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Continuity of document content
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Continuity of ordering part numbers
Infineon continues to support existing part numbers. Please continue to use the ordering part numbers listed in the datasheet for ordering.

Cypress Semiconductor
Package Qualification Report

QTP# 084902 VERSION *A
July 2014

8-Lead QFN COL
(1.7 x 1.7 mm)
NiPdAu, MSL3, 260C Reflow
Amkor-Phil (M)

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

Qual Report		Description of Qualification Purpose		Date Comp
084902		Qualify COL 8L QFN assembled at Amkor MB using NEX130C Die Attach Film, CEL9220HF13 Mold Compound, 0.8mil Wire, NiPdAu Lead Finish, MSL3, 260C Reflow for XO MOBL Uniclock 8 QFN (7C850005BC and 7C850006BC), L8C-3R Process		Apr 09

MAJOR PACKAGE INFORMATION FOR THIS QUALIFICATION	
Package Designation:	LG08AA
Package Outline, Type, or Name:	08-Lead QFN COL (Chip on Lead)
Mold Compound Name/Manufacturer:	Hitachi - CEL9220HF13
Mold Compound Flammability Rating:	NA
Mold Compound Alpha Emission Rate:	<0.1
Oxygen Rating Index:	NA
Lead Frame Material:	Copper
Lead Finish, Composition / Thickness:	NiPdAu
Die Backside Preparation Method/Metallization:	Backgrind
Die Separation Method:	Sawing
Die Attach Supplier:	Nippon
Die Attach Material:	NEX-130C
Die Attach Method:	Film
Bond Diagram Designation:	001-49542 and 001-49543
Wire Bond Method:	Thermosonic
Wire Material/Size:	AuPd, 0.8 mil
Thermal Resistance Theta JA °C/W:	68°C/W
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	001-16573
Name/Location of Assembly (prime) facility:	Amkor-Phil (M)
MSL Level	3
Reflow Profile	260C

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	CML-R, ASE Shanghai

Note: Please contact a Cypress Representative for other packages availability.

RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENT

Stress/Test	Test Condition (Temp/Bias)	Result P/F
High Accelerated Saturation Test (HAST)	130℃, 2.35V, 85%RH Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs, 30℃/60%RH + 3IR-Reflow, 260℃+0, -5℃	P
Pressure Cooker	121℃, 100%RH, 15 PSIG Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs, 30℃ /60%RH + 3IR-Reflow, 260℃+0, -5℃	P
Temperature Cycle	MIL-STD-883C, Method 1010, Condition C, -65℃ to -+ 150℃ Precondition: JESD22 Moisture Sensitivity MSL3 192 Hrs 30℃/60%RH + 3IR-Reflow, 260℃+0, -5℃	P
Electrostatic Discharge Human Body Model (ESD-HBM)	2,200V JESD22, Method A114-B	P
Electrostatic Discharge Charge Device Model (ESD-CDM)	500V JESD22-C101	P
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 to determine the existence and extent of cracks, Criteria: No Package Crack	P
Final Visual Inspection	JESD22-B101B	P
Glue Adhesion	JESD22-A111	P
High Temperature Storage	150C, no bias	P
Internal Visual	MIL-STD-883-2014	P
Physical Dimensions	MIL-STD-1835, JESD22-B100	P
Solderability	J-STD-002, JESD22-B102	P
Thermal Shock	MIL-STD-883C, Method 1011,	P
X-Ray	MIL-STD-883 - 2012	P

Reliability Test Data

QTP #: 084902

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL3							
CY22M1SCALGXI (7C850005BC)	4644877	610902274	PHIL-M	COMP	15	0	
CY22M1SCALGXI (7C850005BC)	4644877	610902273	PHIL-M	COMP	15	0	
CY22M1SCALGXI (7C850005BC)	4644877	610902275	PHIL-M	COMP	15	0	
STRESS: BALL SHEAR							
CY22M1SCALGXI (7C850005BC)	4644877	610902274	PHIL-M	COMP	10	0	
STRESS: BOND PULL							
CY22M1SCALGXI (7C850005BC)	4644877	610902274	PHIL-M	COMP	10	0	
STRESS: CONSTRUCTIONAL ANALYSIS							
CY22M1SCALGXI (7C850005BC)	4644877	610902274	PHIL-M	COMP	5	0	
STRESS: DYE PENETRATION							
CY22M1SCALGXI (7C850005BC)	4644877	610902274	PHIL-M	COMP	15	0	
CY22M1SCALGXI (7C850005BC)	4644877	610902273	PHIL-M	COMP	15	0	
CY22M1SCALGXI (7C850005BC)	4644877	610902275	PHIL-M	COMP	15	0	
STRESS: ESD-CHARGE DEVICE MODEL, 500V							
CY22M1SCALGXI (7C850005BC)	4644877	610902274	PHIL-M	COMP	9	0	
CY22M1SCALGXI (7C850005BC)	4644877	610902275	PHIL-M	COMP	9	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER JESD22, METHOD A114-B, 2,200V							
CY22M1SCALGXI (7C850005BC)	4644877	610902274	PHIL-M	COMP	8	0	
CY22M1SCALGXI (7C850005BC)	4644877	610902275	PHIL-M	COMP	8	0	
STRESS: FINAL VISUAL							
CY22M1SCALGXI (7C850005BC)	4644877	610902274	PHIL-M	COMP	2980	0	
STRESS: GLUE ADHESION							
CY22M1SCALGXI (7C850005BC)	4644877	610902274	PHIL-M	COMP	15	0	
CY22M1SCALGXI (7C850005BC)	4644877	610902273	PHIL-M	COMP	15	0	
CY22M1SCALGXI (7C850005BC)	4644877	610902275	PHIL-M	COMP	15	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 2.35V, PRE COND 192 HR 30C/60%RH, MSL3							
CY22M1SCALGXI (7C850005BC)	4644877	610902274	PHIL-M	128	77	0	
CY22M1SCALGXI (7C850005BC)	4644877	610902273	PHIL-M	128	77	0	
STRESS: HIGH TEMPERATURE STORAGE, 150C, no bias							
CY22M1SCALGXI (7C850005BC)	4644877	610902274	PHIL-M	500	77	0	
CY22M1SCALGXI (7C850005BC)	4644877	610902274	PHIL-M	1000	77	0	

Reliability Test Data

QTP #: 084902

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: INTERNAL VISUAL							
CY22M1SCALGXI (7C850005BC)	4644877	610902274	PHIL-M	COMP	5	0	
STRESS: PHYSICAL DIMENSIONS							
CY22M1SCALGXI (7C850005BC)	4644877	610902274	PHIL-M	COMP	15	0	
CY22M1SCALGXI (7C850005BC)	4644877	610902273	PHIL-M	COMP	15	0	
CY22M1SCALGXI (7C850005BC)	4644877	610902275	PHIL-M	COMP	15	0	
STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 168 HR 85C/85%RH, MSL1							
CY22M1SCALGXI (7C850005BC)	4644877	610902274	PHIL-M	168	77	0	
CY22M1SCALGXI (7C850005BC)	4644877	610902273	PHIL-M	168	77	0	
STRESS: SOLDERABILITY							
CY22M1SCALGXI (7C850005BC)	4644877	610902274	PHIL-M	COMP	3	0	
CY22M1SCALGXI (7C850005BC)	4644877	610902273	PHIL-M	COMP	3	0	
CY22M1SCALGXI (7C850005BC)	4644877	610902275	PHIL-M	COMP	3	0	
STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH, MSL3							
CY22M1SCALGXI (7C850005BC)	4644877	610902274	PHIL-M	500	77	0	
CY22M1SCALGXI (7C850005BC)	4644877	610902274	PHIL-M	1000	76	0	
CY22M1SCALGXI (7C850005BC)	4644877	610902273	PHIL-M	500	77	0	
CY22M1SCALGXI (7C850005BC)	4644877	610902273	PHIL-M	1000	77	0	
CY22M1SCALGXI (7C850005BC)	4644877	610902275	PHIL-M	500	77	0	
CY22M1SCALGXI (7C850005BC)	4644877	610902275	PHIL-M	1000	76	0	
STRESS: X-RAY							
CY22M1SCALGXI (7C850005BC)	4644877	610902274	PHIL-M	COMP	10	0	
CY22M1SCALGXI (7C850005BC)	4644877	610902273	PHIL-M	COMP	10	0	
CY22M1SCALGXI (7C850005BC)	4644877	610902275	PHIL-M	COMP	10	0	

Document History Page

Document Title: QTP#084902: 8-Lead QFN COL (1.7 x 1.7 mm) NiPdAu, MSL3, 260C Reflow Amkor-Phil (M)
Document Number: 001-88442

Rev.	ECN No.	Orig. of Change	Description of Change
**	4064087	HSTO	Initial Spec Release Qualification report published on Cypress.com is documented on memo HGA-830 and was transferred to qualification report spec template.
*A	4450632	HSTO	Align qualification report based on the new template in the front page

Distribution: WEB

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