A Leading Provider of Microcontrollers & Analog Semiconductors

Date:	13 Aug 2012
Product Category:	Analog (Thermal, Power Management & Safety)
Device Family:	
Notification subject:	CCB 1147.01 Final Notice: Qualification of 3L SOT-23A package with selective Ag plating on the lead-frame at LPI assembly site.

Notification text:

PCN Status:
Final notification

Microchip Parts Affected:
See attachments of affected catalog part numbers (CPN) labeled as…
PCN_CYER-05QTRT639_Affected_CPN.xls
PCN_CYER-05QTRT639_Affected_CPN.pdf

Description of Change:
Qualification of 3L SOT-23A package with selective Ag plating on the lead-frame at LPI assembly site.

Pre Change:
Ag plating on entire lead-frame.

Post Change:
Ag plating on selected areas of lead-frame (die not in direct contact with Ag plating).

Impacts to Data Sheet:
None

Reason for Change:
To improve manufacturability

Change Implementation Status:
In Progress

Estimated First Ship Date:
August 30, 2012 (date code: 1235)

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:
April 11, 2012: Issued initial notification.

August 13, 2012: Issued final notification. Attached qualification report. Revised estimated first ship date from 6/30/2012 to 8/30/2012.

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-05QTRT639_Qual Report.pdf PCN_CYER-05QTRT639_Affected_CPN.xls PCN_CYER-05QTRT639_Affected_CPN.pdf

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

Terms and Conditions:

If you wish to change your product/process change notification (PCN) profile please log on to our website at http://www.microchip.com/PCN sign into myMICROCHIP to open the myMICROCHIP home page, then select a profile option from the left navigation bar.

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-05QTRT639

Parts Affected

MCP1702
MCP1703A
MCP1703
MCP1754S

PCN_CYER-05QTRT639
CATALOG_PART_NBR
MCP1702T-1202E/CB
MCP1702T-1502E/CB
MCP1702T-1802E/CB
MCP1702T-2102E/CB
MCP1702T-2202E/CB
MCP1702T-2302E/CB
MCP1702T-2502E/CB
MCP1702T-2702E/CB
MCP1702T-2802E/CB
MCP1702T-3002E/CB
MCP1702T-3302E/CB
MCP1702T-3602E/CB
MCP1702T-4002E/CB
MCP1702T-4101E/CB
MCP1702T-4502E/CB
MCP1702T-4702E/CB
MCP1702T-5002E/CB
MCP1702T-5102E/CB
MCP1703AT-1202E/CB
MCP1703AT-1502E/CB
MCP1703AT-1802E/CB
MCP1703AT-2502E/CB
MCP1703AT-2802E/CB
MCP1703AT-3002E/CB
MCP1703AT-3302E/CB
MCP1703AT-4002E/CB
MCP1703AT-5002E/CB
MCP1703T-1202E/CB
MCP1703T-1502E/CB
MCP1703T-1802E/CB
MCP1703T-2402E/CB
MCP1703T-2502E/CB
MCP1703T-2502E/CBV04
MCP1703T-2802E/CB
MCP1703T-3002E/CB
MCP1703T-3002E/CBVAO
MCP1703T-3302E/CB
MCP1703T-3302E/CBV05
MCP1703T-3602E/CB
MCP1703T-4002E/CB
MCP1703T-4502E/CB
MCP1703T-5002E/CB
MCP1703T-5002E/CBV01
MCP1703T-5002E/CBV06
MCP1754ST-1802E/CB
MCP1754ST-3302E/CB
MCP1754ST-5002E/CB

QUALIFICATION REPORT

RELIABILITY LABORATORY

PCN#: CYER-05QTRT639

Date
July 31, 2012

Qualification of 3L SOT-23A package with selective Ag plating on the lead-frame at LPI assembly site.

Distribution

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PACKAGE QUALIFICATION REPORT

Purpose	Qualification of 3L SOT-23A package with selective Ag plating on the lead-frame at LPI assembly site.
CN	BC120765
QUAL ID	Q12062
MP CODE	HBAA1YM7XA30
Part No.	MCP1702T-3002E/CB
Bonding No.	BDM-000119 Rev. A (Engineering Bonding)
CCB No.	1147.01
<u>Package</u>	
Type	3L SOT-23A
Die thickness	8 mils
Die size	46.5 x 41.5 mils
<u>Lead Frame</u>	
Paddle size	59 x 47 mils
Material	EFTEC64T (ASM-Hongkong)
Surface	Selective Ag plating
Process	Stamped
Lead Lock	No
Part Number	092000307
<u>Die attach material</u>	
Epoxy	8006NS + 84-3J (Ablestik/Henkel-USA)
	Note : WBC material (8006NS) was applied by MTAI
Wire	Au wire (MEM-Malaysia)
Mold Compound	G600 (Sumitomo -Taiwan)
Plating Composition	Matte Tin

PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafter Lot No.	Trace Code
LPI-130800051	TMPE212439148.200	1221KUH
LPI-130800052	TMPE212439148.200	1221KUJ
LPI-130800053	TMPE212439148.200	1221KUK

Result [X] Pass [ ] Fail [ ] ____________________

3L SOT-23A assembled by LPI 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:** July 31, 2012 **(Reliability Engineer)**

(Mr.Udom Suksansakul)

Approved By:____________________ **Date:** July 31, 2012 **(Reliability Manager)**

(Mr. Somnuek Thongprasert)

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Microchip Spec	Qty. (Acc.)	Date in	Date Out	Def/SS.	Result	Remarks
MSL								
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	06/19/12	06/30/12	0/135	Pass	

Test Number (Reference)	Test Condition	Microchip Spec	Qty. (Acc.)	Date in	Date Out	Def/SS.	Result	Remarks
Precondition								
Electrical Test	Electrical Test :+25°C System: TTS	S12/14/16 (PDC)	693(0)	06/12/12	06/14/12	693		Good Devices
Bake	Bake 150°C, 24 hrs System: CHINEE	PI-92014B		06/17/12	06/18/12	693		
Moisture Soak	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH	PI-91173B		06/18/12	06/25/12	693		
Convection-Reflow	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243	PI-91160B		06/25/12	06/25/12	693		
Electrical Test	Electrical Test :+25°C System: TTS	S12/14/16 (PDC)		06/25/12	06/30/12	0/693	Pass	

PACKAGE QUALIFICATION REPORT

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 QCI-33003	 30(0)	07/03/12 07/14/12	07/14/12 07/14/12	231 0/30		Parts had been pre-conditioned at 260°C
	Electrical Test: + 25°C System: TTS	S12/14/16 (PDC)	231(0)	07/14/12	07/14/12	0/231	Pass	77 units / lot
UNBIASED-HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. System: HAST 6000X	PI-91261B		07/02/12	07/07/12	231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: TTS	S12/14/16 (PDC)	231(0)	07/07/12	07/07/12	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
HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. **Bias Volt:** 12 Volts System: HAST 6000X	PI-92010B		07/05/12	07/09/12	231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: TTS	S12/14/16 (PDC)	231(0)	07/09/12	07/10/12	0/231	Pass	77 units / lot
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 504 hrs System: SHEL LAB	PI-92014B S12/14/16 (PDC)		06/16/12	07/09/12	45		45 units
	Electrical Test: +25°C System: TTS		45(0)	07/09/12	07/10/12	0/45	Pass	
Solderability Temp 245°C	**Steam Aging:** Temp 93°C,8Hrs System: SAS-3000 **Solder Dipping**: Solder Temp.245°C Solder material: Pb Free Sn 95.5Ag3.9 Cu0.6 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	QCI-91010B	22 (0)	06/17/12 06/18/12 06/18/12	06/18/12 06/18/12 06/18/12	22 22 0/22	Pass	
Bond Line Thickness	Bond Line Thickness	SPI-45528	15(0)	-	-	15(0)	Pass	5 units / lot
Bond Strength Data Assembly	Bond Shear (12.40 grams)	QCI-91022	30 (0) bonds	-	-	0/30	Pass	
	Wire Pull (> 4 grams)		30 (0) wires	-	-	0/30	Pass	