Product Change Notification / MFOL-07PXJU937

Date:

09-May-2023

Product Category:

Memory

PCN Type:

Manufacturing Change

Notification Subject:

CCB 6233 Final Notice: Qualification of 95x155 mils leadframe paddle size for selected AT25512 and AT25M01 device families available in 8L SOIC (3.90mm) package at ANAP assembly site.

Affected CPNs:

MFOL-07PXJU937_Affected_CPN_05092023.pdf
MFOL-07PXJU937_Affected_CPN_05092023.csv

Notification Text:

PCN Status: Final Notification

PCN Type: Manufacturing Change

Microchip Parts Affected: Please open one of the files found in the Affected CPNs section.
Note: For your convenience Microchip includes identical files in two formats (.pdf and .xls)

Description of Change: Qualification of 95x155 mils leadframe paddle size for selected AT25512 and AT25M01 device families available in 8L SOIC (3.90mm) package at ANAP assembly site.

Pre and Post Change Summary:

	Pre Change	Post Change

Assembly Site	Amkor Technology Philippine (P1/P2), INC. (ANAP)	Amkor Technology Philippine (P1/P2), INC. (ANAP)
Wire Material	PdCu/Au	PdCu/Au
Die Attach Material	8290	8290
Molding Compound Material	G700A/G600	G700A/G600
Lead-Frame Material	C194	C194
Lead-Frame Paddle Size	90x130 mils	95x155 mils
	See Pre and Post change comparison.	

Impacts to Data Sheet: None

Change Impact: None

Reason for Change: To improve manufacturability by qualifying 95x155 mils leadframe paddle size at ANAP assembly site.

Change Implementation Status: In Progress

Estimated First Ship Date: May 31, 2023 (date code: 2322)

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

Time Table Summary:

	May 2023				
Workweek	18	19	20	21	22
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 09, 2023: 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.

Attachments:

PCN_MFOL-07PXJU937_Pre and Post Summary.pdf
PCN_MFOL-07PXJU937_Qual Report.pdf

Please contact your local Microchip sales office with questions or concerns regarding this notification.

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QUALIFICATION REPORT SUMMARY

PCN ID#: MFOL-07PXJU937

Date:
April 13, 2022

Qualification of 95x155 mils leadframe paddle size for selected AT25512 and AT25M01 device families available in 8L SOIC (3.90mm) package at ANAP assembly site.

Purpose: Qualification of 95x155 mils leadframe paddle size for selected AT25512 and AT25M01 device families available in 8L SOIC (3.90mm) package at ANAP assembly site.

CCB No: 4406 and 6233

I. Summary

This report summarizes the results of stresses performed on the 8L-SOIC using 358A173BXC06 / AT25128B-SSHL (35.8k technology) with cu-wire (CuPdAu) assembled at Amkor / ANAP. These assembly lots were processed through the entire production package assembly process and stressed to the package qualification guidelines established in Microchip specification QCI-39000 at a Moisture/Reflow Sensitivity Classification Level 1 (MSL1) at 260°C reflow temperature per IPC/JEDEC J-STD-020D standard.

Conclusion - This report presents data that qualifies the existing industrial products of the 35.xK and 36.xK process in the copper wire 8L-SOIC package of Amkor / ANAP package assembly using masks 358A1, 365S6, 363V2, and 363V4.

II. Description of Package / Die selected for Qualification

Assembly site	Amkor / ANAP
CPN	AT25128B-SSHL
MPN	358A173BXC06
BD number	w358A1syu, rev. B
Package Pin Count	8
Package Group	SOIC (150 mil wide)
Package Size	3.9x4.9mm
LF PN	101378808
Lead plating	NiPdAu PPF
Paddle Size	90 x 90 mils
LF Material / Surface	C194 / none
Process / Lead Lock	Stamped / no
Die Attach	8290 conductive
Wire	CuPdAu
Mold Compound	G700A

III. Manufacturing Information

Lot #	Assembly Lot Number	Wafer Lot Number	Date Code
Lot 1	212000226ANAP	9Y0632	2033
Lot 2	202500212ANAP	9W1801	1938
Lot 3	202100219ANAP	9U7116	1934

IV. Stress Results

- Unless otherwise noted, electrical testing was performed at +25C, +85°C and +125°C.

MSL1 Moisture Soak Evaluation & Precondition Prior to Stresses

Test Method	JESD22-A113; IPC/JEDEC J-STD-020
Test Condition	Bake 24 hours at +150°C Soak 85% RH / 168 hours 3x Convection Reflow 260°C
Moisture Reflow Sensitivity Level	1
Moisture Level Evaluation	
Sample Size	50 each lot / 3 lots
Electrical Results (Fail / Pass)	0 / 150
Moisture Soak Precondition Prior to TC / UHST / HAST stresses	
Electrical Results (Fail / Pass)	0 / 738

High Temperature Storage

Test Method	JESD22-A103
Test Condition	175°C / 1008 hours
Sample Size	50 each lot / 3 lots
Results (Fail / Pass)	0 / 150

Temperature Cycling

Test Method	JESD22-A104
Test Condition	-65°C / 150°C Air to Air / 1000 Cycles
Sample Size	82 each lot / 3 lots
85°C &125°C Electrical Results (Fail / Pass)	0 / 246

Unbiased HAST

Test Method	JESD22-A118
Test Condition	130°C / 85% RH / 192 hours
Sample Size	82 each lot / 3 lots
Unbiased Electrical Results (Fail / Pass)	0 / 246

Biased HAST

Test Method	JESD22-A110
Test Condition	5.5V / 130°C / 85% RH / 192 hours
Sample Size	82 each lot / 3 lots
Electrical Results (Fail / Pass)	0 / 246

Wire Pull Post HTS

Test Method	JESD22-B115
Test Condition	> 3 grams
Required Sample Size	30 each lot / 1 lot min
Results (Fail / Pass)	0/30

CCB 6233
PCN ID#: MFOL-07PXJU937

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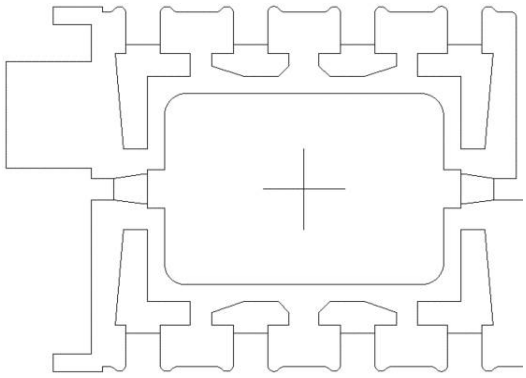
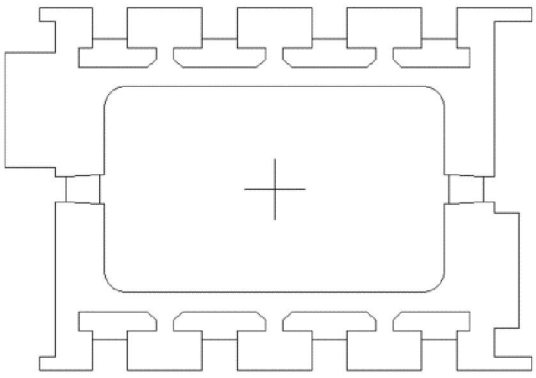
Pre and Post Summary – Leadframe drawing/lay-out comparison

ANAP	ANAP
	
Leadframe Paddle Size: 90x130mils	Leadframe Paddle Size: 95x155mils

Note: Not fit to scale

MFOL-07PXJU937 - CCB 6233 Final Notice: Qualification of 95x155 mils leadframe paddle size for selecte

Affected Catalog Part Numbers(CPN)

AT25512N-SH-B-899
AT25512N-SH-T-834
AT25512N-SH-T-899
AT25512N-SH-B
AT25512N-SH-T
AT25M01-SSHM-B
AT25M01-SSHM-T