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Continuity of ordering part numbers
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Cypress Semiconductor
Package Qualification Report

QTP# 093102 VERSION*A
October 2014

8L DFN (5X6X0.8mm) NiPdAu, MSL3, 260°C Reflow Amkor-Phil (Phil-MB)

FOR ANY QUESTIONS ON THIS REPORT, PLEAE CONTACT
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PACKAGE/PRODUCT QUALIFICATION HISTORY

QTP Number	Description of Qualification Purpose	Date
093102	To qualify 8L-DFN(5X6X0.8mm) NiPdAu using Nitto 7470LA Mold compound, MSL3, 260C Reflow at Amkor Phil (Phil-MB)	Feb 10

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	LH08
Package Outline, Type, or Name:	8 – Dual Flat No Lead (DFN)
Mold Compound Name/Manufacturer:	7470-LA Nitto
Mold Compound Flammability Rating:	V-0
Mold Compound Alpha Emission Rate:	<0.001 counts/cm2
Oxygen Rating Index:	NA
Lead Frame Material:	Copper
Lead Finish, Composition / Thickness:	NiPdAu-Ag
Die Backside Preparation Method/Metallization:	Backgrind
Die Separation Method:	Saw
Die Attach Supplier:	Henkel
Die Attach Material:	AMK-06
Die Attach Method:	Epoxy
Bond Diagram Designation:	001-51523
Wire Bond Method:	Thermosonic
Wire Material/Size:	Au, 0.8mil
Thermal Resistance Theta JA ℃/W:	16.83
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	001-52216
Name/Location of Assembly (prime) facility:	Amkor-Phil (Phil-MB)
MSL Level	3
Reflow Profile	260C

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	CML-R

Note: Please contact a Cypress Representative for other package availability

RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENTS

Stress/Test	Test Condition (Temp/Bias)	Result P/F
Temperature Cycle	MIL-STD-883C, Method 1010, Condition C, -65℃ to 150℃ Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs., 30℃/60%RH+3IR-Reflow, 260℃+5, -0℃	P
High Accelerated Saturation Test	130℃, 5.5V Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs., 30℃/60%RH+3IR-Reflow, 260℃+5, -0℃	P
Pressure Cooker Test	121℃, 100%, 15 Psig Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs., 30℃/60%RH+3IR-Reflow, 260℃+5, -0℃	P
High Temp Storage	150C, no bias	P
Acoustics Microscopy MSL 3	J-STD-020	P
Ball Shear	JESD22-B116A	P
Bond Pull	MIL-STD-883 – Method 2011	P
Constructional Analysis	Criteria: Meet external and internal characteristics of Cypress package	P
Die Shear	MIL-STD-883, Method 2019 Per die size: • <3000 sq. mils = 1.2 kgf • 30001-5000 sq. mils = 1.2 kgf • >5001 sq. mils = 1.2 kgf	P
Dye Penetration test	Test to determine the existence and extent of cracks, Criteria: No Package Crack	P
Final Visual	MIL-PRF-38535, MIL-STD-883, METHOD 2009,	P
Internal Visual	MIL-STD-883-2014	P
Physical Dimension	MIL-STD-1835, JESD22-B100	P
Solderability, Steam Aged	J-STD-002, JESD22-B102 95% solder coverage minimum	P
Thermal Shock	125C, -55C MIL-STD-883C, Method 1011	P
X-Ray	MIL-STD-883 – 2012,	P

Reliability Test Data

QTP #: 093102

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL3							
CY14B101Q2 (7C1401B5CC)	4908403	N/A	PHIL-MB	COMP	15	0	
CY14B101Q2 (7C1401B5CC)	4908403	610923656	PHIL-MB	COMP	15	0	
CY14B101Q2 (7C1401B5CC)	4908403	610923657	PHIL-MB	COMP	15	0	
STRESS: BALL SHEAR							
CY14B101Q2 (7C1401B5CC)	4908403	610923656	PHIL-MB	COMP	10	0	
CY14B101Q2 (7C1401B5CC)	4908403	610923657	PHIL-MB	COMP	10	0	
STRESS: BOND PULL							
CY14B101Q2 (7C1401B5CC)	4908403	610923656	PHIL-MB	COMP	2	0	
CY14B101Q2 (7C1401B5CC)	4908403	610923657	PHIL-MB	COMP	2	0	
STRESS: CONSTRUCTIONAL ANALYSIS							
CY14B101Q2 (7C1401B5CC)	4908403	N/A	PHIL-MB	COMP	5	0	
STRESS: DIE SHEAR							
CY14B101Q2 (7C1401B5CC)	4908403	610923656	PHIL-MB	COMP	5	0	
CY14B101Q2 (7C1401B5CC)	4908403	610923657	PHIL-MB	COMP	5	0	
STRESS: DYE PENETRANT TEST							
CY14B101Q2 (7C1401B5CC)	4908403	N/A	PHIL-MB	COMP	15	0	
CY14B101Q2 (7C1401B5CC)	4908403	610923656	PHIL-MB	COMP	15	0	
CY14B101Q2 (7C1401B5CC)	4908403	610923657	PHIL-MB	COMP	15	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 5.5V, PRE COND 192 HR 30C/60%RH, MSL3							
CY14B101Q2 (7C1401B5CC)	4908403	N/A	PHIL-MB	128	79	0	
STRESS: HIGH TEMP STORAGE, 150C no bias							
CY14B101Q2 (7C1401B5CC)	4908403	N/A	PHIL-MB	500	80	0	
CY14B101Q2 (7C1401B5CC)	4908403	N/A	PHIL-MB	1000	80	0	
CY14B101Q2 (7C1401B5CC)	4908403	N/A	PHIL-MB	1500	80	0	
STRESS: INTERNAL VISUAL							
CY14B101Q2 (7C1401B5CC)	4908403	N/A	PHIL-MB	COMP	5	0	
STRESS: PRESSURE COOKER TEST, 121C, 100%RH, PRE COND 192 HR 30C/60%RH, MSL3							
CY14B101Q2 (7C1401B5CC)	4908403	N/A	PHIL-MB	168	80	0	

Reliability Test Data

QTP #: 093102

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: PHYSICAL DIMENSION							
CY14B101Q2 (7C1401B5CC)	4908403	N/A	PHIL-MB	COMP	15	0	
CY14B101Q2 (7C1401B5CC)	4908403	610923656	PHIL-MB	COMP	15	0	
CY14B101Q2 (7C1401B5CC)	4908403	610923657	PHIL-MB	COMP	15	0	
STRESS: SOLDERABILITY							
CY14B101Q2 (7C1401B5CC)	4908403	N/A	PHIL-MB	COMP	3	0	
CY14B101Q2 (7C1401B5CC)	4908403	610923656	PHIL-MB	COMP	3	0	
CY14B101Q2 (7C1401B5CC)	4908403	610923657	PHIL-MB	COMP	3	0	
STRESS: TC COND. C -65C TO 150C, PRECONDITION 192 HRS 30C/60%RH, MSL3							
CY14B101Q2 (7C1401B5CC)	4908403	N/A	PHIL-MB	500	80	0	
CY14B101Q2 (7C1401B5CC)	4908403	N/A	PHIL-MB	1000	80	0	
CY14B101Q2 (7C1401B5CC)	4908403	610923656	PHIL-MB	500	79	0	
CY14B101Q2 (7C1401B5CC)	4908403	610923656	PHIL-MB	1000	79	0	
CY14B101Q2 (7C1401B5CC)	4908403	610923657	PHIL-MB	500	77	0	
CY14B101Q2 (7C1401B5CC)	4908403	610923657	PHIL-MB	1000	77	0	
STRESS: THERMAL SHOCK COND. B – 55C TO 125C							
CY14B101Q2 (7C1401B5CC)	4908403	N/A	PHIL-MB	200	80	0	
CY14B101Q2 (7C1401B5CC)	4908403	N/A	PHIL-MB	1000	80	0	
STRESS: X-RAY							
CY14B101Q2 (7C1401B5CC)	4908403	N/A	PHIL-MB	COMP	15	0	
CY14B101Q2 (7C1401B5CC)	4908403	610923656	PHIL-MB	COMP	15	0	

Document History Page

Document Title: QTP# 093102: 8L DFN (5X6X0.8mm) NiPdAu MSL3, 260C Reflow Amkor-Phil (Phil-MB)
Document Number: 001-89620

Rev.	ECN No.	Orig. of Change	Description of Change
**	4150806	HSTO	Initial Spec Release
*A	4544959	HSTO	Align qualification report based on the new template in the front page

Distribution: WEB

Posting: None