Product Change Notification / GDOS-04EWFZ700

Date:

07-Feb-2024

Product Category:

Crypto Memory

PCN Type:

Manufacturing Change

Notification Subject:

CCB 6792 Initial Notice: Qualification of MTAI as an additional assembly site for selected AT88SC0104CA, AT88SC0204CA, AT88SC0404CA and AT88SC0808CA device families available in 8L SOIC (.150in) package using CuPdAu wire.

Affected CPNs:

GDOS-04EWFZ700_Affected_CPN_02072024.pdf
GDOS-04EWFZ700_Affected_CPN_02072024.csv

Notification Text:

PCN Status: Initial 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 MTAI as an additional assembly site for selected AT88SC0104CA, AT88SC0204CA, AT88SC0404CA and AT88SC0808CA device families available in 8L SOIC (.150in) package using CuPdAu wire.

Pre and Post Change Summary:

	Pre Change		Post Change		
Assembly Site	ATX Semiconductor (Shanghai)Co. Ltd (ASSH)		ATX Semiconductor (Shanghai)Co. Ltd (ASSH)		Microchip Technology Thailand (HQ) (MTAI)
Wire Material	Au	PdCu	Au	PdCu	CuPdAu
Die Attach Material	EN-4900G		EN-4900G		QMI-519
Molding Compound Material	G700LY		G700LY		G600V
Lead-Frame Material	C194		C194		C194
DAP Surface Prep	PPF		PPF		Bare Cu
Lead Plating	NiPdAu		NiPdAu		Matte tin
Lead-Frame Design	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 an additional assembly site.

Change Implementation Status: In Progress

Estimated Qualification Completion Date: May 2024

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:

	February 2024					>	May 2024				
Workweek	05	06	07	08	09		18	19	20	21	22
Initial PCN Issue Date		x									
Qual Report Availability										x	
Final PCN Issue										x	

Date											

Method to Identify Change:
Traceability code

Qualification Plan:
Please open the attachments included with this PCN labeled as PCN_#_Qual_Plan.

Revision History:
February 07, 2024: 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.

Attachments:

PCN_GDOS-04EWFZ700_Pre_and_Post_Change_Summary.pdf
PCN_GDOS-04EWFZ700_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)

AT88SC0104CA-SH
AT88SC0204CA-SH
AT88SC0404CA-SH
AT88SC0808CA-SH
AT88SC0104CA-SH-T
AT88SC0204CA-SH-T
AT88SC0404CA-SH-T
AT88SC0808CA-SH-T

CCB 6792
Pre and Post Change Summary
PCN #: GDOS-04EWFZ700

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Pre and Post Change Summary - Lead Frame Comparison

ASSH

Lead frame material	C194
DAP Surface Prep	PPF
Lead Plating	NiPdAu

MTAI

Lead frame material	C194
DAP Surface Prep	Bare Cu
Lead Plating	Matte tin

**Note: Not fit to scale*

QUALIFICATION PLAN SUMMARY

PCN #: GDOS-04EWFZ700

Date:
January 17, 2024

Qualification of MTAI as an additional assembly site for selected AT88SC0104CA, AT88SC0204CA, AT88SC0404CA and AT88SC0808CA device families available in 8L SOIC (.150in) package using CuPdAu wire.

Purpose: **Qualification of MTAI as an additional assembly site for selected AT88SC0104CA, AT88SC0204CA, AT88SC0404CA and AT88SC0808CA device families available in 8L SOIC (.150in) package using CuPdAu wire.**

CCB No.: **6792**

Misc.	Assembly site	MTAI
	BD Number	BD-001964-03
	MP Code (MPC)	569127C2XQUL
	Part Number (CPN)	56912-MTAI-QUAL-SU
	MSL information	1
	Assembly Shipping Media (T/R, Tube/Tray)	Tube / T&R
	Base Quantity Multiple (BQM)	100 / 4000
	Reliability Site	MTAI
Lead-Frame	Paddle size	90 x 90 mils
	Material	CDA194
	DAP Surface Prep	Bare Cu
	Treatment	BOT
	Process	Stamped
	Lead-lock	No
	Part Number	10100812
	Lead Plating	Matte tin
	Strip Size	MTAI standard
	Strip Density	MTAI standard
Bond Wire	Material	CuPdAu
Die Attach	Part Number	QMI519
	Conductive	Yes
MC	Part Number	G600V
PKG	Package Type	SOIC
	Pin/Ball Count	8
	PKG width/size	150 mils

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
Standard Pb-free Solderability	J-STD-002D ; Perform 8 hour steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing. Standard Pb-free: Matte tin/ NiPdAu finish, SAC solder, wetting temp 245°C for both SMD & through hole packages.	22	5	1	27	> 95% lead coverage	5	Standard Pb-free solderability is the requirement. SnPb solderability (backward solderability- SMD reflow soldering) is required for any plating related changes and highly recommended for other package BOM changes.
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.
Wire Sweep								Required for any reduction in wire bond thickness.
Physical Dimensions	Measure per JESD22 B100 and B108	10	0	3	30		5	
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	

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
Preconditioning - Required for surface mount devices MSL 1 @ 260 C	JESD22-A113. +150°C Bake for 24 hours, moisture loading requirements per MSL level + 3X reflow at peak reflow temperature per Jedec-STD-020E for package type; Electrical test pre and post stress at +25°C.	231	15	3	738	0	15	Spares should be properly identified. 77 parts from each lot to be used for HAST, uHAST, Temp Cycle test.
HAST	JESD22-A110. +130°C/85% RH for 96 hours or 110°C/85%RH for 264 hours. Electrical test pre and post stress at +25°C and hot temp. Max test temp at 85 C	77	5	3	246	0	10	Spares should be properly identified. Use the parts which have gone through Pre-conditioning. Post-stress Electrical Test Window Time: Within 48 hours.
UHAST	JESD22-A118. +130°C/85% RH for 96 hrs or +110°C/85% RH for 264 hrs. Electrical test pre and post stress at +25°C	77	5	3	246	0	10	Spares should be properly identified. Use the parts which have gone through Pre-conditioning. Post-stress Electrical Test Window Time: Within 48 hours.

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
Temp Cycle	JESD22-A104. -65°C to +150°C for 500 cycles. Electrical test pre and post stress at hot temp; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress. Max test temp at 85 C	77	5	3	246	0	15	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.