

# **Cypress Semiconductor Package Qualification Report**

**QTP# 054503 VERSION 1.0  
March 2006**

**68-LD QFN (Quad Flat No-Lead)  
(Punch Version, 8 x 8mm)  
NiPdAu, MSL3, 260°C Reflow  
Amkor-Korea (L)**

## **CYPRESS TECHNICAL CONTACT FOR QUALIFICATION DATA:**

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**PACKAGE QUALIFICATION HISTORY**

<b>QUAL REPORT</b>	<b>DESCRIPTION OF QUALIFICATION PURPOSE</b>	<b>DATE COMP.</b>
054503	68-LD QFN (8x8mm), (Punch Version), NiPdAu, MSL3, 260C Reflow assembled at Amkor-Korea (L)	Dec 05

<b>MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION</b>	
<b>Package Designation:</b>	LY68
<b>Package Outline, Type, or Name:</b>	68-Lead Quad Flat No Lead (QFN) 8 x 8mm, Punch Version
<b>Mold Compound Name/Manufacturer:</b>	Sumitomo G700FG
<b>Mold Compound Flammability Rating:</b>	V-O per UL94
<b>Oxygen Rating Index:</b>	NA
<b>Lead Frame Material:</b>	Copper
<b>Lead Finish, Composition / Thickness:</b>	NiPdAu
<b>Die Backside Preparation Method/Metallization:</b>	Backgrind
<b>Die Separation Method:</b>	Saw
<b>Die Attach Supplier:</b>	Ablestik
<b>Die Attach Material:</b>	8290
<b>Die Attach Method:</b>	Epoxy
<b>Bond Diagram Designation</b>	10-06869
<b>Wire Bond Method:</b>	Thermosonic
<b>Wire Material/Size:</b>	Au. 1.0mil
<b>Thermal Resistance Theta JA °C/W:</b>	21.8°C/W
<b>Package Cross Section Yes/No:</b>	N/A
<b>Assembly Process Flow:</b>	49-10999
<b>Name/Location of Assembly (prime) facility:</b>	Amkor-Korea (L)

<b>ELECTRICAL TEST / FINISH DESCRIPTION</b>	
<b>Test Location:</b>	CML-R
<b>Fault Coverage:</b>	100%

**RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENT**

Stress/Test	Test Condition (Temp/Bias)	Result P/F
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
Pressure Cooker Test	121°C, 100%RH Precondition: JESD22 Moisture Sensitivity MSL3 192 Hrs, 30°C/60%RH+3IR-Reflow, 260°C+0, -5°C	P
High Accelerated Saturation Test (HAST)	130°C, 3.63V, 85% RH Precondition: JESD22 Moisture Sensitivity MSL3 192 Hrs, 30°C/60%RH+3IR-Reflow, 260°C+0, -5°C	P
Acoustics Microscopy	Cypress Spec. 12-00292	P
Ball Shear	Cypress Spec. 24-00018	P
External Visual	Cypress Spec. 12-00292/25-00103	P
Internal Visual	Cypress Spec. 12-00292	P
Physical Dimension	Cypress Spec. 25-00031	P
Solderability	Cypress Spec. 25-00018	P
X-Section	MIL-STD-883, Method 2018	P
X-Ray	MIL-STD-883 - 2012	P

## Reliability Test Data

QTP #: 054503

<b>Device</b>	<b>Fab Lot #</b>	<b>Assy Lot #</b>	<b>Assy Loc</b>	<b>Duration</b>	<b>Samp</b>	<b>Rej</b>	<b>Failure Mechanism</b>
<b>STRESS: ACOUSTIC, MSL3</b>							
CY28447LFXC (7C828447A)	4447944	610514267	KOREA-L	COMP	15	0	
CY28447LFXC (7C828447A)	4447944	610514268	KOREA-L	COMP	15	0	
CY28447LFXC (7C828447A)	4447944	610514843	KOREA-L	COMP	15	0	
<b>STRESS: BALL SHEAR</b>							
CY28447LFXC (7C828447A)	4447944	610514267	KOREA-L	COMP	10	0	
<b>STRESS: EXTERNAL VISUAL</b>							
CY28447LFXC (7C828447A)	4447944	610514267	KOREA-L	COMP	15	0	
<b>STRESS: INTERNAL VISUAL</b>							
CY28447LFXC (7C828447A)	4447944	610514267	KOREA-L	COMP	15	0	
<b>STRESS: HI-ACCEL SATURATION TEST, 130C, 3.63V, 85%RH, PRE COND 192 HR 30C/60%RH, MSL3</b>							
CY28447LFXC (7C828447A)	4447944	610514267	KOREA-L	128	48	0	
<b>STRESS: PRESSURE COOKER TEST, (121C, 100%RH), PRE COND 192 HR 30C/60%RH, MSL3</b>							
CY28447LFXC (7C828447A)	4447944	610514268	KOREA-L	168	50	0	
<b>STRESS: PHYSICAL DIMENSION</b>							
CY28447LFXC (7C828447A)	4447944	610514267	KOREA-L	COMP	5	0	
<b>STRESS: SOLDERABILITY</b>							
CY28445LFXC (7C828445A)	44533915	610549281	KOREA-L	COMP	3	0	
<b>STRESS: TC COND. C -65C TO 150C, PRE COND 192 HR 30C/60%RH, MSL3</b>							
CY28447LFXC (7C828447A)	4447944	610514267	KOREA-L	300	50	0	
CY28447LFXC (7C828447A)	4447944	610514267	KOREA-L	500	50	0	
CY28447LFXC (7C828447A)	4447944	610514267	KOREA-L	1000	50	0	
CY28447LFXC (7C828447A)	4447944	610514268	KOREA-L	300	50	0	
CY28447LFXC (7C828447A)	4447944	610514268	KOREA-L	500	50	0	
CY28447LFXC (7C828447A)	4447944	610514268	KOREA-L	1000	50	0	
CY28447LFXC (7C828447A)	4447944	610514843	KOREA-L	300	50	0	
CY28447LFXC (7C828447A)	4447944	610514843	KOREA-L	500	50	0	
CY28447LFXC (7C828447A)	4447944	610514843	KOREA-L	1000	50	0	

## **Reliability Test Data**

**QTP #: 054503**

<b>Device</b>	<b>Fab Lot #</b>	<b>Assy Lot #</b>	<b>Assy Loc</b>	<b>Duration</b>	<b>Samp</b>	<b>Rej</b>	<b>Failure Mechanism</b>
<b>STRESS: X-SECTION</b>							
CY28447LFXC (7C828447A)	4447944	610514267	KOREA-L	COMP	5	0	
CY28447LFXC (7C828447A)	4447944	610514268	KOREA-L	COMP	5	0	
CY28447LFXC (7C828447A)	4447944	610514843	KOREA-L	COMP	5	0	
<b>STRESS: X-RAY</b>							
CY28447LFXC (7C828447A)	4447944	610514267	KOREA-L	COMP	15	0	