



## Product Change Notification - GBNG-07TJKP903

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**Date:**

26 Jun 2018

**Product Category:**

Digital Potentiometers; System D/A Converters; Linear Op Amps; Instrumentation Amplifier; Temperature Sensors; 8-bit PIC Microcontrollers; Memory; Sigma - Delta A/D Converters; Power Management - PWM Controllers

**Affected CPNs:****Notification subject:**

CCB 3178 Final Notice: Qualification of MMT as an additional assembly site for selected products of the 150K and 160K wafer technologies available in 8L MSOP package using CuPdAu bond wire.

**Notification text:****PCN Status:**

Final notification

**PCN Type:**

Manufacturing Change

**Microchip Parts Affected:**

Please open one of the icons found in the Affected CPNs section above.

NOTE: For your convenience Microchip includes identical files in two formats (.pdf and .xls).

**Description of Change:** Qualification of MMT as an additional assembly site for selected products of the 150K and 160K wafer technologies available in 8L MSOP package using CuPdAu bond wire.

**Pre Change:**

Assembled at MTAI assembly site.

**Post Change:**

Assembled at MTAI or MMT assembly site.

**Pre and Post Change Summary:**

	Pre Change	Post Change	
Assembly Site	Microchip Technology Thailand - HQ (MTAI)	Microchip Technology Thailand - HQ (MTAI)	Microchip Technology Thailand - Branch (MMT)
Wire material	CuPdAu	CuPdAu	CuPdAu
Die attach material	8390A	8390A	8390A
Molding compound material	G600V	G600V	G600V
Lead frame material	CDA194	CDA194	CDA194

**Impacts to Data Sheet:**

None

**Change Impact:**

None

**Reason for Change:**

To improve productivity by qualifying MMT as an additional assembly site.

**Change Implementation Status:**

In Progress



**Estimated First Ship Date:**

July 26, 2018 (Date Code: 1830)

NOTE: Please be advised that after the estimated first ship date customers may receive pre and post change parts.

**Time Table Summary:**

	November 2017					>	June 2018					July 2018				
Workweek	44	45	46	47	48		22	23	24	25	26	27	28	29	30	31
Initial PCN Issue Date		X														
Qual Report											X					
Availability											X					
Final PCN Issue Date											X					
Estimated First Ship Date															X	

**Method to Identify Change:**

Traceability code

**Qualification Report:**

Please open the attachments included with this PCN labeled as PCN\_#\_Qual\_Report.

**Revision History:**

**November 28, 2017:** Issued initial notification.

**June 26, 2018:** Issued final notification. Attached the qualification report. Provided estimated first date to be on July 26,2018.

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\\_GBNG-07TJKP903\\_Qual\\_Report.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."



**QUALIFICATION REPORT SUMMARY**  
RELIABILITY LABORATORY

**PCN #: GBNG-07TJKP903**

**Date:**  
**June 18, 2018**

**Qualification of MMT as an additional assembly site for selected products of the 150K and 160K wafer technologies available in 8L MSOP package using CuPdAu bond wire.**



## MICROCHIP PACKAGE QUALIFICATION REPORT

**Purpose** Qualification of MMT as an additional assembly site for selected products of the 150K and 160K wafer technologies available in 8L MSOP package using CuPdAu bond wire.

**CN** ES188144  
**QUAL ID** Q18064  
**MP CODE** DE0664A3XB04  
**Part No.** PIC12F617-E/MS  
**Bonding No.** BDM-001548 Rev. A  
**CCB No.** 3178

### Package

**Type** 8L MSOP  
**Package size** 3x3 mm  
**Die thickness** 8 mils  
**Die size** 77.40 x 59.00 mils

### Lead Frame

**Paddle size** 82 x 94 mils  
**Material** CDA194  
**Surface** Bare Cu  
**Process** Stamped  
**Lead Lock** No  
**Part Number** 10100839  
**Treatment** BOT

### Material

**Epoxy** 8390A  
**Wire** CuPdAu  
**Mold Compound** G600V  
**Plating Composition** Matte Tin



## MICROCHIP PACKAGE QUALIFICATION REPORT

### Manufacturing Information

Assembly Lot No.	Wafer No.	Date Code
MMT-185200928.000	TMPE218258259.100	1812G3E
MMT-185201500.000	TMPE218258259.100	1812M9W
MMT-185300033.000	TMPE218258259.100	1813MKC

### Result

Pass     Fail     \_\_\_\_\_

8L MSOP (3x3mm) assembled by MMT 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.

## 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, 85°C and 125°C System: J750	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, 85°C and 125°C System: J750			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 <b>Electrical Test:</b> + 85°C and 125°C System: J750	JESD22-A104		231		Parts had been pre-conditioned at 260°C  77 units / lot
	<b>Stress Condition:</b> -65°C to +150°C, 1000 Cycles System: TABAI ESPEC TSA-70H <b>Electrical Test:</b> +85°C and 125°C System: J750		231(0)	0/231	Pass	
	<b>Bond Strength:</b> Wire Pull (> 2.5 grams) Bond Shear (>15.00 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  <b>Electrical Test:</b> +25°C System: J750	JESD22-A118		231		Parts had been pre-conditioned at 260°C  77 units / lot
	<b>Stress Condition:</b> +130°C/85%RH, 192 hrs. System: HAST 6000X <b>Electrical Test:</b> + 25°C System J750		231(0)	0/231	Pass	
			231(0)	0/231	Pass	
<b>HAST</b>	<b>Stress Condition:</b> +130°C/85%RH, 96 hrs. <b>Bias Volt:</b> 5.0 Volts System: HAST 6000X  <b>Electrical Test:</b> + 25°C ,85°C and 125°C System: J750	JESD22-A110		231		Parts had been pre-conditioned at 260°C  77 units / lot
	<b>Stress Condition:</b> +130°C/85%RH,192 hrs. <b>Bias Volt:</b> 5.0 Volts System: HAST 6000X <b>Electrical Test:</b> + 25°C ,85°C and 125°C System: J750		231(0)	0/231	Pass	
			231(0)	0/231	Pass	

## PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
<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 and 125°C System: J750		45(0)	0/45	Pass	
<b>Solderability 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	J-STD-002	22(0)	22  22 0/22	Pass	
<b>Solderability 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 95.5Ag3.9Cu0.6 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	J-STD-002	22(0)	22  22 0/22	Pass	
<b>Physical Dimensions</b>	Physical Dimension, 10 units from 3 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
<b>Bond Strength</b>	Wire Pull (> 2.5 grams)	M2011	30(0) Wires	0/30	Pass	
<b>Data Assembly</b>	Bond Shear (>15.00 grams)	JESD22-B116	30(0) bonds	0/30	Pass	



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Affected Catalog Part Numbers(CPN)

- 93C56CT-I/MS
- 93C66A-E/MS
- 93C66A-I/MS
- 93C66AT-E/MS
- 93C66AT-I/MS
- 93C66B-E/MS
- 93C66B-I/MS
- 93C66BT-E/MS
- 93C66BT-I/MS
- 93C66C-E/MS
- 93C66C-I/MS
- 93C66CT-E/MS
- 93C66CT-I/MS
- 93C76A-E/MS
- 93C76A-I/MS
- 93C76AT-E/MS
- 93C76AT-I/MS
- 93C76B-E/MS
- 93C76B-I/MS
- 93C76BT-E/MS
- 93C76BT-I/MS
- 93C76C-E/MS
- 93C76C-I/MS
- 93C76CT-E/MS
- 93C76CT-I/MS
- 93C86A-E/MS
- 93C86A-I/MS
- 93C86AT-E/MS
- 93C86AT-I/MS
- 93C86B-E/MS
- 93C86B-I/MS
- 93C86BT-E/MS
- 93C86BT-I/MS
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PIC12F508T-I/MS076  
PIC12F508T-I/MS077  
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PIC12F615T-I/MS059  
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PIC12F615T-I/MS080  
PIC12F617-E/MS  
PIC12F617-I/MS



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PIC12F617T-I/MS046  
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24AA01T-I/MS  
24AA02-I/MS  
24AA02T-I/MS  
24AA044-E/MS  
24AA044-I/MS  
24AA044T-E/MS  
24AA044T-I/MS  
24AA04H-I/MS  
24AA04HT-I/MS  
24AA04-I/MS  
24AA04T-I/MS  
24AA08H-I/MS  
24AA08HT-I/MS  
24AA08-I/MS  
24AA08T-I/MS  
24AA128-I/MS  
24AA128T-I/MS  
24AA16-E/MS  
24AA16H-I/MS  
24AA16HT-I/MS  
24AA16-I/MS  
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24AA256T-I/MS  
24AA32AF-I/MS

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24AA32A-I/MS  
24AA32AT-I/MS  
24AA64-E/MS  
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24AA64FT-I/MS  
24AA64-I/MS  
24AA64T-E/MS  
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24FC128-I/MS  
24FC128T-I/MS  
24FC256-I/MS  
24FC256T-I/MS  
24FC64F-I/MS  
24FC64FT-I/MS  
24FC64-I/MS  
24FC64T-I/MS  
24LC02B-E/MS  
24LC64F-E/MS  
24LC64F-I/MS  
24LC64FT-E/MS  
24LC64FT-I/MS  
24LC64-I/MS  
24LC64T-E/MS  
24LC64T-I/MS  
25AA010A-I/MS  
25AA010AT-I/MS  
25AA020A-I/MS  
25AA020AT-I/MS  
25AA040A-I/MS  
25AA040AT-I/MS  
25AA080A-I/MS  
25AA080AT-I/MS  
25AA080B-I/MS  
25AA080BT-I/MS  
25AA080C-I/MS  
25AA080CT-I/MS  
25AA080D-I/MS  
25AA080DT-I/MS  
25AA160A-I/MS  
25AA160AT-I/MS  
25AA160B-I/MS  
25AA160BT-I/MS  
25AA160C-I/MS  
25AA160CT-I/MS  
25AA160D-E/MS

25AA160D-I/MS  
25AA160DT-E/MS  
25AA160DT-I/MS  
25AA320A-I/MS  
25AA320AT-I/MS  
25AA640A-E/MS  
25AA640A-I/MS  
25AA640AT-E/MS  
25AA640AT-I/MS  
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25LC160B-E/MS  
25LC160B-I/MS  
25LC160BT-E/MS  
25LC160BT-I/MS  
25LC160C-E/MS  
25LC160C-I/MS

25LC160CT-E/MS  
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25LC160D-I/MS  
25LC160DT-E/MS  
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93AA46B-I/MS  
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93AA46C-I/MS  
93AA46CT-I/MS  
93AA56A-I/MS  
93AA56AT-I/MS  
93AA56B-I/MS  
93AA56BT-I/MS  
93AA56C-I/MS  
93AA56CT-I/MS  
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93AA66BT-I/MSL21  
93AA66C-I/MS  
93AA66CT-I/MS  
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93AA76AT-I/MS  
93AA76B-I/MS  
93AA76BT-I/MS  
93AA76C-I/MS  
93AA76CT-I/MS  
93AA86A-I/MS  
93AA86AT-I/MS  
93AA86B-I/MS  
93AA86BT-I/MS  
93AA86C-I/MS  
93AA86CT-I/MS  
93C46A-E/MS

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93C46AT-I/MS  
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93C46BT-I/MS  
93C46C-E/MS  
93C46C-I/MS  
93C46CT-E/MS  
93C46CT-I/MS  
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93C56A-I/MS  
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93C56AT-I/MS  
93C56B-E/MS  
93C56B-I/MS  
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93C56C-I/MS  
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24LC04BH-I/MS  
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24LC04BHT-I/MS  
24LC04B-I/MS  
24LC04BT-E/MS  
24LC04BT-I/MS  
24LC08B-E/MS  
24LC08BH-E/MS  
24LC08BH-I/MS  
24LC08BHT-E/MS  
24LC08BHT-I/MS  
24LC08B-I/MS  
24LC08BT-E/MS  
24LC08BT-I/MS  
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24LC128-I/MS  
24LC128T-E/MS  
24LC128T-I/MS  
24LC16B-E/MS  
24LC16BH-E/MS

24LC16BH-I/MS  
24LC16BHT-E/MS  
24LC16BHT-I/MS  
24LC16B-I/MS  
24LC16BT-E/MS  
24LC16BT-I/MS  
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24LC256-I/MS  
24LC256-I/MSRVF  
24LC256T-E/MS  
24LC256T-I/MS  
24LC256T-I/MSRVF  
24LC32A-E/MS  
24LC32AF-E/MS  
24LC32AF-I/MS  
24LC32AFT-E/MS  
24LC32AFT-I/MS  
24LC32A-I/MS  
24LC32AT-E/MS  
24LC32AT-I/MS  
24LC64-E/MS