Product Change Notification / MFOL-15ONYR698

Date:

28-Dec-2021

Product Category:

Crypto Authentication

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4925 Initial Notice: Qualification of A194 lead frame material for selected Atmel products available in 8L UDFN (2x3x0.6mm) package at MMT assembly site.

Affected CPNs:

MFOL-15ONYR698_Affected_CPN_12282021.pdf
MFOL-15ONYR698_Affected_CPN_12282021.csv

Notification Text:

Notification Body:

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 A194 lead frame material for selected Atmel products available in 8L UDFN (2x3x0.6mm) package at MMT assembly site.

Pre and Post Change Summary:

	Pre Change	**Post Change**
Assembly Site	Microchip Technology Thailand (Branch) (MMT)	Microchip Technology Thailand (Branch) (MMT)
Wire Material	CuPdAu	CuPdAu
Die Attach Material	8600	8600
Molding Compound Material	G700LTD	G700LTD
Lead-Frame Material	EFTEC-64T	A194

Impacts to Data Sheet: None

Change Impact: None

Reason for Change: To improve productivity by qualifying A194 lead frame material at MMT assembly site.

Change Implementation Status: In Progress

Estimated Qualification Completion Date: February 2022

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:

	December 2021					**>**	**February 2022**				
Workweek	49	50	51	52	53		06	07	08	09	10
Initial PCN Issue Date					X						
Qual Report Availability											X
Final PCN Issue Date											X

Method to Identify Change:
Traceability code

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

Revision History: December 28, 2021: 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_MFOL-15ONYR698_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)

ATECC608A-MAHAA-S
ATECC608A-MAHAC-S
ATECC608B-MAHAF-S
ATECC608B-MAHAK-S
ATECC608A-MAHAP-S
ATECC608A-MAHAV-S
ATECC608B-MAHCZ-S
ATECC608A-MAHD3-S
ATECC608B-MAHDA-S
ATECC508A-MAHGF-S
ATECC608A-MAHGP-S
ATECC608B-MAHHL-S
ATECC508A-MAHPH-S
ATECC508A-MAHT1-S
ATECC608A-MAH2U-T
ATECC608A-MAH3J-T
ATECC608A-MAH3P-T
ATECC608B-MAH3W-T
ATECC608A-MAH4K-T
ATECC608B-MAH5O-T
ATECC608A-MAH5P-T
ATECC608B-MAH5V-T
ATECC608B-MAHCZ-T
ATECC608B-MAHDA-T
ATECC608A-MAHGA-T
ATECC608B-MAHPA-T
ATECC608B-MAHSB-T
ATECC608B-MAHSC-T
ATECC608A-MAHVL-T
ATECC608A-MAHVM-T
ATECC608B-MAHWT-T
ATECC608B-MAHZD-T
ATECC608B-TCSMU
ATECC608B-TFLXTLSU
ATECC608A-TCSMU
ATECC608A-TFLXTLSU
ATSHA204A-MAHMD-B
ATSHA204A-MAHLE-T
ATSHA204A-MAHDA-T
ATSHA204A-MAHCZ-T
ATSHA204A-MAHLH-T
ATSHA204A-MAHLC-T
ATSHA204A-MAHDA-S
ATSHA204A-MAHCZ-S
ATSHA204A-MAHMF-S
ATSHA204A-MAHMG-S

ATSHA204A-MAHME-S
ATSHA204A-MAHPG-S
ATSHA204A-MAHZH-T
ATSHA204A-MAHNK-T
ATSHA204A-MAHJV-T
ATSHA204A-MAHJW-T
ATSHA204A-MAHJX-T
ATSHA204A-MAHPG-T
ATSHA204A-MAH1D-T
ATSHA204A-MAH1T-T
ATSHA204A-MAH2D-S
ATSHA204A-MAH1T-S
ATSHA204A-MAH2R-S
ATSHA204A-MAH3E-S
ATSHA204A-MAH3N-S
ATSHA204A-MAH3V-S
ATSHA204A-MAH3C-T
ATSHA204A-MAHLS-T
ATSHA204A-TCSMU
ATECC608B-MAHMD-B
ATECC608A-TNGACTU-B
ATECC608B-TNGACTU-B
ATECC608A-TNGLORAU-B
ATECC608A-MAHMD-B
ATECC608B-TNGLORAU-B
ATECC608B-TNGTLSU-B
ATECC608B-TFLXTLSU-PROTO
ATECC608A-TNGTLSU-B
ATECC608A-TFLXTLSU-PROTO
ATECC608A-MAHA2-B
ATECC608A-MAHT2-B
ATECC608A-MAHZN-S
ATECC608B-MAHHL-T
ATECC608B-MAHZN-S
ATECC108A-MAHUC-T
ATECC108A-MAHUT-T
ATECC108A-MAHNR-T
ATECC108A-MAHDA-T
ATECC108A-MAHCZ-T
ATECC108A-MAHZU-T
ATECC508A-MAHDA-T
ATECC508A-MAHCZ-T
ATECC508A-MAHWF-T
ATECC508A-MAHHL-T
ATECC508A-MAHDA-S
ATECC508A-MAHCZ-S
ATECC508A-MAHHL-S
ATECC508A-MAHKN-T
ATECC508A-MAHZA-T

ATECC508A-MAHZC-T
ATECC508A-MAHZG-S
ATECC508A-MAHZA-S
ATECC508A-MAHZC-S
ATECC508A-MAHUW-T
ATECC508A-MAHUZ-T
ATECC508A-MAHZK-T
ATECC508A-MAHZK-S
ATECC508A-MAHSM-S
ATECC508A-MAHAW-S
ATECC508A-MAHKN-S
ATECC508A-MAHWW-S
ATECC508A-MAHWW-T
ATECC608A-MAHDA-S
ATECC608A-MAHDA-T
ATECC608A-MAHCZ-S
ATECC608A-MAHCZ-T
ATECC608A-MAHHL-S
ATECC608A-MAHHL-T
ATECC608A-MAHA2-S
ATECC608A-TNGACTU-C
ATECC608B-TNGACTU-C
ATECC608A-TNGLORAU-C
ATECC608B-TNGLORAU-C
ATECC608B-TNGTLSU-C
ATECC608A-TNGTLSU-C
ATECC608A-MAH22-T
ATECC608A-MAHTN-T
ECC608-TFLXWPCU
ATECC608A-TNGACTU-G
ATECC608B-TNGACTU-G
ATECC608A-TNGLORAU-G
ATECC608B-TNGLORAU-G
ATECC608B-TNGTLSU-G
ATECC608A-TNGTLSU-G
ATECC508A-MAH1A-T
ATECC508A-MAH1C-T
ATECC608A-MAH1G-T
ATECC508A-MAH1Q-T
ATECC608A-MAH1W-T
ATECC608A-MAH2B-T
ATECC508A-MAH2E-T
ATECC608A-MAH2G-T
ATECC508A-MAH3A-T
ATECC608B-MAH3F-T
ATECC608A-MAHGX-T
ATECC508A-MAHJ4-S
ATECC608A-MAHLG-T
ATECC508A-MAHQA-T

ATECC508A-MAH1A-S
ATECC508A-MAH1B-S
ATECC508A-MAH1C-S
ATECC608A-MAH1G-S
ATECC608A-MAH1H-S
ATECC608A-MAH1K-S
ATECC508A-MAH1Q-S
ATECC608A-MAH1U-S
ATECC508A-MAH2F-S
ATECC608A-MAH2G-S
ATECC608A-MAH2K-S
ATECC608A-MAH2M-S
ATECC608A-MAH2V-S
ATECC608A-MAH2X-S
ATECC608A-MAH2Y-S
ATECC508A-MAH3A-S
ATECC508A-MAH3B-S
ATECC608A-MAH3Q-S
ATECC608B-MAH3S-T
ATECC608B-MAH4I-S
ATECC608A-MAH4W-T
ATECC608B-MAHA5-S
ATECC608B-MAHA6-S

QUALIFICATION PLAN SUMMARY

PCN #: MFOL-15ONYR698

Date:
November 24, 2021

Qualification of A194 lead frame material for selected Atmel products available in 8L UDFN (2x3x0.6mm) package at MMT assembly site.

Purpose: Qualification of A194 lead frame material for selected Atmel products available in 8L UDFN (2x3x0.6mm) package at MMT assembly site.

CCB No.: 4925

		Qual Vehicle
Misc.	**Assembly site**	**MMT**
	BD Number	BD-000365-01
	MP Code (MPC)	58962TQ4BSDA
	Part Number (CPN)	ATECC608B-MAHDA-T
	MSL information	1
	Assembly Shipping Media (T/R, Tube/Tray)	Bag, T&R
	Base Quantity Multiple (BQM)	2k Bag and 3k, 15k T&R
	Reliability Site	MTAI
Lead-Frame	**Paddle size**	79 x 67 mils
	Material	A194
	DAP Surface Prep	PPF
	Treatment	ME2
	Process	Etched
	Lead-lock	Yes
	Part Number	10100856
	Lead Plating	NiPdAu
	Strip Size	70 x 250 mm
	Strip Density	X1690
Bond Wire	**Material**	CuPdAu
Die Attach	**Part Number**	8600
	Conductive	Yes
MC	**Part Number**	G700LTD
PKG	**PKG Type**	UDFN
	Pin/Ball Count	8
	PKG width/size	2 x 3 x 0.6 mm

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	ATE Test Site	REL Test Site	Pkg. Type	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	MTAI	MTAI		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.
Backward Solderability	J-STD-002D ;Perform 8 hours steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing. Backward: Matte tin/ NiPdAu finish, SnPb solder, wetting temp 215°C for SMD.	22	5	1	27	> 95% lead coverage	5	MTAI	MTAI		
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	1	5	0 fails after TC	5	MTAI	MTAI		30 bonds from a min. 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5	0	5	MTAI	MTAI		30 bonds from a min. 5 devices.
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	MTAI	MTAI		
Preconditioning - Required for surface mount devices	+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. MSL-1@260	231	15	3	738	0	15	MTAI	MTAI		Spares should be properly identified. 77 parts from each lot to be used for HAST, uHAST, Temp Cycle test.
HAST	+130°C/85% RH for 96 & 192 hours Electrical test pre and post stress at +25°C and hot temp. 2X Extended stress Max temp testing at 100C.	77	5	3	246	0	10	MTAI	MTAI		Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
UHAST	+130°C/85% RH for 96 hrs Electrical test pre and post stress at +25°C	77	5	3	246	0	10	MTAI	MTAI		Spares should be properly identified. Use the parts which have gone through Pre-conditioning.

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	ATE Test Site	REL Test Site	Pkg. Type	Special Instructions
Temp Cycle	-65°C to +150°C for 500 & 1000 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. 2X Extended stress Max temp testing at 100C.	77	5	3	246	0	15	MTAI	MTAI		Spares should be properly identified. Use the parts which have gone through Pre-conditioning.