Product Change Notification - KSRA-20KRVB706

Date: 24 Oct 2017

Product Category: Memory; Sigma - Delta A/D Converters; 8-bit PIC Microcontrollers

Notification subject: CCB 2845 Final Notice: Qualification of ASSH as an additional assembly site for selected products of 160K wafer technology available in 8L SOIC package using CuPdAu bond wire

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 ASSH as an additional assembly site for selected products of 160K wafer technology available in 8L SOIC package using palladium coated copper with gold flash (CuPdAu) bond wire.

Pre Change:

Assembled at ANAP and NSEB Assembly site

Post Change:

Assembled at ANAP, NSEB and ASSH Assembly site

Pre and Post Change Summary:

	Pre Change		Post Change		
Assembly Site	Amkor Technology Philippine (P1/P2), INC. (ANAP)	UTAC Thai Limited (NSEB)	Amkor Technology Philippine (P1/P2), INC. (ANAP)	UTAC Thai Limited (NSEB)	ASE-Shanghai (ASSH)
Wire material	Au Wire	Au Wire	Au Wire	Au Wire	CuPdAu Wire
Die attach material	8290	2200D	8290	2200D	EN4900G
Molding compound material	G600	G600	G600	G600	CEL-9240HF10AK
Lead frame material	C194	C194	C194	C194	C194

Impacts to Data Sheet:
None

Change Impact:
None

Reason for Change:
To improve productivity by qualifying ASSH as an additional assembly site.

Change Implementation Status:
In Progress

Estimated First Ship Date:
November 24, 2017 (date code: 1747)

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

Time Table Summary:

	March 2017					-->	October 2017				November 2017				
Workweek	09	10	11	12	13		40	41	42	43	44	45	46	47	48
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 Report:
Please open the attachments included with this PCN labeled as PCN_#_Qual Report.

Revision History:

March 23, 2017: Issued initial notification.
October 24, 2017: Issued final notification. Attached the Qualification Report. Revised the affected parts list. Provided estimated first ship date on November 24, 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-20KRVB706_Affected CPN.pdf
PCN_KSRA-20KRVB706_Qual Report.pdf
PCN_KSRA-20KRVB706_Affected CPN.xlsx

Please contact your local Microchip sales office with questions or concerns regarding this notification.

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KSRA-20KRVB706-CCB 2845: Initial Notice: Qualification of ASSH as an additional assembly site for selected products of 160K wafer technology available in 8L SOIC package using CuPdAu bond wire

Affected Catalog Part Number (CPN)

PCN_KSRA-20KRVB706
CATALOG_PART_NBR
24AA128-I/SN
24AA128T-I/SN
24AA128T-I/SNRVF
24FC128-E/SN
24FC128-I/SN
24FC128T-E/SN
24FC128T-I/SN
24FC256-E/SN
24FC256-I/SN
24FC256T-E/SN
24FC256T-I/SN
25AA320A-I/SN
25AA320A-I/SNB22
25AA320AT-I/SN
25AA320AT-I/SNB22
25AA640A-E/SN
25AA640A-I/SN
25AA640AT-E/SN
25AA640AT-I/SN
25AA640AT-I/SNB23
25LC320A-E/SN
25LC320A-I/SN
25LC320AT-E/SN
25LC320AT-I/SN
25LC640A-E/SN
25LC640A-I/SN
25LC640AT-E/SN
25LC640AT-I/SN
HA7600-I/SN
HA7600T-I/SN
MCP3550-50E/SN
MCP3550-60E/SN
MCP3550T-50E/SN
MCP3550T-60E/SN
MCP3551-E/SN
MCP3551T-E/SN
MCP3553-E/SN
MCP3553T-E/SN
MCP6N11-001E/SN
MCP6N11-002E/SN
MCP6N11-005E/SN
MCP6N11-010E/SN
MCP6N11-100E/SN

KSRA-20KRVB706-CCB 2845: Initial Notice: Qualification of ASSH as an additional assembly site for selected products of 160K wafer technology available in 8L SOIC package using CuPdAu bond wire

Affected Catalog Part Number (CPN)

PCN_KSRA-20KRVB706
CATALOG_PART_NBR
MCP6N11T-001E/SN
MCP6N11T-002E/SN
MCP6N11T-005E/SN
MCP6N11T-010E/SN
MCP6N11T-100E/SN
PIC12F609-E/SN
PIC12F609-I/SN
PIC12F609T-E/SN
PIC12F609T-I/SN
PIC12F609T-I/SN027
PIC12F615-E/SN
PIC12F615-I/SN
PIC12F615-I/SN083
PIC12F615T-E/SN
PIC12F615T-I/SN
PIC12F615T-I/SN020
PIC12F615T-I/SN043
PIC12F615T-I/SN051
PIC12F615T-I/SN057
PIC12F615T-I/SN058
PIC12F615T-I/SN071
PIC12F615T-I/SN076
PIC12F615T-I/SN079
PIC12F615T-I/SN083
PIC12F617-E/SN
PIC12F617-E/SN020
PIC12F617-E/SN031
PIC12F617-E/SN033
PIC12F617-E/SN034
PIC12F617-I/SN
PIC12F617-I/SN020
PIC12F617-I/SN021
PIC12F617-I/SN030
PIC12F617-I/SN032
PIC12F617-I/SN053
PIC12F617-I/SNAU
PIC12F617-I/SNC15
PIC12F617T-E/SN
PIC12F617T-E/SN020
PIC12F617T-E/SN024
PIC12F617T-E/SN026
PIC12F617T-E/SN027
PIC12F617T-E/SN031

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Affected Catalog Part Number (CPN)

PCN_KSRA-20KRVB706
CATALOG_PART_NBR
PIC12F617T-E/SN033
PIC12F617T-E/SN034
PIC12F617T-E/SN036
PIC12F617T-E/SN037
PIC12F617T-E/SN050
PIC12F617T-E/SN051
PIC12F617T-E/SN052
PIC12F617T-E/SN055
PIC12F617T-E/SN067
PIC12F617T-E/SN071
PIC12F617T-I/SN
PIC12F617T-I/SN020
PIC12F617T-I/SN021
PIC12F617T-I/SN022
PIC12F617T-I/SN023
PIC12F617T-I/SN025
PIC12F617T-I/SN028
PIC12F617T-I/SN030
PIC12F617T-I/SN032
PIC12F617T-I/SN038
PIC12F617T-I/SN043
PIC12F617T-I/SN044
PIC12F617T-I/SN045
PIC12F617T-I/SN048
PIC12F617T-I/SN053
PIC12F617T-I/SN059
PIC12F617T-I/SNAU
PIC12F617T-I/SNC15
PIC12F635-E/SN
PIC12F635-I/SN
PIC12F635-I/SN057
PIC12F635T-I/SN
PIC12F635T-I/SN041
PIC12F635T-I/SN043
PIC12F635T-I/SN047
PIC12F635T-I/SN050
PIC12F635T-I/SN058
PIC12F635T-I/SN066
PIC12F683-E/SN
PIC12F683-E/SN084
PIC12F683-I/SN
PIC12F683-I/SN075
PIC12F683-I/SNAU

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Affected Catalog Part Number (CPN)

PCN_KSRA-20KRVB706
CATALOG_PART_NBR
PIC12F683T-E/SN
PIC12F683T-E/SN040
PIC12F683T-E/SN079
PIC12F683T-E/SN084
PIC12F683T-E/SN092
PIC12F683T-E/SN097
PIC12F683T-E/SN098
PIC12F683T-I/SN
PIC12F683T-I/SN061
PIC12F683T-I/SN062
PIC12F683T-I/SN072
PIC12F683T-I/SN091
PIC12F683T-I/SNAU
PIC12HV609-E/SN
PIC12HV609-I/SN
PIC12HV609T-I/SN
PIC12HV615-E/SN
PIC12HV615-I/SN
PIC12HV615T-E/SN
PIC12HV615T-E/SN035
PIC12HV615T-E/SN043
PIC12HV615T-E/SN044
PIC12HV615T-I/SN
PIC12HV615T-I/SN022

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN#: KSRA-20KRVB706

Date
September 11, 2017

Qualification of ASSH as an additional assembly site for selected products of 160K wafer technology available in 8L SOIC package using palladium coated copper with gold flash (CuPdAu) bond wire

PACKAGE QUALIFICATION REPORT

Purpose	Qualification of ASSH as an additional assembly site for selected products of 160K wafer technology available in 8L SOIC package using palladium coated copper with gold flash (CuPdAu) bond wire
CN	ES096352
QUAL ID	Q17106
MP CODE	DE0244C2XB04
Part No.	PIC12F683-E/SN
Bonding No.	BDM-001172 Rev.C
CCB No.	2845

Package

Type	8L SOIC
Package size	150 mils
Die thickness	11 mils
Die size	77.50 x 86.20 mils

Lead Frame

Paddle size	98 x 130 mils
Material	C194
Surface	Double Ring
Process	Stamped
Lead Lock	No
Part Number	LI-WSO000008-07
Treatment	None

Material

Epoxy	EN 4900G conductive
Wire	CuPdAu wire
Mold Compound	CEL-9240HF10AK
Plating Composition	Matte Tin

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
ASSH175000069.000	TMPE217387152.110	1710WUE
ASSH175100001.000	TMPE217387152.110	1711WUM
ASSH175100002.000	TMPE217387152.110	1711WUU

Result [X] Pass [ ] Fail [ ] _____

8L SOIC (.150”) assembled by ASSH 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

Qual Report : Q17106

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 J-STD-020D	198	0/198	Pass	
<u>Precondition Prior Perform Reliability Tests</u> (At MSL Level 1)	**Electrical Test :**+25°C and 125°C System: J750 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: J750	JESD22-A113	693(0)	693 693 693 693 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:** (Standard) -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H	JESD22-A104		231		Parts had been pre-conditioned at 260°C
	Electrical Test: + 125°C System: TTS1000		231(0)	0/231	Pass	
	Bond Strength: Wire Pull (>4.0 grams) Bond Shear (>18.00 grams)		45 (0)	0/45	Pass	
	Cross section		3(0) Wires	0/3	Pass	
HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. **Bias** **Volt:** 5.0 Volts System: HAST 6000X	JESD22-A110		231		Parts had been pre-conditioned at 260°C
	Electrical Test: + 25°C and 125°C System: TTS10000		231(0)	0/231	Pass	77 units / lot
	Bond Strength: Wire Pull (>4.0 grams) Bond Shear (>18.00 grams)		45 (0)	0/45	Pass	
	Cross section		3(0) Wires	0/3	Pass	
UNBIASED-HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: TTS1000		231(0)	0/231	Pass	77 units / lot

PACKAGE QUALIFICATION REPORT

Qual Report : Q17106

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 504 hrs System: SHEL LAB **Electrical Test :**+25°C and 125°C System: TTS1000	JESD22-A103	 45(0)	45 0/45	 Pass	
Solderability **Temp 215°C**	**Steam Aging:** Temp 93°C,8Hrs System: SAS-3000 Solder Dipping: Solder Temp.215°C Solder material: SnPb Sn63,Pb37 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	JESD22 B-102E	22 (0)	22 22 0/22	Pass	
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	
Physical **Dimensions**	Physical Dimension, 30 units from 1 lot	JESD22 - B100/B 108	30(0) Units	0/30	Pass	
Bond Strength **Data Assembly**	Wire Pull (>4.0 grams) Bond Shear (>18.00 grams)	M2011 JESD22 -B116	30 (0) Wires 30 (0) bonds	0/30 0/30	Pass Pass	