

# Product Change Notification - KSRA-31AOHM485

**Date:** 13 Jul 2017  
**Product Category:** Memory; Temperature Sensors  
**Notification subject:** CCB 2953 Initial Notice: Qualification of Matte tin lead finish for 8L SOIC at ASSH Assembly site.  
**Notification text:** **PCN Status:**  
 Initial notification

**Microchip Parts Affected:**  
 Please open the attachments found in the attachments field below labeled as PCN\_#\_Affected\_CPN.

NOTE: For your convenience Microchip includes identical files in two formats (.pdf and .xls).

**Description of Change:**  
 Qualification of Matte tin lead finish for 8L SOIC at ASSH Assembly site.

**Pre Change:**  
 Assembled at ANAP Assembly site using 8290 die attach material, and G700 molding compound material and NiPdAu lead finish or ASSH Assembly site using EN 4900G die attach material, G700 molding compound material and NiPdAu lead finish.

**Post Change:**  
 Assembled at ANAP Assembly site using 8290 die attach material, and G700 molding compound material and NiPdAu lead finish or ASSH Assembly site using EN 4900G die attach material, CEL-9240HF10AK molding compound material and Matte Tin lead finish

**Pre and Post Change Summary:**

	Pre Change		Post Change	
	ANAP Assembly Site	ASSH Assembly Site	ANAP Assembly Site	ASSH Assembly Site
<b>Assembly Site</b>	ANAP Assembly Site	ASSH Assembly Site	ANAP Assembly Site	ASSH Assembly Site
<b>Wire material</b>	CuPdAu Wire	CuPdAu Wire	CuPdAu Wire	CuPdAu Wire
<b>Die attach material</b>	8290	EN 4900G	8290	EN 4900G
<b>Molding compound material</b>	G700	G700	G700	CEL-9240HF10AK
<b>Lead frame material</b>	C194	C194	C194	C194
<b>Lead Finish</b>	NiPdAu	NiPdAu	NiPdAu	Matte Tin

**Impacts to Data Sheet:**  
 None

**Change Impact:**  
 None

**Reason for Change:**  
 To improve manufacturability by qualifying new bill of material for ASSH assembly site.

**Change Implementation Status:**  
 In Progress

**Estimated Qualification Completion Date:**  
 November 2017

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 2017					-->	November 2017				
	22	23	24	25	26		44	45	46	47	48
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 15, 2017:** Issued initial notification.  
**June 20, 2017:** Re-issued initial notification to include affected parts list and qualification plan.  
**June 23, 2017:** Re-issued initial notification to correct a typo on molding compound material from CEL-9240HF10AK and G700A/G700LS to G700.  
**July 13, 2017:** Re-issued initial notification to include ANAP Assembly site in the post change.

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\\_KSRA-31AOHM485\\_Affected CPN.pdf](#)  
[PCN\\_KSRA-31AOHM485\\_Qual Plan.pdf](#)  
[PCN\\_KSRA-31AOHM485\\_Affected CPN.xlsx](#)

Please contact your local [Microchip sales office](#) with questions or concerns regarding this notification.

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To opt out of future offer or information emails (other than product change notification emails), click here to go to [microchipDIRECT](#) and login, then click on the "My account" link, click on "Update profile" and un-check the box that states "Future offers or information about Microchip's products or services."

Affected Catalog Part Numbers (CPN)

<b>PCN_KSRA-31AOHM485</b>
<b>CATALOG_PART_NBR</b>
AT21CS01-SSHM10-T
AT21CS01-SSHM11-T
AT21CS01-SSHM12-T
AT21CS01-SSHM13-T
AT21CS01-SSHM14-T
AT21CS01-SSHM15-T
AT21CS01-SSHM16-T
AT21CS01-SSHM17-T
AT24C01C-SSHM-B
AT24C01C-SSHM-T
AT24C01D-SSHM-B
AT24C01D-SSHM-T
AT24C02BN-SH-T
AT24C02BN-SH-T-923
AT24C02C-SSHMAU-T
AT24C02C-SSHM-B
AT24C02C-SSHM-T
AT24C02C-SSHM-T-441
AT24C02C-SSHM-T-537
AT24C02C-SSHM-T-834
AT24C02C-SSHM-T-899
AT24C02C-SSHM-T-989
AT24C02D-SSHM-B
AT24C02D-SSHM-T
AT24C04BN-SH-T-923
AT24C04C-SSHMAU-T
AT24C04C-SSHM-B
AT24C04C-SSHM-T
AT24C04C-SSHM-T-834
AT24C04D-SSHM-B
AT24C04D-SSHM-T
AT24C08C-SS9M-T
AT24C08C-SSHMAU-T
AT24C08C-SSHM-B
AT24C08C-SSHM-T
AT24C08D-SSHM-B
AT24C08D-SSHM-T
AT24C1024BN-SH-T
AT24C128C-SSHMAU-T
AT24C128C-SSHM-B
AT24C128C-SSHMEU-T
AT24C128C-SSHMGT-T
AT24C128C-SSHMGT-T

Affected Catalog Part Numbers (CPN)

<b>PCN_KSRA-31AOHM485</b>
<b>CATALOG_PART_NBR</b>
AT24C128C-SSHMT
AT24C128C-SSHMT-899
AT24C128C-SSHMT-989
AT24C16C-SSHMAU-T
AT24C16C-SSHMT-B
AT24C16C-SSHMT-B-899
AT24C16C-SSHMGTT
AT24C16C-SSHMT
AT24C16C-SSHMT-899
AT24C16D-SSHMT-B
AT24C16D-SSHMT
AT24C256C-SSHLAU-B
AT24C256C-SSHLAU-T
AT24C256C-SSHL-B
AT24C256C-SSHL-B-899
AT24C256C-SSHL-B-923
AT24C256C-SSHLEMT
AT24C256C-SSHLEUT
AT24C256C-SSHLGTT
AT24C256C-SSHL-T
AT24C256C-SSHL-T-537
AT24C256C-SSHL-T-834
AT24C256C-SSHL-T-899
AT24C256C-SSHL-T-989
AT24C32D-SSHMAU-T
AT24C32D-SSHMT-B
AT24C32D-SSHMEN-T
AT24C32D-SSHMFA-T
AT24C32D-SSHMFD-T
AT24C32D-SSHMGTT
AT24C32D-SSHMT
AT24C32D-SSHMT-899
AT24C32D-SSKMT
AT24C32E-SSHMT-B
AT24C32E-SSHMT
AT24C512C-SSHDAU-T
AT24C512C-SSHD-B
AT24C512C-SSHDHB-T
AT24C512C-SSHD-T
AT24C512C-SSHD-T-834
AT24C512C-SSHD-T-899
AT24C512C-SSHMAU-T
AT24C512C-SSHMT-B

Affected Catalog Part Numbers (CPN)

<b>PCN_KSRA-31AOHM485</b>
<b>CATALOG_PART_NBR</b>
AT24C512C-SSHMEU-T
AT24C512C-SSHMGT-T
AT24C512C-SSHMHB-T
AT24C512C-SSHM-T
AT24C512C-SSHM-T-989
AT24C64AN-10SQ-2.7-T
AT24C64BN-10SU-1.8
AT24C64BN-10SU-1.8-T
AT24C64BN-10SU-2.7
AT24C64BN-10SU-2.7-T
AT24C64D-SSHMAU-B
AT24C64D-SSHMAU-T
AT24C64D-SSHM-B
AT24C64D-SSHMGT-T
AT24C64D-SSHM-T
AT24C64D-SSHM-T-899
AT24CM01-SSHD-B
AT24CM01-SSHD-T
AT24CM01-SSHM-B
AT24CM01-SSHM-T
AT24CM01-SSHM-T-834
AT24CM01-SSHM-T-989
AT24CM02-SSHD-B
AT24CM02-SSHD-T
AT24CM02-SSHM-B
AT24CM02-SSHM-T
AT24CS01-SSHM-B
AT24CS01-SSHM-T
AT24CS02-SSHM-B
AT24CS02-SSHM-T
AT24CS04-SSHM-B
AT24CS04-SSHM-T
AT24CS08-SSHM-B
AT24CS08-SSHM-T
AT24CS16-SSHM-B
AT24CS16-SSHM-T
AT24CS32-SSHM-B
AT24CS32-SSHM-T
AT24CS64-SSHM-B
AT24CS64-SSHM-T
AT24HC02C-SSHM-B
AT24HC02C-SSHM-T
AT24HC04BN-SH-B

Affected Catalog Part Numbers (CPN)

<b>PCN_KSRA-31AOHM485</b>
<b>CATALOG_PART_NBR</b>
AT24HC04BN-SH-T
AT24MAC402-SSHM-B
AT24MAC402-SSHM-T
AT24MAC602-SSHM-B
AT24MAC602-SSHM-T
AT25010B-SSHL-B
AT25010B-SSHL-B-899
AT25010B-SSHL-T
AT25010B-SSHL-T-899
AT25020B-SSHL-B
AT25020B-SSHL-B-899
AT25020B-SSHL-T
AT25020B-SSHL-T-899
AT25040B-SSHL-B
AT25040B-SSHL-B-899
AT25040B-SSHL-T
AT25040B-SSHL-T-899
AT25080B-SSHL-B
AT25080B-SSHL-B-899
AT25080B-SSHL-T
AT25080B-SSHL-T-899
AT25128AN-10SQ-2.7
AT25128AN-10SQ-2.7-T
AT25128B-SSHL-B
AT25128B-SSHL-B-899
AT25128B-SSHL-T
AT25128B-SSHL-T-899
AT25160B-SSHL-B
AT25160B-SSHL-B-899
AT25160B-SSHL-T
AT25160B-SSHL-T-899
AT25256B-SSHL-B
AT25256B-SSHL-B-899
AT25256B-SSHLHW-T
AT25256B-SSHL-T
AT25256B-SSHL-T-537
AT25256B-SSHL-T-899
AT25320AN-10SQ-2.7-T
AT25320B-SSHL-B
AT25320B-SSHL-B-899
AT25320B-SSHL-T
AT25320B-SSHL-T-537
AT25320B-SSHL-T-899

Affected Catalog Part Numbers (CPN)

<b>PCN_KSRA-31AOHM485</b>
<b>CATALOG_PART_NBR</b>
AT25512N-SH-B
AT25512N-SH-B-899
AT25512N-SH-T
AT25512N-SH-T-834
AT25512N-SH-T-899
AT25640B-SSHL-B
AT25640B-SSHL-B-899
AT25640B-SSHL-T
AT25640B-SSHL-T-537
AT25640B-SSHL-T-899
AT25M017-SSHM-T
AT25M01-SSHM-B
AT25M01-SSHM-T
AT25M02-SSHD-B
AT25M02-SSHD-T
AT25M02-SSHM-B
AT25M02-SSHM-T
AT30TS74-SS8M-B
AT30TS74-SS8M-T
AT30TS750A-SS8M-B
AT30TS750A-SS8M-T
AT30TS750-SS8-B
AT30TS750-SS8-T
AT30TS75A-SS8M-B
AT30TS75A-SS8M-T
AT30TS75-SS8-T
AT30TSE752A-SS8M-B
AT30TSE752A-SS8M-T
AT30TSE752-SS8-B
AT30TSE752-SS8-T
AT30TSE754A-SS8M-B
AT30TSE754A-SS8M-T
AT30TSE754-SS8-B
AT30TSE754-SS8-T
AT30TSE758A-SS8M-B
AT30TSE758A-SS8M-T
AT30TSE758-SS8-B
AT30TSE758-SS8-T
AT34C02D-SSHMAU-T
AT34C02D-SSHM-B
AT34C02D-SSHMHL-T
AT34C02D-SSHM-T
AT34C04-SS5M-B

Affected Catalog Part Numbers (CPN)

<b>PCN_KSRA-31AOHM485</b>
<b>CATALOG_PART_NBR</b>
AT34C04-SS5M-T
AT93C46DN-SHAU-B
AT93C46DN-SHAU-T
AT93C46DN-SH-B
AT93C46DN-SH-T
AT93C46DN-SH-T-537
AT93C46DN-SH-T-834
AT93C46DN-SH-T-989
AT93C46EN-SHAU-B
AT93C46EN-SHAU-T
AT93C46EN-SH-B
AT93C46EN-SH-T
AT93C46EN-SH-T-834
AT93C56A-10SQ-2.7-T
AT93C56B-SSHM-B
AT93C56B-SSHM-T
AT93C56B-SSHM-T-899
AT93C66A-SQ27U2-T
AT93C66B-SSHM-B
AT93C66B-SSHM-T
AT93C66B-SSHM-T-899
AT93C86A-10SU-1.8
AT93C86A-10SU-1.8-T
AT93C86A-10SU-2.7
AT93C86A-10SU-2.7-T
AT93C86A-SQ27R4



**MICROCHIP**

# **QUALIFICATION PLAN SUMMARY**

**PCN#: KSRA-31AOHM485**

**Date:  
May 17, 2017**

**Qualification of Matte tin lead finish for 8L SOIC at ASSH  
Assembly site.**



Purpose Qualification of Matte tin lead finish for 8L SOIC at ASSH Assembly site.

CCB No.: 2953

MP code: 35838T3BXC03

Part No.: AT24CM02-SSHM-T

BD No: W35838SYY

Process/CUP 35.5K 35.8K and 36.3K, Fab5 MCSO 6"; and 66.88K UMC 8" –all the same pad structure with CUP

Subcon facility	ASESH
Package type/pin	8ISOIC
Package code	C2X

Lead frame:

Part number	LI-WSO000008-0Z
Paddle size:	3.89mmx2.6mm
Material	C194
Leadframe Internal Plating (spot/ring/double ring)	Ring
Treatment roughened/brown oxide(BOT)/micro-etched/none	None
Process (Etched/Stamped)	Stamped
Leadframe thickness	0.203mm
Leadframe downset	0.152mm
Leadlock	No
Strip dimension	90x270
Strip size(row x column)	13x36
Shipped Strip/Singulated	Strip

Wire:

Material	CuPdAu
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Die Attach Epoxy:

Part Number	EN 4900G
Conductive	Conductive

Mold Compound:

Part Number	CEL-9240HF10AK
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<u>Lead finish:</u>	Matte tin
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Test Name	Conditions	Reliability Stress Read Point	Pre & Post Reliability Stress Test Temperature	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	Test Site	Special Instructions
		-40°C to +125°C datasheet operating range (E Temp)	-40°C to +125°C datasheet operating range (E Temp)								
Standard Pb-free Solderability	JESD22B-102E; Perform 8 hours of 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	CSO	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	JESD22B-102E; Perform 8 hour steam aging for Matte tin finish and 1 hr 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	CSO	
Wire Bond Pull - WBP	Mil. Std. 883-2011			5	0	1	5	0 fails after TC	5	CSO	
Wire Bond Pull - WBP	CDF-AEC-Q100-001			5	0	1	5		5	CSO	
Wire Bond Shear - WBS	CDF-AEC-Q100-001			5	0	1	5		5	CSO /MPH IL	
Physical Dimensions	Measure per JESD22 B100 and B108			10	0	3	30	0	5	CS O/ Subc on Data	

Test Name	Conditions	Reliability Stress Read Point	Pre & Post Reliability Stress Test Temperature	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	Test Site	Special Instructions
		-40°C to +125°C datasheet operating range (E Temp)	-40°C to +125°C datasheet operating range (E Temp)								
External Visual	Mil. Std. 883-2009/2010			All devices prior to submission for qualification testing	0	3	ALL	0	5	CSO	
HTSL (High Temp Storage Life)	JESD22A-103. 150°C for 1008 or 175°C for 504 hours. Read points at 1000 hours. Electrical test pre and post stress at +25°C and hot temp.	500 hrs/1000hrs Test @ -40°C. +25°C +85°C	+25°C, +85°C	45	5	1	50	0	10	CSO	Spares should be properly identified.
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-020D for package type.  MSL1 @+260°C	Test @ -40°C. +25°C +85°C	25°C, +85°C	231	15	3	738	0	15	CSO	Spares should be properly identified. 77 parts from each lot to be used for HAST, Autoclave, Temp Cycle test.
HAST	+130°C/85% RH for 96hrs + 192hrs. Electrical test pre and post stress at +25°C and hot temp.	96 hrs/192hrs Test @ -40°C. +25°C +85°C	+25°C, +85°C	77	5	3	246	0	10	CSO /PHIL	Perform per the requirements in AEC-Q006. Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
UHAST	+130°C/85% RH for 96 /192hrs	130°C/85% RH for 96 /192hrs Test @ -40°C. +25°C +85°C	+25°C,	77	5	3	246	0	10	CSO/ PHIL	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.

Test Name	Conditions	Reliability Stress Read Point	Pre & Post Reliability Stress Test Temperature	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	Test Site	Special Instructions
		-40°C to +125°C datasheet operating range (E Temp)	-40°C to +125°C datasheet operating range (E Temp)								
Temp Cycle	cond C -65°C to +150°C for 1000 Cycles... Electrical test pre and post stress at hot temp.	500/ 1000 cycles Test @ -40°C. +25°C +85°C	-+25°C, +85°C	77	5	3	246	0	15	CSO	Perform per the requirements in AEC-Q006. Spares should be properly identified. Use the parts which have gone through Pre-conditioning.