Product Change Notification - LIAL-22YHTT084

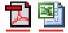
Date:

01 Aug 2018

Product Category:

8-bit Microcontrollers

Affected CPNs:



Notification subject:

CCB 3227 and 3227.001 Final Notice: Qualification of palladium coated copper with gold flash (CuPdAu) bond wire in selected products of the 150K and 160K wafer technologies available in 8L SOIC package at GTK assembly site.

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 palladium coated copper with gold flash (CuPdAu) bond wire in selected products of the 150K and 160K wafer technologies available in 8L SOIC package at GTK assembly site.

Pre Change:

Using gold (Au) bond wire, CRM-1076DJ die attach and G600 mold compound material

Post Change:

Using palladium coated copper with gold flash (CuPdAu) bond wire, 4900GC die attach and G700 mold compound material.

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Greatek Electronic Inc.(GTK)	Greatek Electronic Inc.(GTK)
Wire material	Au	CuPdAu
Die attach material	CRM-1076DJ	4900GC
Molding compound material	G600	G700
Lead frame material	A194	A194

Impacts to Data Sheet:

None

Change Impact:

None

Reason for Change:

To improve manufacturability by qualifying palladium coated copper with gold flash (CuPdAu) bond wire.

Change Implementation Status:

In Progress

Estimated First Ship Date:

September 01, 2018 (date code: 1836)

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

Time Table Summary:

	February 2018					-->	August 2018					September 2018				
Workweek	05	06	07	08	09		31	32	33	34	35	36	37	38	39	40
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:

February 01, 2018: Issued initial notification

February 19, 2018: Revised the PCN to update the affected part list

August 01, 2018: Issued final notification. Attached the Qualification Report. Provided estimated first ship date on September 01, 2018.

Attachment(s):

PCN_ LIAL-22YHTT084_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#: LIAL-22YHTT084

Date
June 25, 2018

Qualification of palladium coated copper with gold flash (CuPdAu) bond wire in selected products of the 150K wafer technology available in 8L SOIC package at GTK assembly site. The selected products of 160K wafer technology will qualify by similarity (QBS)

PACKAGE QUALIFICATION REPORT

Purpose	Qualification of palladium coated copper with gold flash (CuPdAu) bond wire in selected products of the 150K wafer technology available in 8L SOIC package at GTK assembly site. The selected products of 160K wafer technology will qualify by similarity (QBS)
CN	ES194649
QUAL ID	Q18073
MP CODE	C50234C2XB04
Part No.	PIC12F675-E/SN
Bonding No.	BDM-001618
CCB No.:	3227 and 3227.001
Package	
Type	8L SOIC
Package size	150 mils
Die thickness	15 mils
Die size	77.90 x 85.70 mils
Lead Frame	
Paddle size	95 x 130 mils
Material	A194
Surface	Double ring plating
Process	Stamped
Lead Lock	No
Part Number	11-0208N-030
Treatment	None
Material	
Epoxy	4900GC
Wire	CuPdAu wire
Mold Compound	G700
Plating Composition	Matte Tin

PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
GTK-185200066.000	TMPE218299160.200	1812EHP
GTK-185200073.000	TMPE218299160.200	1812EJ6
GTK-185300001.000	TMPE218299160.200	1813EJQ

Result [X] Pass [ ] Fail [ ] ____________________

8L SOIC (.150") assembled by GTK 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	198	0/198	Pass	
<u>Precondition Prior Perform Reliability Tests</u> (At MSL Level 1)	**Electrical Test :**+25°C System: J750 Bake 150°C, 24 hrs System: CHINEE 85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243	JESD22-A113	693(0)	693 693 693 693		Good Devices
Temp Cycle	**Stress Condition:** (Standard) -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H **Electrical Test:** + 125°C System: J750	JESD22-A104	231(0)	231 0/231	Pass	Parts had been pre-conditioned at 260°C
HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. **Bias Volt:** 5.5 Volts System: HAST 6000X **Electrical Test:** + 25°C and 125°C System: J750	JESD22-A110	231(0)	231 0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
UNBIASED-HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. System: HAST 6000X **Electrical Test:** +25°C System: J750	JESD22-A118	231(0)	231 0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 500 hrs System: SHEL LAB **Electrical Test :**+25°C and 125°C System: J750	JESD22-A103	135(0)	135 0/135	Pass	45 units / lot

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
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	
Bond Strength **Data Assembly**	Wire Pull (> 3.0 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>10.00 grams)	JESD22-B116	30 (0) bonds	0/30	Pass	

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Affected Catalog Part Numbers(CPN)

PIC12F675-C/SN
PIC12F675-E/SN
PIC12F675-I/SN
PIC12F675-I/SN102
PIC12F675-I/SN112
PIC12F675-I/SN166
PIC12F675-I/SN172
PIC12F675-I/SN177
PIC12F675-I/SN202
PIC12F675-I/SNC15
PIC12F675T-C/SN
PIC12F675T-E/SN
PIC12F675T-E/SN073
PIC12F675T-E/SN082
PIC12F675T-E/SN091
PIC12F675T-I/SN
PIC12F675T-I/SN026
PIC12F675T-I/SN049
PIC12F675T-I/SN075
PIC12F675T-I/SN079
PIC12F675T-I/SN085
PIC12F675T-I/SN121
PIC12F675T-I/SN131
PIC12F675T-I/SN145
PIC12F675T-I/SN150
PIC12F675T-I/SN152
PIC12F675T-I/SN153
PIC12F675T-I/SN166
PIC12F675T-I/SN172
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PIC12F675T-I/SN194
PIC12F675T-I/SN195
PIC12F675T-I/SN199
PIC12F675T-I/SN200
PIC12F675T-I/SN201
PIC12F675T-I/SN202
PIC12F675T-I/SN206

PIC12F675T-I/SN207
PIC12F675T-I/SNC15
PIC12F683-E/SN
PIC12F683-E/SN084
PIC12F683-I/SN
PIC12F683-I/SN
PIC12F683-I/SN075
PIC12F683-I/SNAU
PIC12F683T-E/SN
PIC12F683T-E/SN040
PIC12F683T-E/SN079
PIC12F683T-E/SN084
PIC12F683T-E/SN092
PIC12F683T-E/SN097
PIC12F683T-E/SN098
PIC12F683T-I/SN
PIC12F683T-I/SN061
PIC12F683T-I/SN062
PIC12F683T-I/SN072
PIC12F683T-I/SN091
PIC12F683T-I/SNAU