

# Product Change Notification - CYER-18SMGE942

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**Date:** 11 Nov 2013

**Product Category:** Analog (Thermal, Power Management & Safety)

**Notification subject:** CCB 1320.01 Final Notice: Qualification of 3L SOT-223 with conductive die attach at ATP assembly site.

**Notification text:** **PCN Status:**  
Final notification

## **Microchip Parts Affected:**

See attachments of affected catalog part numbers (CPN) labeled as...

PCN\_CYER-18SMGE942\_Affected\_CPN.xls

PCN\_CYER-18SMGE942\_Affected\_CPN.pdf

## **Description of Change:**

Qualification of 3L SOT-223 with conductive die attach at ATP assembly site.

## **Impacts to Data Sheet:**

Yes – The package outside dimensions will be revised.

## **Reason for Change:**

To improve on time delivery performance

## **Change Implementation Status:**

In Progress

## **Estimated First Ship Date:**

December 6, 2013 (date code: 1349)

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:**

**August 8, 2013:** Issued initial notification.

**November 12, 2013:** Issued final notification. Attached the qualification report. Revised the estimated first ship date from October 18, 2013 to December 6, 2013.

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-18SMGE942\\_Affected CPN.pdf](#) [PCN\\_CYER-18SMGE942\\_Qual Report.pdf](#) [PCN\\_CYER-18SMGE942\\_Affected CPN.xlsx](#)

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."

PCN_CYER-18SMGE942
CATALOG_PART_NBR
MCP1703-1202E/DB
MCP1703-1502E/DB
MCP1703-1802E/DB
MCP1703-2502E/DB
MCP1703-2802E/DB
MCP1703-3002E/DB
MCP1703-3302E/DB
MCP1703-4002E/DB
MCP1703-5002E/DB
MCP1703A-1202E/DB
MCP1703A-1502E/DB
MCP1703A-1802E/DB
MCP1703A-2052E/DB
MCP1703A-2502E/DB
MCP1703A-2802E/DB
MCP1703A-3002E/DB
MCP1703A-3072E/DB
MCP1703A-3302E/DB
MCP1703A-4002E/DB
MCP1703A-4102E/DB
MCP1703A-5002E/DB
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MCP1790T-5002E/DBV02
MCP1790T-5002E/DBVAO
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MCP1826ST-5002E/DB
TC1108-2.5VDB
TC1108-2.5VDBTR
TC1108-2.7VDB
TC1108-2.7VDBTR
TC1108-2.8VDB
TC1108-2.8VDBTR
TC1108-3.0VDB
TC1108-3.0VDBTR
TC1108-3.3VDB
TC1108-3.3VDBTR
TC1108-5.0VDB
TC1108-5.0VDBTR
TC1262-2.5VDB
TC1262-2.5VDBTR
TC1262-2.8VDB
TC1262-2.8VDBTR
TC1262-3.0VDB
TC1262-3.0VDBTR
TC1262-3.3VDB
TC1262-3.3VDBMR
TC1262-3.3VDBTR
TC1262-3.3VDBTR-V01
TC1262-5.0VDB
TC1262-5.0VDBTR
TC1264-1.8VDB
TC1264-1.8VDBTR
TC1264-2.5VDB
TC1264-2.5VDBTR
TC1264-3.0VDB
TC1264-3.0VDBTR
TC1264-3.3VDB

TC1264-3.3VDBTR



**MICROCHIP**

**QUALIFICATION REPORT  
RELIABILITY LABORATORY**

**PCN #: CYER-18SMGE942**

Date:  
October 29, 2013

**Qualification of 3L SOT-223 with conductive die attach at ATP assembly site.**

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## MICROCHIP PACKAGE QUALIFICATION REPORT

<b>Purpose</b>	Qualification of 3L SOT-223 with conductive die attach at ATP assembly site.
<b>CN</b>	BC131194
<b>QUAL ID</b>	Q13098
<b>MP CODE</b>	VKAB1YF6XA50
<b>Part No.</b>	MCP1790T-5002E/DB
<b>Bonding No.</b>	BDM-000364 Rev. A
<b>CCB No.</b>	1320.01
<b><u>Package</u></b>	
<b>Type</b>	3L SOT-223
<b>Die thickness</b>	11 mils
<b>Die size</b>	62.50 x 63.40 mils
<b><u>Lead Frame</u></b>	
<b>Paddle size</b>	102 x 133 mils (ASM Hongkong)
<b>Material</b>	C194
<b>Surface</b>	Ag ring
<b>Process</b>	Etched
<b>Lead Lock</b>	No
<b>Part Number</b>	101377161
<b><u>Die attach material</u></b>	
<b>Epoxy</b>	8290 (Henkel South Korea)
<b>Wire</b>	Au wire (Heesung South Korea)
<b>Mold Compound</b>	G700LS (Sumitomo Singapore)
<b>Plating Composition</b>	Matte Tin





# MICROCHIP PACKAGE QUALIFICATION REPORT


## Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
ANAP141900200	XFGM913475214.200	1332M30
ANAP141900207	XFGM913475214.200	1332M3V
ANAP141900215	XFGM913475214.200	1332M4R

## Result

Pass     Fail     \_\_\_\_\_

3L SOT-223 assembled by ATP (ANAP) 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 29, 2013 (Sr. Reliability Engineer)

(Mr. Udom Suksansakul)

Approved By:  Date: October 29, 2013 (Reliability Manager)

(Mr. Somnuek Thongprasert)

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
<b>Moisture/Reflow Sensitivity Classification Test (At MSL Level 1)</b>	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)	IPC/JEDEC C J-STD-020D	135	0/135	Pass	

<b><u>Precondition</u></b> <b><u>Prior Perform</u></b> <b><u>Reliability Tests</u></b> <b>(At MSL Level 1)</b>	<b>Electrical Test</b> :+25°C System: TTS	JESD22- A113	693(0)	693	Pass	Good Devices
	Bake 150°C, 24 hrs System: CHINEE			693		
	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH			693		
	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243			693		
	<b>Electrical Test</b> :+25°C System: TTS			0/693		

# PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
<b>Temp Cycle</b>	<b>Stress Condition:</b> -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H Inspection: External crack inspection all units under 40X Optical magnification	JESD22-A104		231		Parts had been pre-conditioned at 260°C
	<b>Electrical Test:</b> + 25°C  System: TTS		231(0)	0/231	Pass	77 units / lot
	<b>Bond Strength:</b> Wire Pull (> 4.0 grams) Bond Shear (18.00 grams)		15 (0)	0/15	Pass	
			15 (0)	0/15	Pass	
<b>UNBIASED-HAST</b>	<b>Stress Condition:</b> +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		231		Parts had been pre-conditioned at 260°C
	<b>Electrical Test:</b> +25°C System: TTS		231(0)	0/231	Pass	77 units / lot
<b>HAST</b>	<b>Stress Condition:</b> +130°C/85%RH, 96 hrs. <b>Bias Volt:</b> 30 Volts System: HAST 6000X	JESD22-A110		231		Parts had been pre-conditioned at 260°C
	<b>Electrical Test:</b> +25°C System: TTS		231(0)	0/231	Pass	77 units / lot
<b>High Temperature Storage Life</b>	<b>Stress Condition:</b> Bake 175°C, 504 hrs System: SHEL LAB	JESD22-A103		45		45 units
	<b>Electrical Test</b> :+25°C System: TTS		45(0)	0/45	Pass	

## PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
<b>Solderability</b> <b>Temp 215°C</b>	<b>Steam Aging:</b> Temp 93°C,8Hrs System: SAS-3000 Solder Dipping: Solder Temp.215°C Solder material: SnPb Sn63,Pb37 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	JESD22- B102	22 (0)	22  22 0/22	Pass	
<b>Solderability</b> <b>Temp 245°C</b>	<b>Steam Aging:</b> 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	JESD22- B102	22 (0)	22  22 0/22	Pass	
<b>Physical</b> <b>Dimensions</b>	Physical Dimension, 30 units from 1 lot	JESD22- B100/B108	30(0) Units	0/30	Pass	
<b>Bond Strength</b> <b>Data Assembly</b>	Wire Pull (> 4.0 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (18.00 grams)	JESD22- B116	30 (0) bonds	0/30	Pass	