

Product Change Notification - JAON-15IRQN438

Date: 15 Jun 2015

Product Category: 16-bit Microcontrollers and Digital Signal Controllers; 8-bit Microcontrollers

Notification subject: CCB 1466 Final Notice: Qualification of 80L TQFP (12x12x1mm) with 280x280 Lead-Frame Paddle size at ASAC assembly site.

Notification text: **PCN Status:**
Final notification

Microchip Parts Affected:

See attachments of affected catalog part numbers (CPN) labeled as...

PCN_JAON-15IRQN438_Affected_CPN.xls

PCN_JAON-15IRQN438_Affected_CPN.pdf

Description of Change:

Qualification of 80L TQFP (12x12x1mm) with 280x280 Lead-Frame Paddle size at ASAC assembly site.

Pre Change:

Assembled at MTAI

Post Change:

Assembled at MTAI or ASAC

Impacts to Data Sheet:

None

Reason for Change:

To improve on-time delivery performance by qualifying an additional assembly site ASAC.

Change Implementation Status:

In Progress

Estimated First Ship Date:

July 3, 2015 (date code: 1527)

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:

October 20, 2014: Issued initial notification.

June 15, 2015: Issued final notification. Updated the scope from 100L TQFP (12x12x1mm) to 80L TQFP (12x12x1mm). Attached the qualification report.

Revised the estimated first ship date from May 1, 2015 to July 3, 2015.

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-15IRQN438_Qual_Report.pdf](#) [PCN_JAON-15IRQN438_Affected_CPN.pdf](#) [PCN_JAON-15IRQN438_Affected_CPN.xls](#)

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PCN_JAON-15IRQN438
CATALOG_PART_NBR
DSPIC30F5013-20E/PT
DSPIC30F5013-20E/PTB23
DSPIC30F5013-20E/PTC01
DSPIC30F5013-20E/PTV04
DSPIC30F5013-20I/PT
DSPIC30F5013-30I/PT
DSPIC30F5013T-20E/PT
DSPIC30F5013T-20E/PTB23
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DSPIC30F6010A-20E/PTC02
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PIC24FJ64GB108T-I/PT



MICROCHIP

**QUALIFICATION REPORT
RELIABILITY LABORATORY**

PCN #: JAON-15IRQN438

**Date:
May 26, 2015**

**Qualification of 80L TQFP (12x12x1mm) with 280x280 Lead-
Frame Paddle size at ASAC assembly site**

Distribution

Surasit P.	Greg P
Arthur N	Vassilis D
Joe F	Fernando C
Wichai K.	Gerry O
Chaweng W	Arnel M
Chalermpon P	Maitree Y
Mitch R	Supakorn L
Sunisa K	Irina K
Ponpitug Y	Marco Ho
Irina K	Fannie Lin
Rhoderick O	Marco Ho
Somnuek T.	Udom S.

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MICROCHIP PACKAGE QUALIFICATION REPORT

Purpose	Qualification of 80L TQFP (12x12x1mm) with 280x280 Lead-Frame Paddle size at ASAC assembly site
CN	BC150137
QUAL ID	Q15028
MP CODE	C50257X2XAXF
Part No.	PIC18F8720-I/PT
Bonding No.	BDM-000708 Rev. A
CCB No.	1466
<u>Package</u>	
Type	80L TQFP
Package size	12 x12 x1.0 mm
Die thickness	11 mils
Die size	254.2x 257.4 mils
<u>Lead Frame</u>	
Paddle size	280 x 280 mils
Material	C7025 / ASM
Surface	Bare Cu on DAP
Process	Stamped
Lead Lock	No
Treatment	Ag Plating & Brown Oxide L/F
<u>Die attach material</u>	
Epoxy	2200
Wire	Au wire
Mold Compound	G700
Plating Composition	Matte Tin



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
ASAC154500162.000	TMPE215279476.200	15062J1
ASAC154600110.000	TMPE215279476.200	15072J2
ASAC154600111.000	TMPE215279476.200	15072P7

Result

Pass Fail _____

80L TQFP (12x12x1.0mm) assembled by UDG (ASAC) 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: May 26, 2015 (Sr. Reliability Engineer)

(Mr. Udom Suksansakul)

Approved By:  Date: May 26, 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 C J-STD- 020D	135	0/135	Pass	

<u>Precondition Prior Perform Reliability Tests (At MSL Level 3)</u>	Electrical Test :+25°C and 85°C System: J750	JESD22- A113	693(0)	693	Pass	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 System: Vitronics Soltec MR1243			693		
	Electrical Test :+25°C and 85°C System: J750			0/693		

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 77 units / lot
	Electrical Test: + 85°C System: J750		231(0)	0/231	Pass	
	Bond Strength: Wire Pull (> 1.8 grams) Bond Shear (>14.00 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 77 units / lot
	Electrical Test: +25°C System: J750		231(0)	0/231	Pass	
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 5.5 Volts System: HAST 6000X	JESD22- A110		231		Parts had been pre-conditioned at 260°C 77 units / lot
	Electrical Test: +25°C and 85°C System: J750		231(0)	0/231	Pass	
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs System: SHEL LAB	JESD22- A103		45		45 units
	Electrical Test :+25°C and 85°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 (> 1.8 grams) Bond Shear (>14.00 grams)	M2011 JESD22-B116	30 (0) Wires 30 (0) bonds	0/30 0/30	Pass Pass	