



Product / Process Change Notification CYAR-7RTMU5

The information below reflects a change that is being implemented.

Notice Date: 05/07/2009

Product Category: dsPIC; PIC16xxx; PIC18xxx; PIC24xxx

Notification Subject: CCB# 893: Qualification of High Density Lead Frame in 28L QFN-S & 44L QFN Packages at UNIS Assembly Site

Notification Body:
PCN Status:
Initial notification

Microchip Part#s Affected (please see the link for these files at the end of this PCN):

See attachment of Affected package/device in Qualification plan.

Microchip_Catalog_Part#s_Affected.xls

Microchip_Catalog_Part#s_Affected.pdf

Description of Change:

Qualification of high density lead frame in 28L QFN-S and 44L QFN packages at UNIS assembly site.

Impacts to Data Sheet:
None

Reason for Change:
To improve on time delivery performance

Change Implementation Status:
In Progress

Estimated First Ship Date:
August 10, 2009 (Date code 0931)

NOTE: Please be advised that during the transition period customers may receive parts with either leadframe, due to existing inventory of the original materials.

Markings to Distinguish Revised from Unrevised Devices: (e.g.: Date Code, Device Marking, Ship Container Marking)
Traceability code



Attachment(s):

PCN#CYAR-7RTMU5_28L & 44L Package_UNIS assembly_CCB#893_Qual Plan.pdf

CCB893_MCHP Catalog Part# Affected.xls CCB893_MCHP Catalog Part# Affected.pdf

CATALOG PART_NBR	CATALOG PART_NBR
28L QFN-S	44L QFN
DSPIC30F1010-20E/MM	DSPIC30F2023-20E/ML
DSPIC30F1010-30I/MM	DSPIC30F2023-30I/ML
DSPIC30F1010T-20E/MM	DSPIC30F2023-30I/MLD32
DSPIC30F1010T-30I/MM	DSPIC30F2023-30V/MLD31
DSPIC30F2010-20E/MM	DSPIC30F2023T-20E/ML
DSPIC30F2010-20I/MM	DSPIC30F2023T-30I/ML
DSPIC30F2010-30I/MM	DSPIC30F2023T-30I/MLD32
DSPIC30F2010-30V/MMA31	DSPIC30F2023T-30V/MLD31
DSPIC30F2010T-20E/MM	DSPIC30F3010-20E/ML
DSPIC30F2010T-20E/MM021	DSPIC30F3010-20I/ML
DSPIC30F2010T-20E/MM022	DSPIC30F3010-30I/ML
DSPIC30F2010T-20E/MMG	DSPIC30F3010T-20E/ML
DSPIC30F2010T-20E/MMG020	DSPIC30F3010T-20I/ML
DSPIC30F2010T-20I/MM	DSPIC30F3010T-30I/ML
DSPIC30F2010T-30I/MM	DSPIC30F3011-10I/MLB22
DSPIC30F2010T-30I/MMG	DSPIC30F3011-20E/ML
DSPIC30F2010T-30V/MMA31	DSPIC30F3011-20I/ML
DSPIC30F2020-20E/MM	DSPIC30F3011-30I/ML
DSPIC30F2020-30I/MM	DSPIC30F3011T-10I/MLB21
DSPIC30F2020-30I/MMB32	DSPIC30F3011T-10I/MLB22
DSPIC30F2020-30I/MMB35	DSPIC30F3011T-20E/ML
DSPIC30F2020T-20E/MM	DSPIC30F3011T-20I/ML
DSPIC30F2020T-30I/MM	DSPIC30F3011T-30I/ML
DSPIC30F2020T-30I/MM020	DSPIC30F3012-20E/ML
DSPIC30F2020T-30I/MMB32	DSPIC30F3012-20I/ML
DSPIC30F2020T-30I/MMB35	DSPIC30F3012-30I/ML
DSPIC33FJ06GS102-E/MM	DSPIC30F3012T-20E/ML
DSPIC33FJ06GS102-I/MM	DSPIC30F3012T-20I/ML
DSPIC33FJ06GS102T-E/MM	DSPIC30F3012T-30I/ML
DSPIC33FJ06GS102T-I/MM	DSPIC30F3013-20E/ML
DSPIC33FJ06GS202-E/MM	DSPIC30F3013-20I/ML
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DSPIC33FJ06GS202T-E/MM	DSPIC30F3013-30I/ML
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DSPIC33FJ128GP202T-I/MM	DSPIC30F3014-20E/ML
DSPIC33FJ128GP802-E/MM	DSPIC30F3014-20I/ML
DSPIC33FJ128GP802-I/MM	DSPIC30F3014-30I/ML
DSPIC33FJ128GP802T-E/MM	DSPIC30F3014-30I/MLA31
DSPIC33FJ128GP802T-I/MM	DSPIC30F3014T-20E/ML
DSPIC33FJ128MC202-E/MM	DSPIC30F3014T-20I/ML
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DSPIC33FJ128MC202T-E/MM	DSPIC30F3014T-30I/MLA31
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DSPIC33FJ16GS402T-E/MM	DSPIC30F4012-20I/ML
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DSPIC33FJ16GS502-E/MM	DSPIC30F4012T-20E/ML
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DSPIC33FJ16GS502T-E/MM	DSPIC30F4012T-30I/ML
DSPIC33FJ16GS502T-I/MM	DSPIC30F4013-20E/ML
DSPIC33FJ32GP202-E/MM	DSPIC30F4013-20I/ML
DSPIC33FJ32GP202-I/MM	DSPIC30F4013-30I/ML
DSPIC33FJ32GP202T-E/MM	DSPIC30F4013-30I/MLB31
DSPIC33FJ32GP202T-I/MM	DSPIC30F4013T-20E/ML
DSPIC33FJ32GP302-E/MM	DSPIC30F4013T-20I/ML
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DSPIC33FJ32GP302T-E/MM	DSPIC30F4013T-30I/MLB31
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DSPIC33FJ32MC202-E/MM	DSPIC33FJ16GP304-I/ML
DSPIC33FJ32MC202-I/MM	DSPIC33FJ16GP304T-E/ML
DSPIC33FJ32MC202T-E/MM	DSPIC33FJ16GP304T-I/ML
DSPIC33FJ32MC202T-I/MM	DSPIC33FJ16MC304-E/ML
DSPIC33FJ32MC302-E/MM	DSPIC33FJ16MC304-I/ML
DSPIC33FJ32MC302-I/MM	DSPIC33FJ16MC304T-E/ML
DSPIC33FJ32MC302T-E/MM	DSPIC33FJ16MC304T-I/ML
DSPIC33FJ32MC302T-I/MM	DSPIC33FJ32GP204-E/ML
DSPIC33FJ64GP202-E/MM	DSPIC33FJ32GP204-I/ML
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DSPIC33FJ64GP802T-E/MM	DSPIC33FJ32MC204T-I/ML
DSPIC33FJ64GP802T-I/MM	PIC16F747-E/ML
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DSPIC33FJ64MC202-I/MM	PIC16F747T-I/ML
DSPIC33FJ64MC202T-E/MM	PIC16F74-E/ML
DSPIC33FJ64MC202T-I/MM	PIC16F74-I/ML
DSPIC33FJ64MC802-E/MM	PIC16F74T-E/ML
DSPIC33FJ64MC802-I/MM	PIC16F74T-I/ML
DSPIC33FJ64MC802T-E/MM	PIC16F777-E/ML
DSPIC33FJ64MC802T-I/MM	PIC16F777-I/ML
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PIC18F2331-I/MM	PIC16F77-E/ML
PIC18F2331T-I/MM	PIC16F77-I/ML
PIC18F2431-E/MM	PIC16F77T-E/ML
PIC18F2431-E/MMC01	PIC16F77T-I/ML
PIC18F2431-I/MM	PIC16F874A-E/ML
PIC18F2431T-I/MM	PIC16F874A-I/ML
PIC18F2480-E/ML	PIC16F874AT-I/ML
PIC18F2480-I/ML	PIC16F877A-E/ML
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PIC18LF2431T-I/MM	PIC16F914-E/ML
PIC18LF2480-I/ML	PIC16F914-I/ML
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PIC24FJ16GA004T-I/MLB4
PIC24FJ32GA004-E/ML
PIC24FJ32GA004-I/ML
PIC24FJ32GA004-I/MLB4
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PIC24FJ48GA004-I/ML
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PIC24FJ64GA004-E/ML
PIC24FJ64GA004-I/ML
PIC24FJ64GA004-I/MLB4
PIC24FJ64GA004T-I/ML
PIC24HJ16GP304-E/ML
PIC24HJ16GP304-I/ML
PIC24HJ16GP304T-E/ML
PIC24HJ16GP304T-I/ML
PIC24HJ32GP204-E/ML
PIC24HJ32GP204-I/ML
PIC24HJ32GP204T-E/ML
PIC24HJ32GP204T-I/ML



QUALIFICATION PLAN

CCB#: 893
PCN#: CYAR-7RTMU5

Date:
Apr 27, 2009

Qualification of High Density Lead Frame in 28L QFN-S & 44L QFN Packages at UNIS Assembly Site

Distribution

Surasit P.
Wanphen L.
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Purpose: _____ Qualification of High Density Lead Frame in 28L QFN-S &
44L QFN Packages at UNIS Assembly Site
Mask: _____ DECS9
Part No.: _____ PIC18F468
Bonding No.: _____ A-029554 Rev. B

Package:

Type _____ 44L QFN
Width or Size: _____ 8x8
Die thickness: _____ 11 mils
Die size: _____ 177.4 x 227.4 mils

Lead frame:

Paddle size: _____ 268 x 268 mils
Material _____ A194
Surface _____ Bare copper on paddle
Process _____ Etched
Lead Lock _____ No
Part Number _____ TBD

Wire:

Material _____ Au

Die Attach Epoxy:

Part Number _____ CRM1067DJ
Conductive _____ Yes

Mold Compound: _____ G770HCD

Reliability Test plan: _____ See attached, STD Package Reliability Test plan for 44L
QFN (8x8) Package at UNIS.

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Quantity of Lots	Total Units	Fail Accept #	Est. Dur. Days	Special Instructions
Solderability	JESD22 B102; Perform 8 hour steam aging prior to testing.	22	0	1	22	> 95% lead coverage	5	
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	1	5	0	5	30 bonds from a min. of 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5		5	30 bonds from a min. 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	0	3	ALL	0	5	All devices prior to submission for qualification testing
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-020C for package type; Electrical test pre and post stress at +25°C. Perform SAM analysis using the standard sample size. MSL1/260°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.

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Quantity of Lots	Total Units	Fail Accept #	Est. Dur. Days	Special Instructions
HAST *	+130 °C/85% RH for 96 hours. Electrical test pre and post stress at +25 and +85°C.	77	5	3	246	0	10	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Autoclave *	+121 °C/15 psig for 96 hours. 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 +85°C; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress.	77	5	3	246	0	15	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.