



Date: 22 Sep 2011

Product Category: 8-bit Microcontrollers; RF and Security; Analog (Linear & Mixed Signal) AND Interface; Touch Sensing Technologies; 16-bit Microcontrollers and Digital Signal Controllers

Device Family:  

Notification subject: CCB 1090: Qualification of 18L PDIP at ALPH (MMT) assembly site.

Notification text: PCN Status:
Initial notification

Microchip Parts Affected:
See attachments of affected catalog part numbers (CPN) labeled as...
PCN_CYER-16AOEB180_Affected_CPN.xls
PCN_CYER-16AOEB180_Affected_CPN.pdf

Description of Change:
Qualification of 18L PDIP at ALPH (MMT) assembly site.

Impacts to Data Sheet:
None

Reason for Change:
To improve manufacturability

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:
September 22, 2011: Issued initial notification.

Attachment(s):

[PCN_CYER-16AOEB180_Affected_CPN.pdf](#) [PCN_CYER-16AOEB180_Affected_CPN.xls](#)
[PCN_CYER-16AOEB180_Qual Plan.pdf](#)

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Product Change Notification - CYER-16AOEB180

Parts Affected

PIC16CE625
PIC16CE624
PIC16CE623
PIC16C56
PIC16C71
PIC16HV540
PIC16C54
PIC16F83
HCS512
PIC16F84
PIC16C54A
PIC16C620
PIC16C621
PIC16C622
PIC16C554
PIC16C558
PIC16C710
PIC16C711
PIC16C715
PIC16CR54C
MCP2510
PIC16CR58B
PIC16F627
PIC16F628
MCP2150
MCP2155
PIC16F84A
PIC16C54C
PIC16C620A
PIC16C622A
HS12-100D0/12DS2F
HS12-100D0/12DS15
MCP2140
PIC16C621A
PIC16C56A
PIC16C58B
PIC16C712
PIC16C716
PIC16C717
PIC16F819
PIC16F648A
PIC16F88
PIC16F87
PIC16F627A

PIC16F628A
MCP2140A
MCP23008
MCP23S08
PIC16F818
PIC18F1320
PIC18F1220
MCP2515
PIC16F54
PIC16F716
PIC18F1230
PIC18F1330
MCP23009
MCP23S09
dsPIC30F3012
dsPIC30F2011
PIC16F1827
PIC16F1826
PIC16F1847
dsPIC33FJ16GP101
PIC24HJ12GP201
dsPIC33FJ12GP201

PCN_CYER-16AOEB180
CATALOG_PART_NBR
CF745-04/P
DSPIC30F2011-20E/P
DSPIC30F2011-20I/P
DSPIC30F2011-30I/P
DSPIC30F3012-20E/P
DSPIC30F3012-20I/P
DSPIC30F3012-30I/P
DSPIC33FJ12GP201-E/P
DSPIC33FJ12GP201-I/P
DSPIC33FJ16GP101-E/P
DSPIC33FJ16GP101-I/P
HCS512/P
HCS512-I/P
HS12-100D0/12DS15
HS12-100D0/12DS2F
MCP2140A-I/P
MCP2140-I/P
MCP2140-I/PRVB
MCP2150-I/P
MCP2150-I/PRVB
MCP2150-I/PRVC
MCP2155-I/P
MCP2155-I/PRVB
MCP2155-I/PRVC
MCP23008-E/P
MCP23009-E/P
MCP23S08-E/P
MCP23S09-E/P
MCP2510-E/P
MCP2510-I/P
MCP2515-E/P
MCP2515-E/PRB2
MCP2515-E/PRB4
MCP2515-I/P
MCP2515-I/PRB2
MCP2515-I/PRB4
MCV18A-I/P
MCV18E-I/P
PIC16C54-10/P
PIC16C54-10I/P
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PIC16C54A-04/P070
PIC16C54A-04/P428
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PIC16C54C-04/P091
PIC16C54C-04/P101
PIC16C54C-04/P103
PIC16C54C-04/P109
PIC16C54C-04/P132
PIC16C54C-04/P133
PIC16C54C-04/P141
PIC16C54C-04/P148
PIC16C54C-04/P154
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PIC16C54C-04I/P
PIC16C54C-04I/P096
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PIC16C54C-20I/P
PIC16C54C-40/P
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PIC16C54-HSE/P
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PIC16C54-LPE/P
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PIC18F1320-H/P
PIC18F1320-I/P
PIC18F1330-E/P
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PIC24HJ12GP201-E/P
PIC24HJ12GP201-I/P
RE272E18F
RE274E18F
RE276E18F
RE278E18F



MICROCHIP

QUALIFICATION PLAN

PCN #: CYER-16AOEB180

**Date:
Sep 16, 2011**

Qualification of 18L PDIP at ALPH (MMT).

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Purpose: _____ Qualification of 18L PDIP at ALPH (MMT).

MP code: _____ A5AB7

Part No.: _____ PIC16F627

BD No: _____ BDM-000045 rev.B

CCB No: _____ 1090

Package:

Type _____ 18L PDIP

Width or Size _____ 300 mil

Die thickness: _____ 15 mils

Die size: _____ 134.7 x 176.3 mils

Lead frame:

Paddle size: _____ 160 x 250

Material _____ A194

Surface _____ Ag plate

Process _____ Stamp

Lead Lock _____ No

Part Number _____ 10101812

Wire:

Material _____ Au

Die Attach Epoxy:

Part Number _____ CRM-1064L

Conductive _____ Yes

Mold Compound: _____ GE-800

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

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 SnPb Solderability	JESD22B-102E; Perform 8 hour steam aging prior to testing. Standard SnPb: SnPb finish, SnPb solder, wetting temp 215°C for SMD & 245°C for through hole packages.	22	5	1	27	> 95% lead coverage	5	
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 minimum of 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5	0	5	30 bonds from a minimum of 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 and Cpk>1.33 or Ppk ≥1.67	5	
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	

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
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 hot temp.	45	5	1	50	0	10	
HAST	+130°C/85% RH for 96 hours. Electrical test pre and post stress at +25°C and hot temp. 1 lot to be tested at 85 and 125C.	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	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. 1 lot to be tested at 85 and 125C.	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).