Product Change Notification - JAON-13MXKL412

Date: 17 Nov 2015

Notification subject: CCB 1681 Final Notice: Qualification of G631HQ molding compound and AP4200 die attach material for products available in 80L TQFP (14x14x1mm) package 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 G631HQ molding compound and AP4200 die attach material for products available in 80L TQFP (14x14x1mm) package at ANAP assembly site.

Pre Change:
G700L molding compound and 3230 die attach material

Post Change:
G631HQ molding compound and AP4200 die attach material

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	ANAP assembly site	ANAP assembly site
Wire material	Au wire	Au wire
Die attach material	3230	AP4200
Molding compound material	G700L	G631HQ
Lead frame material	C194	C194

Impacts to Data Sheet:
None

Reason for Change:
To improve on-time delivery performance and qualify G631HQ molding compound and AP4200 die attach material.

Change Implementation Status:
In Progress

Estimated First Ship Date:
December 20, 2015 (date code: 1551)

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

Summary Table:

	July 2015				August 2015	September 2015	October 2015	November 2015				December 2015				
WW	28	29	30	31				45	46	47	48	49	50	51	52	53
Initial PCN Issue Date			X													
Qual Report Availability									X							
Final PCN Issue Date										X						
Implementation Date														X		

Markings to Distinguish Revised from Unrevised Devices:
Traceability code

Revision History:
July 20, 2015: Issued initial notification.
November 17, 2015: Issued final notification. Attached the qualification report. Revised the estimated first ship date from October 20, 2015 to December 20, 2015. Added the pre and post change summary table.

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_JAON-13MXKL412_Qual_Report.pdf
PCN_JAON-13MXKL412_Affected_CPN.pdf
PCN_JAON-13MXKL412_Affected_CPN.xls

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

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Affected Catalog Part Numbers (CPN)

PCN_JAON-13MXKL412
CATALOG_PART_NBR
DSPIC30F6010-20E/PF
DSPIC30F6010-20I/PF
DSPIC30F6010-30I/PF
DSPIC30F6010A-20E/PF
DSPIC30F6010A-30I/PF
DSPIC30F6010A-30I/PFA31
DSPIC30F6013-20I/PF
DSPIC30F6013-30I/PF
DSPIC30F6013A-20E/PF
DSPIC30F6013A-30I/PF
DSPIC30F6013AT-30I/PF
DSPIC30F6014-20E/PF
DSPIC30F6014-20I/PF
DSPIC30F6014-30I/PF
DSPIC30F6014A-20E/PF
DSPIC30F6014A-30I/PF
DSPIC30F6014AT-30I/PF

QUALIFICATION REPORT
RELIABILITY LABORATORY

PCN #: JAON-13MXKL412

Date
November 09, 2015

Qualification of G631HQ molding compound and AP4200 die attach material for products available in 80L TQFP (14x14x1mm) package at ANAP assembly site.

Distribution

Surasit P.	Greg P
A. Navarro	Vassilis
Wichai K.	Fernando C
Chaweng W.	Gerry O
Chalermpon P.	Arnel M
Mitch R	Maitree Y
Sunisa K	Supakorn L
Ponpitug Y	Irina K
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PACKAGE QUALIFICATION REPORT

Purpose	Qualification of G631HQ molding compound and AP4200 die attach material for products available in 80L TQFP (14x14x1mm) package at ANAP assembly site.
CN	BC151744
QUAL ID	Q15149
MP CODE	DFAJ14X3XC20
Part No.	DSPIC30F6013A-20E/PF
Bonding No.	BDE-003131 Rev. 02
CCB No.	1681

Package

Type	80L TQFP
Package size	14x14x1.0 mm
Die thickness	11 mils
Die size	265.10 x 264.40 mils

Lead Frame

Paddle size	374 x 374 mils
Material	C194 with UDLF
Surface	R-Ag
Process	Etched
Lead Lock	No
Part Number	101381224
Treatment	None

Die attach material

Epoxy	AP4200
Wire	Au wire
Mold Compound	G631HQ
Plating Composition	Matte Tin

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
ANAP162000617.000	GRSM415400046.300	1533W5V
ANAP162000618.000	GRSM415400046.300	1533W68
ANAP162000619.000	GRSM415400046.300	1533W6E

Result [X] Pass [ ] Fail [ ] ____________________

80L TQFP (14x14x1.0 mm) assembled by ATP (ANAP) pass reliability test per QCI-39000.This package was qualified the Moisture/Reflow Sensitivity Classification Level 3 at 260°C reflow temperature per IPC/JEDEC J-STD-020D standard.

Prepared By:____________________**Date:** November 09 2015 **(Sr.Reliability Engineer)**

(Mr.Udom Suksansakul)

Approved By:____________________**Date:** November 09, 2015 **(Reliability Manager)**

(Mr. Somnuek Thongprasert)

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Moisture/Reflow Sensitivity Classification Test (At MSL Level 3)	30°C/ 60%RH Moisture Soak 192 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	135	0/135	Pass	

Precondition Prior Perform Reliability Tests (At MSL Level 3)	**Electrical Test :**+25°C and 125°C System: J750	JESD22-A113	693(0)	693		Good Devices
	Bake 150°C, 24 hrs System: CHINEE			693		
	30°C/ 60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model PR-3SPH			693		
	3x Convection-Reflow 265°C max			693		
	System: Vitronics Soltec MR1243					
	Electrical Test :+25°C and 125°C System: J750			0/693	Pass	

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	JESD22-A104		231		Parts had been pre-conditioned at 260°C
	Electrical Test: + 125°C System: J750		231(0)	0/231	Pass	77 units / lot
	Bond Strength: Wire Pull (> 2.3 grams)		15 (0)	0/15	Pass	
	Bond Shear (>13.00 grams)		15 (0)	0/15	Pass	
UNBIASED-HAST	**Stress Condition:** +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: J750		231(0)	0/231	Pass	77 units / lot
HAST	**Stress Condition:** +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: J750		231(0)	0/231	Pass	77 units / lot
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 504 hrs System: SHEL LAB	JESD22-A103		45		45 units
	Electrical Test :+25°C and 125°C System: J750		45(0)	0/45	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
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	JESD22B-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	JESD22B-102E	22 (0)	22 22 0/22	Pass	
Bond Strength **Data Assembly**	Wire Pull (> 2.3 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>13.00 grams)	JESD22-B116	30 (0) bonds	0/30	Pass	