

**Date:** 14 Dec 2011

**Product Category:** 16-bit Microcontrollers and Digital Signal Controllers; 8-bit Microcontrollers; 32-bit PIC Microcontrollers

**Device Family:**  

**Notification subject:** CCB 1073 Final Notice: Qualification of 64L, 80L, and 100L TQFP (14x14) packages with C7025 lead-frame and bare Cu paddle at UDG (ASAC) assembly site.

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

**Microchip Parts Affected:**

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

PCN\_CYER-21GYVK501\_Affected\_CPN.xls

PCN\_CYER-21GYVK501\_Affected\_CPN.pdf

**Description of Change:**

Qualification of 64L, 80L, and 100L TQFP (14x14) packages with C7025 lead-frame and bare Cu paddle at UDG (ASAC) assembly site.

**Pre Change:**

EFTEC64T lead frame with Ag ring plating on the paddle surface

**Post Change:**

C7025 lead frame with bare Cu paddle surface

**Impacts to Data Sheet:**

None

**Reason for Change:**

To improve on time delivery performance

Change Implementation Status:  
In Progress

Estimated First Ship Date:  
December 23, 2011 (date code: 1152)

NOTE: Please be advised that during the transition period customers may receive pre and post change parts, due to existing inventory of the pre changed parts.

Markings to Distinguish Revised from Unrevised Devices:  
Traceability code

Revision History:  
July 27, 2011: Issued initial notification.  
December 13, 2011: Issued final notification. Attached qualification data. Revised the estimated first ship date from 10/28/2011 to 12/23/2011.

**Attachment(s):**

[PCN\\_CYER-21GYVK501\\_Affected\\_CPN.xls](#) [PCN\\_CYER-21GYVK501\\_Affected\\_CPN.pdf](#)  
[PCN\\_CYER-21GYVK501\\_Qual\\_Report.pdf](#)

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PCN_CYER-21GYVK501
CATALOG_PART_NBR
DSPIC30F6010-20E/PF
DSPIC30F6010-20I/PF
DSPIC30F6010-30I/PF
DSPIC30F6010A-20E/PF
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Parts Affected

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**MICROCHIP**

**QUALIFICATION REPORT  
RELIABILITY LABORATORY**

**PCN #: CYER-21GYVK501**

Date

December 06, 2011

**Qualification of 100L TQFP (14x14) packages with C7025 lead-frame and bare Cu paddle at UDG (ASAC) assembly site. The 64L and 80L TQFP (14x14) packages qualify by similarity.**

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## MICROCHIP PACKAGE QUALIFICATION REPORT

<b>Purpose</b>	Qualification of 100L TQFP (14x14) packages with C7025 lead-frame and bare Cu paddle at UDG (ASAC) assembly site. The 64L and 80L TQFP (14x14) packages qualify by similarity.
<b>CN</b>	BC112127
<b>QUAL ID</b>	Q11090
<b>MP CODE</b>	TDAA19E5XEA8
<b>Part No.</b>	PIC32MX795F512L-80V/P
<b>Bonding No.</b>	BDM-000031 Rev. B
<b>CCB No.</b>	1073
<b><u>Package</u></b>	
<b>Type</b>	100L TQFP
<b>Package size</b>	14x14x1 mm
<b>Die thickness</b>	11 mils
<b>Die size</b>	225.8 x 219.5 mils
<b><u>Lead Frame</u></b>	
<b>Paddle size</b>	270 x 270 mils
<b>Material</b>	C7025 Posshel (Malaysia)
<b>Surface</b>	Bare Cu
<b>Process</b>	Stamped
<b>Lead Lock</b>	No
<b>Part Number</b>	18100380-1
<b><u>Die attach material</u></b>	
<b>Epoxy</b>	2200
<b>Wire</b>	Au wire
<b>Mold Compound</b>	G700
<b>Plating Composition</b>	Matte Tin



## MICROCHIP PACKAGE QUALIFICATION REPORT

### Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Trace Code
ASAC12200008	TC03912013015.300	1133J3J
ASAC12200009	TC03912013015.300	1133J3K
ASAC12200010	TC03912013015.300	1133J3M

**Result**       Pass       Fail       \_\_\_\_\_

100L TQFP (14x14x1 mm) 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-020C standard.

**Prepared By:** \_\_\_\_\_ **Date:** December 06, 2011 **(Reliability Engineer)**

(Mr.Udom Suksansakul)

**Approved By:** \_\_\_\_\_ **Date:** December 06, 2011 **(Reliability Manager)**

(Mr. Surasit Phurikhup)

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Microchip Spec	Qty. (Acc.)	Date in	Date Out	Def/SS.	Result	Remarks
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<b><u>MSL</u></b>								
MSL Level 3/260°C	30°C/60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model ESL-2CA 3x Convection-Reflow 260°C max System: Vitronics Soltec MR1243 ( IPC/JEDEC J-STD-020C)	S12/14/16 (PDC)	135	10/19/11	10/31/11	0/135	Pass	

<b><u>Precondition</u></b>								
Electrical Test	Electrical Test : +25°C , 85°C and -40°C System: J750	S12/14/16 (PDC)	693(0)	10/13/11	10/17/11	693		Good Devices
Bake	Bake 150°C, 24 hrs System: CHINEE	PI-92014B		10/19/11	10/20/11	693		
Moisture Soak	30°C/60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model ESL-2CA	PI-91173B		10/20/11	10/29/11	693		
Convection-Reflow	3x Convection-Reflow 260°C max System: Vitronics Soltec MR1243	PI-91160B		10/29/11	10/29/11	693		
Electrical Test	Electrical Test : +25°C and 85°C System: J750	S12/14/16 (PDC)		10/29/11	10/31/11	0/693	Pass	

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Microchip Spec	Qty. (Acc.)	Date in	Date Out	Def/SS.	Result	Remarks
<b>Temp Cycle</b>	<b>Stress Condition:</b> -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H Inspection: External crack inspection all units under 40X Optical magnification	PI-91020B		11/05/11	11/18/11	231		Parts had been pre-conditioned at 260°C
		QCI-33003	30(0)	11/18/11	11/19/11	0/30		
		S12/14/16 (PDC)	231(0)	11/19/11	11/19/11	0/231	Pass	77 units / lot
		QCI-91022	15 (0)	11/19/11	11/19/11	0/15	Pass	
<b>UNBIASED-HAST</b>	<b>Bond Strength:</b> Bond Shear (8.10 grams) Wire Pull (> 2.5 grams)		15 (0)	11/19/11	11/19/11	0/15	Pass	
		PI-91261B		11/07/11	11/12/11	231		Parts had been pre-conditioned at 260°C
		S12/14/16 (PDC)	231(0)	11/12/11	11/13/11	0/231	Pass	77 units / lot

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Microchip Spec	Qty. (Acc.)	Date in	Date Out	Def/SS.	Result	Remarks
<b>HAST</b>	<b>Stress Condition:</b> +130°C/85%RH, 96 hrs. System: HAST 6000X	PI-92010B		11/17/11	11/22/11	231		Parts had been pre-conditioned at 260°C
	<b>Electrical Test:</b> +25°Cand 85°C System: J750	S12/14/16 (PDC)	231(0)	11/22/11	11/23/11	0/231	Pass	77 units / lot
<b>High Temperature Storage Life</b>	<b>Stress Condition:</b> Bake 175°C, 504 hrs System: SHEL LAB	PI-92014B S12/14/16		10/19/11	11/14/11	45		45 units
	<b>Electrical Test:</b> +25°Cand 85°C System: J750	(PDC)	45(0)	11/14/11	11/15/11	0/45	Pass	
<b>Bond Strength Data Assembly</b>	Bond Shear (8.10 grams)	QCI-91022	30 (0) bonds	-	-	0/30	Pass	
	Wire Pull (> 2.5 grams)		30 (0) wires	-	-	0/30	Pass	