

Product / Process Change Notification CYAR-7U7T6Z[Home](#)

The information below reflects a change that is being implemented.

Notice Date: 10/23/2009

Product Category: dsPIC; PIC12xxx; PIC16xxx; PIC17xxx; PIC18xxx;
PIC24xxx; PIC32xxx

Notification Subject: CCB#: 906 Qualification of TQFP package with SG-8300ECM mold compound at MTAI assembly site.

Notification Body:
PCN Status:
Final notification

Microchip Part#s Affected:
See attachments of Affected Part#s Labeled as...
[Microchip_Catalog_Part#s_Affected.xls](#)
[Microchip_Catalog_Part#s_Affected.pdf](#)

Description of Change:
[Qualification of TQFP package with SG-8300ECM mold compound at MTAI assembly site.](#)

Pre Change:
G700HA Mold Compound

Post Change:
SG-8300ECM Mold Compound

Impacts to Data Sheet:
None

Reason for Change:
To improve manufacturability

Change Implementation Status:
In Progress

Estimated First Ship Date:
November 6, 2009 (0945)

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: (e.g.: Date Code, Device Marking, Ship Container Marking)
Traceability code

Attachment(s):

[PCN CYAR-7U7T6Z_80L 100L TQFP_MTAI_CCB# 906_Qual Report.pdf](#)

[PCN CYAR-7U7T6Z_44L 64L TQFP_MTAI_CCB# 906_Qual Report.pdf](#) [Microchip_Catalog_Part#s_Affected.xls](#)

[Microchip_Catalog_Part#s_Affected.pdf](#)





MICROCHIP

**QUALIFICATION REPORT
RELIABILITY LABORATORY**

**Q09076
CCB#: 906
PCN#: CYAR-7U7T6Z**

Date
October 14, 2009

**Qualification of 44L and 64L TQFP packages with SG-8300ECM mold
compound at MTAI assembly site**

Distribution

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MICROCHIP PACKAGE QUALIFICATION REPORT

Purpose	Qualification of 44L and 64L TQFP packages with SG-8300ECM mold compound at MTAI assembly site
CN	BC092137
QUAL ID	Q09076
MP CODE	DFAK14V2XB20
Part No.	DSPIC30F6015-20E/PT
Bonding No.	A-037589 Rev. B
<u>Package</u>	
Type	64L TQFP
Package size	10x10x1 mm
Die thickness	11 mils
Die size	265.10 x 267.60 mils
<u>Lead Frame</u>	
Paddle size	300 x 300 mils
Material	C7025
Surface	Ag
Process	-
Lead Lock	Yes
Part Number	10106404
<u>Die attach material</u>	
Epoxy	3280
Wire	Au wire
Mold Compound	SG-8300ECM
Plating Composition	Matte Tin



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Trace Code
MTA1101903543	TMPE209486843.420	0932E7S
MTA1102103252	TMPE209486843.000	0934THM
MTA1102301193	TMPE209486843.600	09365B6

Result

Pass Fail _____

64L TQFP assembled by MTAI 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.

Prepared By: _____) Date: October 14, 2009 (Reliability Engineer)

(Mr.Thinnapol Nakkasun)

Approved By: _____) Date: October 14, 2009 (Reliability Manager)

(Mr. Surasit Phurikhup)

PACKAGE QUALIFICATION REPORT

Qual Report : Q09076

Test Number (Reference)	Test Condition	Microchip Spec	Qty. (Acc.)	Date in	Date Out	Def/SS.	Result	Remarks
<u>MSL</u> MSL Level 1/260°C	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)	S12/14/16 (PDC)	135	08/24/09	09/04/09	0/135	Pass	
<u>Precondition</u>								
Electrical Test	Electrical Test :+25°C and 85°C System: J750	S12/14/16 (PDC)	693(0)	08/20/09	08/22/09	693		Good Devices
Bake	Bake 150°C, 24 hrs System: CHINEE	PI-92014B		08/24/09	08/26/09	693		
Moisture Soak	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH	PI-91173B		08/26/09	09/02/09	693		
Convection-Reflow	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243	PI-91160B		09/02/09	09/02/09	693		
Electrical Test	Electrical Test :+25°C and 85°C System: J750	S12/14/16 (PDC)		09/02/09	09/04/09	0/693	Pass	

PACKAGE QUALIFICATION REPORT

Qual Report : Q09076

Test Number (Reference)	Test Condition	Microchip Spec	Qty. (Acc.)	Date in	Date Out	Def/SS.	Result	Remarks
Temp Cycle	Stress Condition: -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H Inspection: External crack inspection all units under 40X Optical magnification	PI-91020B		09/29/09	10/11/09	231		Parts had been pre-conditioned at 260°C
		QCI-33003	30(0)	10/11/09	10/11/09	0/30		
	Electrical Test: +85°C System: J750	S12/14/16 (PDC)	231(0)	10/11/09	10/12/09	0/231	Pass	77 units / lot
Bond Strength: Bond Shear (14.00 grams) Wire Pull (> 3 grams)		QCI-91022	15 (0)	10/12/09	10/12/09	0/15	Pass	Wire pull & bond shear after Temp Cycle
			15 (0)	10/12/09	10/12/09	0/15	Pass	
Pressure Cooker	Stress Condition: +121°C, 100% RH, 15 PSI, 96 hrs. System: HIRAYAMA TPC-422R	PI-92013B		10/03/09	10/07/09	231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: J750	S12/14/16 (PDC)	231(0)	10/07/09	10/08/09	0/231	Pass	77 units / lot

PACKAGE QUALIFICATION REPORT

Qual Report : Q09076

Test Number (Reference)	Test Condition	Microchip Spec	Qty. (Acc.)	Date in	Date Out	Def/SS.	Result	Remarks
HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X	PI-92010B		09/12/09	09/16/09	231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C and 85°C System: J750	S12/14/16 (PDC)	231(0)	09/16/09	09/25/09	0/231	Pass	77 units / lot
	Bond Shear (14.00 grams)		30 (0) bond	-	-	0/30	Pass	
High Temperature Storage Life	Stress Condition: Bake 150°C, 504 hrs System: CHINEE	PI-92014B		08/24/09	09/12/09	45		
	Electrical Test: +25°C and 85°C System: J750	S12/14/16 (PDC)	45(0)	09/12/09	09/18/09	0/45	Pass	
	Wire Pull (> 3 grams)		30 (0) wires	-	-	0/30	Pass	

CATALOG_PART_NBR
DSPIC30F2023-20E/PT
DSPIC30F2023-30I/PT
DSPIC30F2023-30I/PTD32
DSPIC30F2023-30V/PTD31
DSPIC30F2023T-20E/PT
DSPIC30F2023T-30I/PT
DSPIC30F2023T-30I/PTD32
DSPIC30F2023T-30V/PTD31
DSPIC30F3011-10E/PTB23
DSPIC30F3011-10I/PTB22
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HA9586T-I/PT
HA9597-I/PT
HA9597T-I/PT
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MTR1585-I/PT
MTR5321-I/PT
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MTR7208-I/PT
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PIC32MX460F512LT-80I/PT



MICROCHIP

**QUALIFICATION REPORT
RELIABILITY LABORATORY**

**Q09079
CCB#: 906
PCN#: CYAR-7U7T6Z**

Date
October 19, 2009

**Qualification of 80L and 100L TQFP packages with SG-8300ECM mold
compound at MTAI assembly site**

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MICROCHIP PACKAGE QUALIFICATION REPORT

Purpose	Qualification of 80L and 100L TQFP package with SG-8300ECM mold compound at MTAI assembly site.
CN	BC092139
QUAL ID	Q09079
MP CODE	YGAG1TV7XC22
Part No.	DSPIC33FJ128MC510T-I/P
Bonding No.	A-031523 Rev. B
<u>Package</u>	
Type	100L TQFP
Package size	12x12x1 mm
Die thickness	11 mils
Die size	207.90 x 196.00 mils
<u>Lead Frame</u>	
Paddle size	280 x 280 mils
Material	C7025
Surface	Ag
Lead Lock	Yes
Part Number	10110001
<u>Die attach material</u>	
Epoxy	3280
Wire	Au wire
Mold Compound	SG-8300ECM
Plating Composition	Matte Tin



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Trace Code
MTA1102102200	TC03092703017.110	0934S5Q
MTA1102202658	TC03910162270.100	093517U
MTA1102202660	TC03910162270.300	093517W

Result

Pass Fail _____

100L TQFP assembled by MTAI 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.

Prepared By: _____) Date: October 19, 2009 (Reliability Engineer)

(Mr.Thinnapol Nakkasun)

Approved By: _____) Date: October 19, 2009 (Reliability Manager)

(Mr. Surasit Phurikhup)

PACKAGE QUALIFICATION REPORT

Qual Report : Q09079

Test Number (Reference)	Test Condition	Microchip Spec	Qty. (Acc.)	Date in	Date Out	Def/SS.	Result	Remarks
<u>MSL</u> MSL Level 1/260°C	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)	S12/14/16 (PDC)	135	09/08/09	09/17/09	0/135	Pass	
<u>Precondition</u> Electrical Test	Electrical Test :+25°C and 85°C System: J750	S12/14/16 (PDC)	693(0)	08/27/09	09/02/09	693		Good Devices
Bake	Bake 150°C, 24 hrs System: CHINEE	PI-92014B		09/08/09	09/09/09	693		
Moisture Soak	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH	PI-91173B		09/09/09	09/10/09	693		
Convection-Reflow	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243	PI-91160B		09/10/09	09/17/09	693		
Electrical Test	Electrical Test :+25°C and 85°C System: J750	S12/14/16 (PDC)		09/17/09	09/24/09	0/693	Pass	

PACKAGE QUALIFICATION REPORT

Qual Report : Q09076

Test Number (Reference)	Test Condition	Microchip Spec	Qty. (Acc.)	Date in	Date Out	Def/SS.	Result	Remarks
Temp Cycle	Stress Condition: -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H Inspection: External crack inspection all units under 40X Optical magnification	PI-91020B		09/24/09	10/06/09	231		Parts had been pre-conditioned at 260°C
		QCI-33003	30(0)	10/06/09	10/06/09	0/30		
	Electrical Test: +85°C System: J750	S12/14/16 (PDC)	231(0)	10/06/09	10/13/09	0/229	Pass	77 units / lot
Bond Strength: Bond Shear (12.40 grams) Wire Pull (> 3 grams)		QCI-91022	15 (0)	10/13/09	10/13/09	0/15	Pass	Wire pull & bond shear after Temp Cycle
			15 (0)	10/13/09	10/13/09	0/15	Pass	
Pressure Cooker	Stress Condition: +121°C, 100% RH, 15 PSI, 96 hrs. System: HIRAYAMA TPC-422R	PI-92013B		09/28/09	10/02/09	231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: J750	S12/14/16 (PDC)	231(0)	10/02/09	10/03/09	0/231	Pass	77 units / lot

PACKAGE QUALIFICATION REPORT

Qual Report : Q09076

Test Number (Reference)	Test Condition	Microchip Spec	Qty. (Acc.)	Date in	Date Out	Def/SS.	Result	Remarks
HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X	PI-92010B		09/26/09	09/30/09	231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C and 85°C System: J750	S12/14/16 (PDC)	231(0)	09/30/09	10/05/09	0/231	Pass	77 units / lot
	Bond Shear (12.40 grams)		30 (0) bonds	-	-	0/30	Pass	
High Temperature Storage Life	Stress Condition: Bake 150°C, 504 hrs System: CHINEE	PI-92014B		08/31/09	09/23/09	45		
	Electrical Test: +25°C and 85°C System: J750	S12/14/16 (PDC)	45(0)	09/23/09	09/25/09	0/45	Pass	
	Wire Pull (> 3 grams)		30 (0) wires	-	-	0/30	Pass	