A Leading Provider of Microcontrollers & Analog Semiconductors

Date:	13 Mar 2013
Product Category:	Analog (Linear & Mixed Signal) AND Interface; 8-bit Microcontrollers
Device Family:	
Notification subject:	CCB 1217.01 Initial Notice: Qualification of 8L VDFN (4x4x0.9 mm) at LPI assembly site.
Notification text:	PCN Status: Initial notification

Microchip Parts Affected:
See attachments of affected catalog part numbers (CPN) labeled as…
PCN_CYER-07ISFB025_Affected_CPN.xls
PCN_CYER-07ISFB025_Affected_CPN.pdf

Description of Change:
Qualification of 8L VDFN (4x4x0.9 mm) at LPI assembly site

Impacts to Data Sheet:
None

Reason for Change:
To improve productivity

Change Implementation Status:
In Progress

Estimated First Ship Date:
June 1, 2013 (date code: 1409)

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:
March 13, 2013: 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_CYER-07ISFB025_Affected CPN.xls PCN_CYER-07ISFB025_Affected CPN.pdf PCN_CYER-07ISFB025_Qual Plan.pdf

Please contact your local Microchip sales office with questions or concerns regarding this notification.

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To opt out of future offer or information emails (other than product change notification emails), click here to go to microchipDIRECT and login, then click on the "My account" link, click on "Update profile" and un-check the box that states "Future offers or information about Microchip's products or services."

Product Change Notification - CYER-07ISFB025

Parts Affected

MCP2021
PIC12F629
PIC12F615
PIC12F609
PIC12F683
MCP2003A
MCP6V07
MCP6V27
PIC12F675
PIC12F635
MCP2003
MCP2004A
MCP2004
MCP6V02

QUALIFICATION PLAN

PCN #: CYER-07ISFB025

Date:
March 06, 2013

Qualification of 8L VDFN (4x4x0.9 mm) at LPI assembly site

Distribution

Surasit P.	A. Navarro
Wanphen L.	R Sharma
Wichai K.	Chaweng W.
Charles T.	
Rangsun K.	

Microchip Technology (Thailand) Co., Ltd.
14 Moo 1 T. Wangtakien A. Muangchacherngsao,
Chacherngsao, Thailand, 24000
Tel. (6638) 857119-45, 857311-19 ext. 1231
Fax (6638) 857149-50

Purpose:________________ Qualification of 8L VDFN (4x4x0.9 mm) at LPI assembly site

Part No.: ________________ VGGA1

BD No:__________________ BDE002239 (Engineering BD)

CCB No: ________________ 1217.01

Package:

Type________ 8L VDFN

Width or Size____ 4x4x0.9 mm

Die thickness:____ 8 mils

Die size: ___ 61.7x84.3 mil _

Leadframe:

Material : C194/MHT

Part Number 09N001676

Sold Plating:

Material : Pure matte tin/JauJanq

Wire:

Material : Au wire 4N/Tanaka

Die Attach Film:

Part Number 8340/Ablestik

Conductive_____ YES

Mold Compound: EME-G770HJ/Sumitomo

Reliability Test plan: ______ See attached, STD Package Reliability Test plan on each package.

Per FRM-39000CTG Revision G

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	1	5	0 fails after TC	5	30 bonds from a min. 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5	0	5	30 bonds from a min. 5 devices.
Wire Sweep								Required for any reduction in wire bond thickness.
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 +25C and +85°C. Test 1 lot at 85°C and 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. For hot temp testing, pre/post test 1 lot at 85°C and 125°C (if applicable)
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. Perform SAM analysis using the standard sample size. MSL-1 @ 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)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	Special Instructions
HAST	+130°C/85% RH for 96 hours. Electrical test pre and post stress at +25°C and +85°C. Test 1 lot at 85°C and 125°C.	77	5	3	246	0	10	Spares should be properly identified. Use the parts which have gone through Pre-conditioning. For hot temp testing, pre/post test 1 lot at 85°C and 125°C (if applicable)
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 and +85°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. Electrical test pre and post stress at +25°C and +85°C. Test 1 lot at 85°C and 125°C.	77	5	3	246	0	15	Spares should be properly identified. Use the parts which have gone through Pre-conditioning. For hot temp testing, pre/post test 1 lot at 85°C and 125°C (if applicable). Please decap/ inspect 5 units for anomalies.

PCN_CYER-07ISFB025
CATALOG_PART_NBR
PIC12F629-I/MDC17
PIC12HV615-E/MD
PIC12HV609T-I/MD
PIC12HV609-I/MD
PIC12HV609-E/MD
PIC12F683-I/MD
PIC12HV615-I/MD
PIC12F683T-I/MD
PIC12F629-I/MD
PIC12F683T-E/MD
MCP2003A-E/MD
MCP6V07-E/MD
PIC12F629T-I/MD
MCP6V07T-E/MD
MCP6V27-E/MD
PIC12F675-E/MD
MCP6V27T-E/MD
PIC12F615-H/MD
PIC12F629T-E/MD
PIC12HV615T-I/MD
PIC12F615-E/MD
PIC12F609T-I/MD
PIC12F615T-I/MD
PIC12F609-E/MD
PIC12F629-E/MD
PIC12F609-I/MD
PIC12F615T-I/MD029
PIC12F675-I/MD176
PIC12F675-I/MD
PIC12F683-E/MD
PIC12F615T-I/MDC01
PIC12F683-E/MD081
PIC12F683-E/MD076
PIC12F683-E/MD066
PIC12F635T-I/MD
PIC12F615T-I/MD056
PIC12F635-I/MD
MCP2021AT-500E/MD
MCP2021PT-330E/MD
PIC12F615-I/MD
MCP2021A-330E/MD
MCP2021A-500E/MD
MCP2021AT-330E/MD
MCP2021P-330E/MD
MCP2021P-500E/MD
PIC12F615-I/MDC01
MCP2003AT-E/MD
MCP2003-E/MD
MCP2003T-E/MD
MCP2004A-E/MD

MCP2004AT-E/MD
PIC12F615-I/MD029
MCP2004T-E/MD
MCP2021-330E/MD
MCP2021-500E/MD
MCP2004-E/MD
MCP2025T-330E/MD
MCP6V02T-E/MD
MCP2025-330E/MD
MCP2025-500E/MD
MCP2025T-500E/MD
MCP6V02-E/MD
MCP2021PT-500E/MD
MCP2021T-330E/MD
MCP2021T-500E/MD