QUALIFICATION REPORT

RELIABILITY LABORATORY

PCN #: JAON-01XOEE717

Date
May 19, 2015

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

Distribution

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MICROCHIP

PACKAGE QUALIFICATION REPORT

Purpose	Qualification of palladium coated copper with gold flash (CuPdAu) bond wire in selected products of the 160K wafer technology available in 8L SOIC package at MTAI assembly site.
CN	BC150445
QUAL ID	Q15026
MP CODE	DFAW14C2XA00
Part No.	24LC01B-E/SN
Bonding No.	BDM-000645 Rev. A
CCB No.	1563
Package	
Type	8L SOIC
Package size	150 mils
Die thickness	15 mils
Die size	28.30 x 29.30 mils
Lead Frame	
Paddle size	90 x 90 mils
Material	CDA194
Surface	Ag spot plate
Process	Stamped
Lead Lock	No
Part Number	10100812
Treatment	Brown oxide treatment
Die attach material	
Epoxy	8390A
Wire	CuPdAu wire
Mold Compound	G600V
Plating Composition	Matte Tin

PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI155003538.000	GRSM415332947.700	1511MV6
MTAI155003558.000	GRSM415332947.700	1511P4R
MTAI155003562.000	GRSM415332947.700	1511P53

Result [X] Pass [ ] Fail [ ] ____________________

8L SOIC (.150”) assembled by MTAI 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:** May 19, 2015 **(Sr.Reliability Engineer)**

(Mr.Udom Suksansakul)

Approved By: ____________ **Date:** May 19, 2015 **(Reliability Manager)**

(Mr. Somnuek Thongprasert)

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,85°C and 125°C System: NEXTEST_PT	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 and 85°C (With 1 lot 125°C on MTAI155003538.000) System: NEXTEST_PT			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	JESD22-A104		231		Parts had been pre-conditioned at 260°C
	Electrical Test: + 85°C (With 1 lot 125°C on MTAI155003538.000) System: NEXTEST_PT		231(0)	0/231	Pass	
	Bond Strength: Wire Pull (> 2.5 grams)		15 (0)	0/15	Pass	
	Bond Shear (>15.00 grams)		15 (0)	0/15	Pass	
UNBIASED-HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: NEXTEST_PT		231(0)	0/231	Pass	

PACKAGE QUALIFICATION REPORT						
Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. **Bias Volt:** 5.0 Volts System: HAST 6000X **Electrical Test:**+25°C and 85°C (With 1 lot 125°C on MTAI155003538.000) System: NEXTEST_PT	JESD22-A110	231(0)	231 0/231	Pass	Parts had been pre-conditioned at 260°C
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs System: SHEL LAB **Electrical Test :**+25°C,85°C and 125°C System: NEXTEST_PT	JESD22-A103	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	JESD22 B-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	JESD22 B-102E	22 (0)	22 22 0/22	Pass	
Cross section	Cross section Inspection 3 units / lot		9(0) Wires	0/9	Pass	

PACKAGE QUALIFICATION REPORT						
Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Bond Strength Data Assembly	Wire Pull (> 2.5 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>15.00 grams)	JESD22-B116	30 (0) bonds	0/30	Pass	