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Product Change Notification - KSRA-09FXMH544 (Printer Friendly)

Date: 24 Apr 2017
Product 16-Bit - Microcontrollers and Digital Signal Controllers;
Category: Interface- Serial Peripherals; 8-bit PIC Microcontrollers
Notification subject: CCB 2869 Initial Notice: Qualification of C194 leadframe material available in 14L TSSOP at ANAP 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 C194 leadframe material 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 Qualification Completion Date:

September 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:

| | April 2017 | | | | | | September 2017 | | | | |
|--------------------------|------------|----|----|----|----|----|----------------|----|----|----|----|
| Workweek | 13 | 14 | 15 | 16 | 17 | 18 | --> | | | | |
| | | | | | | | 35 | 36 | 37 | 38 | 39 |
| Initial PCN Issue Date | | | | | X | | | | | | |
| Qual Report Availability | | | | | | | | | | | X |
| | | | | | | | | | | | X |

| | | | | | | | | | | | | | | | |
|----------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| Final PCN Issue Date | | | | | | | | | | | | | | | |
|----------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|

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.

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

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

Affected Catalog Part Numbers (CPN)

| PCN_KSRA-09FXMH544 |
|---------------------------|
| CATALOG_PART_NBR |
| HA1020-I/ST |
| HA1020T-I/ST |
| HA4923-I/ST |
| HA4923T-I/ST |
| HA4986-I/ST |
| HA4986T-I/ST |
| HA9900-I/ST |
| HA9900T-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 |

Affected Catalog Part Numbers (CPN)

| PCN_KSRA-09FXMH544 |
|---------------------------|
| CATALOG_PART_NBR |
| MCP4251T-104E/ST |
| MCP4251T-502E/ST |
| MCP4251T-503E/ST |
| 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 |

Affected Catalog Part Numbers (CPN)

| PCN_KSRA-09FXMH544 |
|---------------------------|
| CATALOG_PART_NBR |
| MCP4661T-503E/ST |
| MCP4902-E/ST |
| MCP4902T-E/ST |
| MCP4912-E/ST |
| MCP4912T-E/ST |
| MCP4922-E/ST |
| MCP4922T-E/ST |
| MCP6004-E/ST |
| MCP6004-I/ST |
| MCP6004-I/STAAA |
| MCP6004T-E/ST |
| MCP6004T-I/ST |
| MCP6004T-I/STAAA |
| MCP6024-E/ST |
| MCP6024-I/ST |
| MCP6024T-E/ST |
| MCP6024T-I/ST |
| MCP6034-E/ST |
| MCP6034T-E/ST |
| 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 |
| MCP6054-E/ST |
| MCP6054T-E/ST |
| MCP6064-E/ST |
| MCP6064T-E/ST |
| MCP6074-E/ST |
| MCP6074T-E/ST |
| MCP609-I/ST |
| MCP609T-I/ST |
| MCP6144-E/ST |
| MCP6144-I/ST |
| MCP6144T-E/ST |
| MCP6144T-I/ST |
| MCP619-I/ST |
| MCP619T-I/ST |

Affected Catalog Part Numbers (CPN)

| PCN_KSRA-09FXMH544 |
|---------------------------|
| CATALOG_PART_NBR |
| 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 |
| MCP6424-E/ST |
| MCP6424T-E/ST |
| MCP6474-E/ST |
| MCP6474T-E/ST |
| MCP6484-E/ST |
| MCP6484T-E/ST |
| MCP6494-E/ST |
| MCP6494T-E/ST |
| MCP6544-E/ST |
| MCP6544-I/ST |
| MCP6544T-E/ST |
| MCP6544T-I/ST |
| MCP6549-E/ST |
| MCP6549-I/ST |
| MCP6549T-E/ST |
| MCP6549T-I/ST |
| MCP6549T-I/STBAA |
| MCP6549T-I/STX |
| MCP6564-E/ST |
| MCP6564T-E/ST |
| MCP6569-E/ST |
| MCP6569T-E/ST |
| MCP660-E/ST |
| MCP660T-E/ST |
| MCP664-E/ST |
| MCP664T-E/ST |
| MCP6G04-E/ST |
| MCP6G04T-E/ST |
| MCP6H84-E/ST |
| MCP6H84T-E/ST |
| MCP6H94-E/ST |

Affected Catalog Part Numbers (CPN)

| PCN_KSRA-09FXMH544 |
|---------------------------|
| CATALOG_PART_NBR |
| MCP6H94T-E/ST |
| MCP6L04T-E/ST |
| MCP6L4T-E/ST |
| MCP6L74T-E/ST |
| MCP6L94T-E/ST |
| MCP6S26-I/ST |
| MCP6S26T-I/ST |
| MCP6V14-E/ST |
| MCP6V14T-E/ST |
| MCP6V34-E/ST |
| MCP6V34T-E/ST |
| MCP6V64-E/ST |
| MCP6V64T-E/ST |
| MCP6V74-E/ST |
| MCP6V74T-E/ST |
| MCS3122-I/ST |
| MCS3122T-I/ST |
| MTCH105-I/ST |
| MTCH105T-I/ST |
| PIC12F529T39A-I/ST |
| PIC12F529T39A-I/ST020 |
| PIC12F529T39AT-I/ST |
| PIC12F529T48A-I/ST |
| PIC12F529T48AT-I/ST |
| PIC12LF1840T39A-I/ST |
| PIC12LF1840T39AT-I/ST |
| PIC12LF1840T39AT-I/ST020 |
| PIC12LF1840T48A-I/ST |
| PIC12LF1840T48AT-I/ST |
| PIC12LF1840T48AT-I/ST021 |
| PIC12LF1840T48AT-I/ST022 |
| PIC12LF1840T48AT-I/ST023 |
| PIC12LF1840T48AT-I/ST024 |
| PIC12LF1840T48AT-I/ST025 |
| PIC12LF1840T48AT-I/ST026 |
| PIC16F1503-E/ST |
| PIC16F1503-I/ST |
| PIC16F1503T-E/ST |
| PIC16F1503T-E/ST053 |
| PIC16F1503T-I/ST |
| PIC16F1503T-I/ST053 |
| PIC16F1703-E/ST |
| PIC16F1703-I/ST |

Affected Catalog Part Numbers (CPN)

| PCN_KSRA-09FXMH544 |
|---------------------------|
| CATALOG_PART_NBR |
| 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/ST026 |
| PIC16F610T-I/ST027 |
| PIC16F610T-I/ST028 |
| PIC16F610T-I/ST029 |
| PIC16F610T-I/ST032 |
| PIC16F610T-I/ST038 |
| PIC16F610T-I/ST040 |
| PIC16F610T-I/ST041 |
| PIC16F610T-I/ST042 |
| PIC16F610T-I/ST043 |
| PIC16F616-E/ST |
| 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/ST039 |
| PIC16F616T-I/ST043 |
| PIC16F616T-I/ST044 |

Affected Catalog Part Numbers (CPN)

| PCN_KSRA-09FXMH544 |
|---------------------------|
| CATALOG_PART_NBR |
| PIC16F616T-I/ST045 |
| PIC16F616T-I/ST051 |
| PIC16F616T-I/ST058 |
| PIC16F616T-I/ST059 |
| PIC16F616T-I/ST065 |
| PIC16F616T-I/ST076 |
| PIC16F616T-I/ST088 |
| PIC16F616T-I/ST090 |
| 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 |



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QUALIFICATION PLAN SUMMARY

PCN#: KSRA-09FXMH544

**Date:
March 22, 2017**

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

Purpose: Qualification of 14L TSSOP with C194 leadframe material at ANAP Assembly Site

CCB # : 2869
MP code: GBBZ54D4XA00
Part No.: MCP660-E/ST
BD No: BDM-001313

| Type | 14 pin TSSOP | 14 pin TSSOP |
|-------------------|--------------|--------------|
| Width | 4.4 | 4.4 |
| Lead frame: | | |
| Paddle size | 3.0x3.1 | 3.0x3.1 |
| Material | C7025 | C194 |
| Surface | DR-Ag | DR-Ag |
| Treatment | none | none |
| Process | Stamped | Stamped |
| Leadlock | No | No |
| Part Number | 101307340 | 101385833 |
| Strip | HDLF | XDLF |
| Wire: | | |
| Material | Au | Au |
| Die Attach Epoxy: | | |
| Part Number | 8290 | 8290 |
| Conductive | yes | yes |
| Mold Compound: | | |
| Part Number | G700K | G700LS |
| Lead finish: | Matte Sn | Matte Sn |

| 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 | JESD22B-102E; 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 | 3 | 24 | 0 fails after TC | 5 | 30 bonds from a minimum of 5 devices. |
| Wire Bond Shear - WBS | CDF-AEC-Q100-001 | 5 | 0 | 3 | 24 | | 5 | 30 bonds from a minimum of 5 devices. |
| External Visual | Mil. Std. 883-2009/2010 | All devices prior to submission for qualification testing | 0 | 3 | ALL | 0 | 5 | |
| HTSL (High Temp Storage Life) | +175 C for 504 hours or 150°C for 1008 hrs. Electrical test pre and post stress at +25°C and hot temp.125°C | 45 | 5 | 1 | 50 | 0 | 10 | Must be in progress at time of package release to production, but completion is not required for release to production. |
| 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; Electrical test pre and post stress at +25°C. MSL1 @ 260°C | 231 | 15 | 3 | 738 | 0 | 15 | 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 96 hours. Electrical test pre and post stress at +25°C and 125°C hot temp. | 77 | 5 | 3 | 246 | 0 | 10 | Spares should be properly identified. Use the parts which have gone through Pre-conditioning. |
| Unbiased HAST | +130°C/85% RH for 96 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. |
| Temp Cycle | -65°C to +150°C for 500 cycles. Electrical test pre and post stress at hot temp 125°C; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress. (1 lot to be tested at 85°C) | 77 | 5 | 3 | 246 | 0 | 15 | Spares should be properly identified. Use the parts which have gone through Pre-conditioning. |