



THIS SPEC IS OBSOLETE

Spec No: 001-88445

Spec Title: QTP#084007: 32 QFN SAW TYPE (5 X 5 X
1MM) NIPDAU-AG, MSL3, 260C REFLOW ASE-
SHANGHAI

Replaced by: NONE

Cypress Semiconductor Package Qualification Report

QTP# 084007 VERSION *B
August 2016

32 QFN Saw Type
(5 x 5 x 1mm)
NiPdAu-Ag, MSL3, 260C Reflow
ASE-Shanghai

FOR ANY QUESTIONS ON THIS REPORT, PLEASE CONTACT
reliability@cypress.com or via a CYLINK CRM CASE

Prepared By:
Honesto Sintos
Reliability Engineer

Reviewed By:
Rene Rodgers
Reliability Manager

Approved By:
Richard Oshiro
Reliability Director

PACKAGE QUALIFICATION HISTORY

Qual Report	Description of Qualification Purpose	Date Comp
084007	Qualify 32QFN(5X5X1) Saw Type Pb-Free(NiPdAu-Ag) Package Qualification at ASE Shanghai.	Jan 09

OBVIOUSLY

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	LT32B
Package Outline, Type, or Name:	32- Quad Flat No-Lead (QFN)
Mold Compound Name/Manufacturer:	G700L/Sumitomo
Mold Compound Flammability Rating:	UL-94
Mold Compound Alpha Emission Rate :	N/A
Oxygen Rating Index:	None
Substrate Material:	N/A
Lead Finish, Composition / Thickness:	NiPdAu-Ag
Die Backside Preparation Method/Metallization:	Backgrind
Die Separation Method:	Saw
Die Attach Supplier:	Hitachi
Die Attach Material:	EN4900G
Die Attach Method:	Epoxy
Wire Bond Method:	Thermosonic
Wire Material/Size:	Au, 0.8mil
Thermal Resistance Theta JA °C/W:	22°C / W
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	001-47405
Name/Location of Assembly (prime) facility:	ASE-Shanghai (AE)
MSL Level	3
Reflow Profile	260C

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	CML-RA, KYEC, ASE-G

RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENTS

Stress/Test	Test Condition (Temp/Bias)	Result P/F
Acoustic Microscopy	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	P
Dye Penetration test	Test to determine the existence and extent of cracks, Criteria: No Package Crack	P
Electrostatic Discharge Charge Device Model (ESD-CDM)	500V JESD22-C101	P
Electrostatic Discharge Human Body Model (ESD-HBM)	2,200V JESD22, Method A114-B	P
Final Visual	JESD22-B101B	P
Internal Visual	MIL-STD-883-2014	P
High Accelerated Saturation Test (HAST)	130°C, 85%RH, 5.25V Precondition: JESD22 Moisture Sensitivity MSL3 192 Hrs., 30°C/60%RH+3IR-Reflow, 260°C+0, -5°C	P
High Temperature Storage	150C, no bias	P
Physical Dimension	MIL-STD-1835, JESD22-B100	P
Pressure Cooker	121°C, 100%RH Precondition: JESD22 Moisture Sensitivity MSL3 192 Hrs., 30°C/60%RH+3IR-Reflow, 260°C+0, -5°C	P
Solderability	J-STD-002, JESD22-B102	P
Temperature Cycle	MIL-STD-883C, Method 1010, Condition C, -65°C to 150°C Precondition: JESD22 Moisture Sensitivity MSL3 192 Hrs., 30°C/60%RH+3IR-Reflow, 260°C+0, -5°C	P
Thermal Shock	125C, -55C MIL-STD-883C, Method 1011	P
X-Ray	MIL-STD-883 - 2012	P

Reliability Test Data

QTP #: 084007

<i>Device</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Assy Loc</i>	<i>Duration</i>	<i>Samp</i>	<i>Rej</i>	<i>Failure Mechanism</i>
STRESS: ACOUSTIC, MSL3							
CY8C21434 (8C214345A)	5735007	610841528	SHANGHAI-AE	COMP	15	0	
CY8C21434 (8C214345A)	5735007	610841529	SHANGHAI-AE	COMP	15	0	
CY8C21434 (8C214345A)	5735007	610841530	SHANGHAI-AE	COMP	15	0	
CY8C21434 (8C214345A)	5735007	610841524	SHANGHAI-AE	COMP	15	0	
CY8C21434 (8C214345A)	5735007	610841525	SHANGHAI-AE	COMP	15	0	
CY8C21434 (8C214345A)	5735007	610841526	SHANGHAI-AE	COMP	15	0	
STRESS: BALL SHEAR							
CY8C21434 (8C214345A)	5735007	610841528	SHANGHAI-AE	COMP	10	0	
CY8C21434 (8C214345A)	5735007	610841529	SHANGHAI-AE	COMP	10	0	
CY8C21434 (8C214345A)	5735007	610841524	SHANGHAI-AE	COMP	10	0	
STRESS: BOND PULL							
CY8C21434 (8C214345A)	5735007	610841528	SHANGHAI-AE	COMP	10	0	
CY8C21434 (8C214345A)	5735007	610841524	SHANGHAI-AE	COMP	10	0	
STRESS: CONSTRUCTIONAL ANALYSIS							
CY8C21434 (8C214345A)	5735007	610841528	SHANGHAI-AE	COMP	5	0	
CY8C21434 (8C214345A)	5735007	610841529	SHANGHAI-AE	COMP	5	0	
STRESS: DIE SHEAR							
CY8C21434 (8C214345A)	5735007	610841528	SHANGHAI-AE	COMP	10	0	
CY8C21434 (8C214345A)	5735007	610841529	SHANGHAI-AE	COMP	10	0	
CY8C21434 (8C214345A)	5735007	610841524	SHANGHAI-AE	COMP	10	0	
STRESS: DYE PENTRANT TEST							
CY8C21434 (8C214345A)	5735007	610841528	SHANGHAI-AE	COMP	15	0	
CY8C21434 (8C214345A)	5735007	610841529	SHANGHAI-AE	COMP	15	0	
CY8C21434 (8C214345A)	5735007	610841530	SHANGHAI-AE	COMP	15	0	
CY8C21434 (8C214345A)	5735007	610841524	SHANGHAI-AE	COMP	15	0	
CY8C21434 (8C214345A)	5735007	610841525	SHANGHAI-AE	COMP	15	0	
CY8C21434 (8C214345A)	5735007	610841526	SHANGHAI-AE	COMP	15	0	
STRESS: ESD-CHARGE DEVICE MODEL, 500V							
CY8C21434 (8C214345A)	5735007	610841528	SHANGHAI-AE	COMP	9	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22, METHOD A114-B, 2,200V							
CY8C21434 (8C214345A)	5735007	610841528	SHANGHAI-AE	COMP	8	0	

Reliability Test Data

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<i>Device</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Assy Loc</i>	<i>Duration</i>	<i>Samp</i>	<i>Rej</i>	<i>Failure Mechanism</i>
STRESS: FINAL VISUAL							
CY8C21434 (8C214345A)	5735007	610841528	SHANGHAI-AE	COMP	762	0	
CY8C21434 (8C214345A)	5735007	610841529	SHANGHAI-AE	COMP	270	0	
CY8C21434 (8C214345A)	5735007	610841524	SHANGHAI-AE	COMP	405	0	
STRESS: HI-ACCEL SATURATION TEST (130C, 85%RH, 5.25V), PRE COND192 HR 30C/60%RH, MSL3							
CY8C21434 (8C214345A)	5735007	610841528	SHANGHAI-AE	128	77	0	
CY8C21434 (8C214345A)	5735007	610841530	SHANGHAI-AE	128	77	0	
CY8C21434 (8C214345A)	5735007	610841524	SHANGHAI-AE	128	77	0	
CY8C21434 (8C214345A)	5735007	610841526	SHANGHAI-AE	128	77	0	
STRESS: HIGH TEMPERATURE STORAGE							
CY8C21434 (8C214345A)	5735007	610841528	SHANGHAI-AE	500	77	0	
CY8C21434 (8C214345A)	5735007	610841528	SHANGHAI-AE	1000	77	0	
STRESS: INTERNAL VISUAL							
CY8C21434 (8C214345A)	5735007	610841528	SHANGHAI-AE	COMP	5	0	
CY8C21434 (8C214345A)	5735007	610841529	SHANGHAI-AE	COMP	5	0	
CY8C21434 (8C214345A)	5735007	610841530	SHANGHAI-AE	COMP	5	0	
CY8C21434 (8C214345A)	5735007	610841524	SHANGHAI-AE	COMP	5	0	
CY8C21434 (8C214345A)	5735007	610841525	SHANGHAI-AE	COMP	5	0	
CY8C21434 (8C214345A)	5735007	610841526	SHANGHAI-AE	COMP	5	0	
STRESS: PRESSURE COOKER TEST, 121C, 100%RH, PRE COND192 HR 30C/60%RH, MSL3							
CY8C21434 (8C214345A)	5735007	610841528	SHANGHAI-AE	168	80	0	
CY8C21434 (8C214345A)	5735007	610841530	SHANGHAI-AE	168	80	0	
CY8C21434 (8C214345A)	5735007	610841524	SHANGHAI-AE	168	77	0	
STRESS: PHYSICAL DIMENSIONS							
CY8C21434 (8C214345A)	5735007	610841528	SHANGHAI-AE	COMP	30	0	
CY8C21434 (8C214345A)	5735007	610841529	SHANGHAI-AE	COMP	30	0	
CY8C21434 (8C214345A)	5735007	610841530	SHANGHAI-AE	COMP	30	0	
CY8C21434 (8C214345A)	5735007	610841524	SHANGHAI-AE	COMP	30	0	
CY8C21434 (8C214345A)	5735007	610841525	SHANGHAI-AE	COMP	30	0	
CY8C21434 (8C214345A)	5735007	610841526	SHANGHAI-AE	COMP	30	0	

Reliability Test Data

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STRESS: SOLDERABILITY							
CY8C21434 (8C214345A)	5735007	610841528	SHANGHAI-AE	COMP	5	0	
CY8C21434 (8C214345A)	5735007	610841529	SHANGHAI-AE	COMP	5	0	
CY8C21434 (8C214345A)	5735007	610841530	SHANGHAI-AE	COMP	5	0	
STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH, MSL3							
CY8C21434 (8C214345A)	5735007	610841528	SHANGHAI-AE	500	80	0	
CY8C21434 (8C214345A)	5735007	610841528	SHANGHAI-AE	1000	80	0	
CY8C21434 (8C214345A)	5735007	610841529	SHANGHAI-AE	500	80	0	
CY8C21434 (8C214345A)	5735007	610841529	SHANGHAI-AE	1000	80	0	
CY8C21434 (8C214345A)	5735007	610841530	SHANGHAI-AE	500	80	0	
CY8C21434 (8C214345A)	5735007	610841530	SHANGHAI-AE	1000	80	0	
CY8C21434 (8C214345A)	5735007	610841524	SHANGHAI-AE	500	78	0	
CY8C21434 (8C214345A)	5735007	610841524	SHANGHAI-AE	1000	78	0	
CY8C21434 (8C214345A)	5735007	610841525	SHANGHAI-AE	500	80	0	
CY8C21434 (8C214345A)	5735007	610841525	SHANGHAI-AE	1000	80	0	
CY8C21434 (8C214345A)	5735007	610841526	SHANGHAI-AE	500	80	0	
CY8C21434 (8C214345A)	5735007	610841526	SHANGHAI-AE	1000	80	0	
STRESS: THERMAL SHOCK COND. B - 55C TO 125C							
CY8C21434 (8C214345A)	5735007	610841528	SHANGHAI-AE	200	77	0	
CY8C21434 (8C214345A)	5735007	610841528	SHANGHAI-AE	1000	77	0	
STRESS: X-RAY							
CY8C21434 (8C214345A)	5735007	610841528	SHANGHAI-AE	COMP	15	0	
CY8C21434 (8C214345A)	5735007	610841529	SHANGHAI-AE	COMP	15	0	
CY8C21434 (8C214345A)	5735007	610841530	SHANGHAI-AE	COMP	15	0	

Document History Page

Document Title: QTP#084007: 32 QFN Saw Type (5 x 5 x 1mm) NiPdAu-Ag, MSL3, 260C Reflow ASE-Shanghai
Document Number: 001-88445

Rev.	ECN No.	Orig. of Change	Description of Change
**	4064115	HSTO	Initial Spec Release Qualification report published on Cypress.com is documented on memo HGA-780 and was transferred to qualification report spec template.
*A	4462875	HSTO	Align qualification report based on the new template in the front page
*B	5384628	HSTO	Obsolete Spec.

Distribution: WEB

Posting: None