Product Change Notification - GBNG-06YWZH104

Date:
28 May 2018
Product Category:
Linear Selectable Gain Amplifiers; Linear Comparators; Linear Op Amps; Linear Programmable Gain Amplifiers; Successive Approximation Register (SAR) A/D Converters; Switching Regulators
Affected CPNs:

Notification subject:
CCB 3177 Final Notice: Qualification of MMT as an additional assembly site for selected products of the 120K and 121K 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 120K and 121K wafer technologies available in 8L MSOP package using palladium coated copper with gold flash (CuPdAu) bond wire.
Pre Change:
Assembled at MTAI assembly site.
Post Change:
Assembled at MTAI assembly 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:
June 25, 2018 (date code: 1826)
NOTE: Please be advised that after the estimated first ship date customers may receive pre and post change parts.

Time Table Summary:

	November 2017					->	May 2018					June 2018			
Workweek	44	45	46	47	48		18	19	21	21	22	23	24	25	26
Initial PCN Issue Date					X										
Qual Report Availability										X					
Final PCN Issue Date										X					
Estimated Implementation 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.
May 25, 2018: Issued final notification. Attached the qualification report. Updated the affected CPN list to match with the updated scope. Provided estimated first ship date to be on June 25, 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-06YWZH104_QUAL_REPORT.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."

GBNG-06YWZH104 - CCB 3177 Final Notice: Qualification of MMT as an additional assembly site for selected products of the 120K and 121K wafer technologies available in 8L MSOP package using CuPdAu bond wire.

Affected Catalog Part Numbers(CPN)
MCP1650R-E/MS
MCP1650RT-E/MS
MCP1650S-E/MS
MCP1650ST-E/MS
MCP1651R-E/MS
MCP1651RT-E/MS
MCP1651S-E/MS
MCP1651ST-E/MS
MCP1652R-E/MS
MCP1652RT-E/MS
MCP1652S-E/MS
MCP1652ST-E/MS
MCP3001-I/MS
MCP3002-I/MS
MCP3201-CI/MS
MCP3201T-CI/MS
MCP3202-CI/MS
MCP3202T-CI/MS
MCP3301-BI/MS
MCP3301-CI/MS
MCP3301T-BI/MS
MCP3301T-CI/MS
MCP6002-E/MS
MCP6002-I/MS
MCP6002T-E/MS
MCP6002T-E/MSHAZ
MCP6002T-I/MS
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MCP6S22-I/MS
MCP6S22T-I/MS
MCP6S91-E/MS
MCP6S91T-E/MS
MCP6S92-E/MS
MCP6S92T-E/MS

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN#: GBNG-06YWZH104

Date
May 18, 2018

Qualification of MMT as an additional assembly site for selected products of the 120K and 121K wafer technologies available in 8L MSOP package using CuPdAu bond wire

Purpose	Qualification of MMT as an additional assembly site for selected products of the 120K and 121K wafer technologies available in 8L MSOP package using CuPdAu bond wire
CN	ES152779
QUAL ID	Q18005
MP CODE	A7BV84A3XA00
Part No.	MCP6282-E/MS
Bonding No.	BDM-001547 Rev. A
CCB NO.:	3177

<u>Package</u>

Type	8L MSOP
Package size	3x3 mm
Die thickness	8 mils
Die size	43.50 x 58.00 mils

<u>Lead Frame</u>

Paddle size	68 x 94 mils
Material	CDA194
Surface	Bare Cu
Process	Stamped
Lead Lock	No
Part Number	10100838
Treatment	BOT

<u>Material</u>

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

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Manufacturing Information

Assembly Lot No	Wafer Lot No.	Date Code
MMT-184200112.000	TMPE218258400.120	1802K05
MMT-184200196.000	TMPE218258400.120	1802KH7
MMT-184200197.000	TMPE218258400.120	1802KK7

Result [x] **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	
Precondition Prior Perform Reliability Tests (At MSL Level 1)	Electrical Test:+25°C and 125°C System: ETS300	JESD22A113	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 and 125°C System: ETS300			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:** +125°C System: ETS300	JESD22A104	 231(0)	231 231(0	 Pass	Parts had been pre-conditioned at 260°C 77 units / lot
	Bond Strength: Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)	15 (0) 15 (0)	15 (0) 15 (0)	Pass Pass		
UNBIASEDHAST	**Stress Condition:** +130°C/85%RH, 96 hrs. System: HAST 6000X **Electrical Test:** +25°C System: ETS300	JESD22-A118	 231(0)	231 0/231	 Pass	Parts had been pre-conditioned at 260°C 77 units / lot
HAST	**Stress Condition:** +130°C/85%RH,96hrs. **Bias Volt:** 5.0 Volts System: HAST 6000X **Electrical Test:** +25°C and 125°C System: ETS300	JESD22-A110	 231(0)	231 0/231	 Pass	Parts had been pre-conditioned at 260°C 77 units / lot

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 **Electrical Test :** +25°C and 125°C System: ETS300	JESD22A103	45(0)	45 0/45	Pass	45 units
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	JESD22B-102E	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	JESD22B-102E	22 (0)	22 22 0/22	Pass	
Physical Dimensions	Physical Dimension, 10 units from each 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)	JESD22B116	30 (0) bonds	0/30	Pass	