



Product Change Notification - GBNG-07TJKP903

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:

Workweek	November 2017					>	June 2018					July 2018				
	44	45	46	47	48		22	23	24	25	26	27	28	29	30	31
Initial PCN Issue Date		X														
Qual Report 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](#)

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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
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93C66CT-E/MS
93C66CT-I/MS
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PIC12HV615T-E/MS
PIC12HV615T-I/MS
TCN75AVUA
TCN75AVUA713

24AA01-I/MS
24AA01T-I/MS
24AA02-I/MS
24AA02T-I/MS
24AA044-E/MS
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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
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24LC08BT-E/MS
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24LC128T-E/MS
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24LC16B-E/MS
24LC16BH-E/MS
24LC16BH-I/MS
24LC16BHT-E/MS
24LC16BHT-I/MS
24LC16B-I/MS
24LC16BT-E/MS
24LC16BT-I/MS
24LC256-E/MS
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



MICROCHIP

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
<u>Package</u>	
Type	8L MSOP
Package size	3x3 mm
Die thickness	8 mils
Die size	77.40 x 59.00 mils
<u>Lead Frame</u>	
Paddle size	82 x 94 mils
Material	CDA194
Surface	Bare Cu
Process	Stamped
Lead Lock	No
Part Number	10100839
Treatment	BOT
<u>Material</u>	
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
Moisture/Reflow Sensitivity Classification Test (At MSL Level 1)	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 J-STD-020D	135	0/135	Pass	

<u>Precondition</u> <u>Prior Perform</u> <u>Reliability Tests</u> (At MSL Level 1)	Electrical Test: +25°C, 85°C and 125°C System: J750	JESD22-A113	693(0)	693		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		
	Electrical Test : +25°C, 85°C and 125°C System: J750			0/693	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	Stress Condition: -65°C to +150°C, 500 Cycles System: TABAI ESPEC TSA-70H Electrical Test: + 85°C and 125°C System: J750	JESD22- A104	231	231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
	Stress Condition: -65°C to +150°C, 1000 Cycles System: TABAI ESPEC TSA-70H Electrical Test: +85°C and 125°C System: J750		231(0)	0/231		
	Bond Strength: Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)		15(0)	0/15		
			15(0)	0/15		
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X Electrical Test: +25°C System: J750	JESD22- A118	231	231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
	Stress Condition: +130°C/85%RH, 192 hrs. System: HAST 6000X Electrical Test: + 25°C System J750		231(0)	0/231		
			231(0)	0/231		
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 5.0 Volts System: HAST 6000X Electrical Test: + 25°C ,85°C and 125°C System: J750	JESD22- A110	231	231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
	Stress Condition: +130°C/85%RH, 192 hrs. Bias Volt: 5.0 Volts System: HAST 6000X Electrical Test: + 25°C ,85°C and 125°C System: J750		231(0)	0/231		
			231(0)	0/231		

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs System: SHEL LAB	JESD22-A103		45		45 units
	Electrical Test: +25°C and 125°C System: J750		45(0)	0/45	Pass	
Solderability Temp 215°C	Steam Aging: 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	
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	J-STD-002	22(0)	22 22 0/22	Pass	
Physical Dimensions	Physical Dimension, 10 units from 3 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength	Wire Pull (> 2.5 grams)	M2011	30(0) Wires	0/30	Pass	
Data Assembly	Bond Shear (>15.00 grams)	JESD22-B116	30(0) bonds	0/30	Pass	