solder Ball Shear	22 units	Pass

Lot #3

Test Item	Sample Size/ Unit	Comment
Wire Pull	30 wires	Pass
Ball Shear	40 balls	Pass
Solder Ball Shear	22 units	Pass

VIII. 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