



Product Change Notification / KSRA-10RJDS922

Date:

18-Jun-2020

Product Category:

8-bit Microcontrollers

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4249 Initial Notice: Qualification of ASSH as a new assembly site for Atmel AT89C4051 device family available in 20L SOIC (.300in) package

Affected CPNs:

[KSRA-10RJDS922_Affected_CPN_06182020.pdf](#)

[KSRA-10RJDS922_Affected_CPN_06182020.csv](#)

Notification Text:

PCN Status:

Initial 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 ASSH as a new assembly site for Atmel AT89C4051 device family available in 20L SOIC (.300in) package

Pre Change:

Assembled at LPI using palladium coated copper wire (CuPdAu) and gold (Au) wire, CRM-1033BF die attach and G600 molding compound material.

Post Change: Assembled at ASSH using palladium coated copper wire with gold flash bond wire, EN4900GC die attach and

CEL9240 molding compound material.

Pre and Post Change Summary:

	Pre Change		Post Change
Assembly Site	Lingsen Precision Industries LTD. (LPI)		ASE-Shanghai (ASSH)
Wire material	CuPdAu	Au	CuPdAu
Die attach material	CRM-1033BF		EN4900GC
Molding compound material	G600		CEL9240
Lead frame material	A194		A194

Impacts to Data Sheet: None

Change Impact:None.

Reason for Change:To improve manufacturability by qualifying ASSH as a new assembly site.

Change Implementation Status:In Progress

Estimated Qualification Completion Date:December 2020

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:

	June 2020					-->	December 2020			
	27	28	29	30	1		49	50	51	52
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:June 18, 2020: 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_KSRA-10RJDS922_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.

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QUALIFICATION PLAN SUMMARY

PCN #: KSRA-10RJDS922

**Date:
May 14, 2020**

**Qualification of ASSH as an additional assembly site for
Atmel AT89C4051 device family available in 20L SOIC (.300in)
package**

Purpose: Qualification of ASSH as an additional assembly site for Atmel AT89C4051 device family available in 20L SOIC (.300in) package

Misc.	Assembly site	ASSH
	MP Code (MPC)	196567G5XC04 (Qual Vehicle) 196567G5XC05 19656TG5XC01 19656TG5XC02
	Part Number (CPN)	AT89C4051-24SU AT89C4051-12SU AT89C4051-24SUR AT89C4051-12SUR
	MSL information	MSL 2 / 260
	Assembly Shipping Media (T/R, Tube/Tray)	Tube
	Base Quantity Multiple(BQM)	37units/tube
	Reliability Site	MTAI
	CCB No.	4249
	Lead-Frame	Paddle size
Material		A194
DAP Surface Prep		DOUBLE RING
Treatment		None
Process		Etched
Lead-lock		No
Part Number		LI-WMA240020-01
Lead Plating		Matte Sn
Strip Size		78x250
Strip Density		70
Bond Wire	Material	CuPdAu
Die Attach	Part Number	EN4900GC
	Conductive	Yes
MC	Part Number	CEL9240
PKG	PKG Type	SOIC
	Pin/Ball Count	20
	PKG width/size	300mils

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot	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	LPI	MTAI	SOIC20L	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	LPI	MTAI	SOIC20L	30 bonds from a min. 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5		5	LPI	MTAI	SOIC20L	30 bonds from a min. 5 devices.
Physical Dimensions	Measure per JESD22 B100 and B108	10	0	3	30		5	LPI	MTAI	SOIC20L	
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	LPI	MTAI	SOIC20L	
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 hot temp	231	15	3	738	0	15	LPI	MTAI	SOIC20L	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 hours Electrical test pre and post stress at hot temp.	77	5	3	246	0	10				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 hot temp	77	5	3	246	0	10	LPI	MTAI	SOIC20L	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Temp Cycle	-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.	77	5	3	246	0	15	LPI	MTAI	SOIC20L	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.

Affected Catalog Part Numbers (CPN)

AT89C4051-24SU

AT89C4051-12SU

AT89C4051-24SUR

AT89C4051-12SUR