Date: 20 Jul 2015

Product Category: 16-bit Microcontrollers and Digital Signal Controllers

Notification subject: CCB 1681 Initial 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:

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 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

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:
October 20, 2015 (date code: 1543)

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

Markings to Distinguish Revised from Unrevised Devices:
Traceability code

Revision History:
July 20, 2015: 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 JAON-13MXKL412 Qual Plan.pdf PCN JAON-13MXKL412 Affected CPN.pdf PCN JAON-13MXKL412 Affected CPN.xls

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QUALIFICATION PLAN

PCN #: JAON-13MXKL412

Date :
July 8, 2015

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

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

MP code: ________________ DFAJ1YX3X020

Part No.:________________ DSPIC30F6013AT-20E/PF020

BD No:________________ BDE003131

CCB No.: ________________ 1681

Package:

Type ________________ TQFP

Pin________________ 80

Width or Size ___________ 14x14x1

Die thickness: _________ 11

Die size: ______________ 267.6x266.9

MSL: ________________ 3

Lead frame:

Paddle size: ___________ 331x331

Material_______________ C194

Surface _______________ R-Ag

Treatment ____________ none

Process_______________ etched

Leadlock______________ No

Strip dimension ________ UDLF

Test__________________ singulated

Part Number___________ 101381244

Wire:

Material_______________ Au

Die Attach Epoxy:

Part Number___________ AP4200

Conductive____________ yes

Mold Compound:

Part Number___________ G631HQ

Lead finish:______________ Matte tin

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.
Backward Solderability	JESD22B-102E;Perform 8 hours steam aging for Matte tin finish and 1 hour 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	
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	0	5	30 bonds from a minimum of 5 devices.
Physical Dimensions	Measure per JESD22 B100 and B108	10	0	3	30	0	5	
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, (1 lot to be tested at 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.

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
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. MSL3 @ 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 or 110°C/85%RH for 264 hours. Electrical test pre and post stress at +25°C and hot temp. (1 lot to be tested at 125°C)	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 or +110°C/85% RH for 264 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; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress. (1 lot to be tested at 125°C)	77	5	3	246	0	15	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.

PCN_JAON-13MXKL412
CATALOG_PART_NBR
DSPIC30F6010-20E/PF
DSPIC30F6010-20I/PF
DSPIC30F6010-30I/PF
DSPIC30F6010A-20E/PF
DSPIC30F6010A-30I/PF
DSPIC30F6010A-30I/PFA31
DSPIC30F6013-20E/PF
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