



MICROCHIP

QUALIFICATION REPORT
RELIABILITY LABORATORY

PCN #: JAON-08OJZL283

Date
March 22, 2016

Qualification of palladium coated copper with gold flash (CuPdAu) bond wire in selected products of the 0.25um TSMC wafer technology available in 28L SPDIP package at MMT assembly site. The selected products of the 40K, 57K, 77K, 90K, 120K, 150K, 160K, 200K and X-fab wafer technologies available in 28L SPDIP, 14L, 16L, 18L and 20L PDIP packages at MMT assembly site will qualify by similarity.

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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 0.25um TSMC wafer technology available in 28L SPDIP package at MMT assembly site. The selected products of the 40K, 57K, 77K, 90K, 120K, 150K, 160K, 200K and X-fab wafer technologies available in 28L SPDIP, 14L, 16L, 18L and 20L PDIP packages at MMT assembly site will qualify by similarity.

CN BC160306
QUAL ID Q16046
MP CODE YGAQ14M3XCAA
Part No. DSPIC33FJ12MC202-E/SP
Bonding No. BDM-000977 Rev. A
CCB No. 1834

Package

Type 28L SPDIP
Package size 300 mils
Die thickness 15 mils
Die size 135.3 x 123.9 mils

Lead Frame

Paddle size 180 x 240 mils
Material CDA194
Surface Ag Spot Plated
Process Stamped
Lead Lock No
Part Number 10102822
Treatment None

Die attach material

Epoxy CRM-1064L
Wire CuPdAu wire
Mold Compound GE800
Plating Composition Matte Tin



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-164300361.000	TC03916178582.D00	1603PBH
MMT-164300745.000	TC03916178582.D00	1603SUE
MMT-164300864.000	TC03916178582.D00	1603TYP

Result

☒ Pass ☐ Fail ☐ _____

28L SPDIP (.300") assembled by MMT (ALPH) pass reliability test per QCI-39000.

Prepared By: Thinnapol Date: March 22, 2016 (Sr. Reliability Engineer)

(Mr. Thinnapol Nakkasun)

Approved By: Som Date: March 22, 2016 (Reliability Manager)

(Mr. Somnuek Thongprasert)

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Electrical Test	Electrical Test: +25 °C, 85 °C and 125 °C System: J750	JESD22-A113	693(0)	693		Good Devices
Temp Cycle	Stress Condition: (Standard) 65 °C to +150 °C, 500 Cycles System : TABAI ESPEC TSA-70H Electrical Test: + 85 °C and 125 °C System: J750 Bond Strength: Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)	JESD22-A104		231		77 units / lot
			231(0)	0/231	Pass	
			15 (0)	0/15	Pass	
			15 (0)	0/15	Pass	
UNBIASED-HAST	Stress Condition: (Standard) +130 °C/85%RH, 96 hrs. System: HAST 6000X Electrical Test: +25 °C System: J750	JESD22-A118		231		77 units / lot
			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: 3.6 Volts System: HAST 6000X Electrical Test: +25 °C,85 °C and 125 °C System: J750	JESD22-A110	231(0)	231 0/231	Pass	77 units / lot
High Temperature Storage Life	Stress Condition: Bake 175 °C, 504 hrs System: SHEL LAB Electrical Test: + 25 °C,85 °C and 125 °C System: J750	JESD22-A103	45(0)	45 0/45	Pass	45 units
Bond Strength Data Assembly	Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)	JESD22-B116	30 (0) Wires 30 (0) bonds	0/30 0/30	Pass Pass	