

Product Change Notification - KSRA-09FXMH544

Date: 29 Sep 2017

Product Category: 8-bit PIC Microcontrollers; 16-Bit - Microcontrollers and Digital Signal Controllers; Interface- Serial Peripherals

Notification subject: CCB 2869 Final Notice: Qualification of C194 leadframe material for selected products available in 14L TSSOP at ANAP Assembly Site

Notification text: **PCN Status:**
Final 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 C194 leadframe material for selected products available in 14L TSSOP at ANAP Assembly Site

Pre Change:

Using C7025 leadframe Material

Post Change:

Using C194 leadframe Material

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	ANAP	ANAP
Wire material	Au	Au
Die attach material	8290	8290
Molding compound material	G700	G700
Lead frame material	C7025	C194

Impacts to Data Sheet:

None

Change Impact:

None

Reason for Change:

To improve productivity by qualifying C194 leadframe at ANAP assembly site

Change Implementation Status:

In Progress

Estimated First Ship Date:

October 29,2017 (1743)

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

Time Table Summary:

	April 2017						-->	September 2017					October 2017				
Workweek	13	14	15	16	17	18		35	36	37	38	39	40	41	42	43	44
Initial PCN Issue Date					X												
Qual Report Availability												X					
Final PCN Issue Date												X					
Estimated Implementation 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:

April 24, 2017: Issued initial notification.

September 29, 2017: Issued final notification. Attached the Qualification Report. Revised the affected parts list. Provided estimated first ship date on October 29, 2017.

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-09FXMH544_Affected CPN.pdf](#)
- [PCN_KSRA-09FXMH544_Qual Report.pdf](#)
- [PCN_KSRA-09FXMH544_Affected CPN.xlsx](#)

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

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MICROCHIP

QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN #: KSRA-09FXMH544

Date
August 17, 2017

**Qualification of C194 leadframe material for selected
products available in 14L TSSOP at ANAP Assembly Site**



MICROCHIP **PACKAGE QUALIFICATION REPORT**

Purpose	Qualification of C194 leadframe material for selected products available in 14L TSSOP at ANAP Assembly Site
CN	ES105619
QUAL ID	Q17087
MP CODE	GBBZ54D4XA00
Part No.	MCP660-E/ST
Bonding No.	BDM-001313 Rev. A
CCB No.	2869
<u>Package</u>	
Type	14L TSSOP
Package size	4.4 mm
Die thickness	11 mils
Die size	82.50 x 100.00 mils
<u>Lead Frame</u>	
Paddle size	118 x 122 mils
Material	C194
Surface	DR-Ag
Process	Stamped
Lead Lock	No
Part Number	101385833
Treatment	None
<u>Material</u>	
Epoxy	8290
Wire	Au wire
Mold Compound	G700LS
Plating Composition	Matte Sn



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Location

Assembly Lot No.	Wafer Lot No.	Date Code
ANAP180500698.000	TMPE215208155.400	171704V
ANAP180500699.000	TMPE215208155.400	1717056
ANAP180600003.000	TMPE215208155.400	171805A

Result

Pass Fail _____

14L TSSOP (4.4mm) assembled by ANAP pass reliability test per QCI-39000.
This package was qualified the Moisture/Reflow Sensitivity Classification Level 1 at 260°C reflow temperature per IPC/JEDEC J-STD-020D standard.

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Moisture/Reflow Sensitivity Classification Test (At MSL Level 1)	85°C/ 85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 (IPC/JEDEC J-STD-020D)	IPC/JEDEC C J-STD- 020D	135	0/135	Pass	
<u>Precondition Prior Perform Reliability Tests (At MSL Level 1)</u>	Electrical Test :+25°C and 125°C System: ETS300 Bake 150°C, 24 hrs System: CHINEE 85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 Electrical Test :+25°C and 125°C System: ETS300	JESD22- A113	693(0)	693 693 693 0/693	 Pass	Good Devices

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	Stress Condition: -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H Electrical Test: +125°C System: ETS300 Bond Strength: Wire Pull (> 3.0 grams) Bond Shear (>21.00 grams)	JESD22-A104	231(0)	231 0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
			15 (0)	0/15	Pass	
			15 (0)	0/15	Pass	
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X Electrical Test: +25°C System: ETS300	JESD22-A118	231(0)	231 0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 6.5 Volts System: HAST 6000X Electrical Test: +25°C and 125°C System: ETS300	JESD22-A110	231(0)	231 0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs System: SHEL LAB Electrical Test : +25°C and 125°C System: ETS300	JESD22-A103	45(0)	45 0/45	Pass	45 units
Solderability Temp 245°C	Steam Aging: Temp 93°C,8Hrs System: SAS-3000 Solder Dipping:Solder Temp.245°C Solder material:Pb Free Sn 95.5Ag3.9 Cu0.6 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	JESD22-B-102E	22 (0)	22 22 0/22	Pass	
Bond Strength Data Assembly	Wire Pull (> 3.0 grams) Bond Shear (>21.00 grams)	M2011	30 (0) Wires	0/30	Pass	
		JESD22-B116	30 (0) bonds	0/30	Pass	

PCN_KSRA-09FXMH544 -CCB 2869 Final Notice: Qualification of C194 leadframe material for selected products available in 14L TSSOP at ANAP Assembly Site

Affected Catalog Part Numbers (CPN)

PCN_KSRA-09FXMH544
CATALOG_PART_NBR
HA4923-I/ST
HA4923T-I/ST
HA4986-E/ST
HA4986-I/ST
HA4986T-I/ST
MCP3004-I/ST
MCP3004T-I/ST
MCP3204-BAI/ST
MCP3204-CI/ST
MCP3204T-BAI/ST
MCP3204T-CI/ST
MCP3302-BI/ST
MCP3302-CI/ST
MCP3302T-BI/ST
MCP3302T-CI/ST
MCP3424-E/ST
MCP3424T-E/ST
MCP3428-E/ST
MCP3428T-E/ST
MCP4231-103E/ST
MCP4231-104E/ST
MCP4231-502E/ST
MCP4231-503E/ST
MCP4231T-103E/ST
MCP4231T-104E/ST
MCP4231T-502E/ST
MCP4231T-503E/ST
MCP4241-103E/ST
MCP4241-104E/ST
MCP4241-502E/ST
MCP4241-503E/ST
MCP4241T-103E/ST
MCP4241T-104E/ST
MCP4241T-502E/ST
MCP4241T-503E/ST
MCP4251-103E/ST
MCP4251-104E/ST
MCP4251-502E/ST
MCP4251-503E/ST
MCP4251T-103E/ST
MCP4251T-104E/ST
MCP4251T-502E/ST
MCP4251T-503E/ST

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Affected Catalog Part Numbers (CPN)

PCN_KSRA-09FXMH544
CATALOG_PART_NBR
MCP4261-103E/ST
MCP4261-104E/ST
MCP4261-502E/ST
MCP4261-503E/ST
MCP4261T-103E/ST
MCP4261T-104E/ST
MCP4261T-502E/ST
MCP4261T-503E/ST
MCP4631-103E/ST
MCP4631-104E/ST
MCP4631-502E/ST
MCP4631-503E/ST
MCP4631T-103E/ST
MCP4631T-104E/ST
MCP4631T-502E/ST
MCP4631T-503E/ST
MCP4641-103E/ST
MCP4641-104E/ST
MCP4641-502E/ST
MCP4641-503E/ST
MCP4641T-103E/ST
MCP4641T-104E/ST
MCP4641T-502E/ST
MCP4641T-503E/ST
MCP4651-103E/ST
MCP4651-104E/ST
MCP4651-502E/ST
MCP4651-503E/ST
MCP4651T-103E/ST
MCP4651T-104E/ST
MCP4651T-502E/ST
MCP4651T-503E/ST
MCP4661-103E/ST
MCP4661-103PE/ST
MCP4661-104E/ST
MCP4661-502E/ST
MCP4661-503E/ST
MCP4661T-103E/ST
MCP4661T-104E/ST
MCP4661T-502E/ST
MCP4661T-503E/ST
MCP6004-E/ST
MCP6004-I/ST

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Affected Catalog Part Numbers (CPN)

PCN_KSRA-09FXMH544
CATALOG_PART_NBR
MCP6004-I/STAAA
MCP6004T-E/ST
MCP6004T-I/ST
MCP6004T-I/STAAA
MCP6044-E/ST
MCP6044-I/ST
MCP6044T-E/ST
MCP6044T-I/ST
MCP604-E/ST
MCP604-I/ST
MCP604-I/STAAA
MCP604T-E/ST
MCP604T-I/ST
MCP604T-I/STAAA
MCP609-I/ST
MCP609T-I/ST
MCP6144-E/ST
MCP6144-I/ST
MCP6144T-E/ST
MCP6144T-I/ST
MCP6234-E/ST
MCP6234T-E/ST
MCP6244-E/ST
MCP6244T-E/ST
MCP6274-E/ST
MCP6274T-E/ST
MCP6284-E/ST
MCP6284T-E/ST
MCP6294-E/ST
MCP6294T-E/ST
MCP6404-E/ST
MCP6404T-E/ST
MCP6564-E/ST
MCP6564T-E/ST
MCP6569-E/ST
MCP6569T-E/ST
MCP660-E/ST
MCP660T-E/ST
MCP664-E/ST
MCP664T-E/ST
MCP6L04T-E/ST
MCP6L4T-E/ST
MCP6L74T-E/ST

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Affected Catalog Part Numbers (CPN)

PCN_KSRA-09FXMH544
CATALOG_PART_NBR
MCP6L94T-E/ST
MCP6S26-I/ST
MCP6S26T-I/ST
MTCH105-I/ST
MTCH105T-I/ST
PIC16F1503-E/ST
PIC16F1503-I/ST
PIC16F1503T-E/ST
PIC16F1503T-E/ST053
PIC16F1503T-I/ST
PIC16F1503T-I/ST053
PIC16F1703-E/ST
PIC16F1703-I/ST
PIC16F1703T-I/ST
PIC16F505-E/ST
PIC16F505-I/ST
PIC16F505T-E/ST
PIC16F505T-I/ST
PIC16F505T-I/ST061
PIC16F506-E/ST
PIC16F506-I/ST
PIC16F506T-I/ST
PIC16F506T-I/STC01
PIC16F526-E/ST
PIC16F526-I/ST
PIC16F526T-I/ST
PIC16F526T-I/ST059
PIC16F610-E/ST
PIC16F610-I/ST
PIC16F610T-E/ST
PIC16F610T-I/ST
PIC16F610T-I/ST023
PIC16F610T-I/ST024
PIC16F610T-I/ST025
PIC16F610T-I/ST027
PIC16F610T-I/ST028
PIC16F610T-I/ST029
PIC16F610T-I/ST038
PIC16F610T-I/ST040
PIC16F610T-I/ST041
PIC16F610T-I/ST042
PIC16F610T-I/ST043
PIC16F616-E/ST

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Affected Catalog Part Numbers (CPN)

PCN_KSRA-09FXMH544
CATALOG_PART_NBR
PIC16F616-H/ST
PIC16F616-I/ST
PIC16F616-I/ST036
PIC16F616T-E/ST
PIC16F616T-I/ST
PIC16F616T-I/ST026
PIC16F616T-I/ST027
PIC16F616T-I/ST037
PIC16F616T-I/ST043
PIC16F616T-I/ST045
PIC16F616T-I/ST051
PIC16F616T-I/ST059
PIC16F616T-I/ST065
PIC16F616T-I/ST076
PIC16F616T-I/ST088
PIC16F616T-I/ST090
PIC16F616T-I/ST096
PIC16F616T-I/ST097
PIC16HV610-E/ST
PIC16HV610-I/ST
PIC16HV610T-I/ST
PIC16HV616-E/ST
PIC16HV616-I/ST
PIC16HV616T-E/ST
PIC16HV616T-I/ST
PIC16LF1503-E/ST
PIC16LF1503-I/ST
PIC16LF1503-I/STC03
PIC16LF1503T-I/ST
PIC16LF1503T-I/ST025
PIC16LF1503T-I/STC03
PIC16LF1554-E/ST
PIC16LF1554-I/ST
PIC16LF1554T-I/ST
PIC16LF1703-E/ST
PIC16LF1703-I/ST
PIC16LF1703T-I/ST