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**Continuity of ordering part numbers**

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# Cypress Semiconductor Package Qualification Report

**QTP# 103507 VERSION \*B  
July 2014**

**8L SOIC (150 mils)  
Pure Sn, Au Wire  
MSL3, 260°C Reflow  
Amkor-Phil (M)**

**FOR ANY QUESTIONS ON THIS REPORT, PLEASE CONTACT  
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**PACKAGE QUALIFICATION HISTORY**

<b>QTP Number</b>	<b>Description of Qualification Purpose</b>	<b>Date</b>
103507	Qualification of 8L SOIC (150 mils) package built in Amkor-Phil (M) using 0.8mil Au Wire, Sumitomo G600 mold compound, ABLESTIK 8290 epoxy and Pure Sn Leadfinish at MSL3, 260C reflow	Feb 2011

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	SZ815
Package Outline, Type, or Name:	8-Lead SOIC (Gull Wing)
Mold Compound Name/Manufacturer:	G600 / Sumitomo
Mold Compound Flammability Rating:	V-0 / UL94
Oxygen Rating Index: >28%	None
Lead Frame Designation:	FMP
Lead Frame Material:	Copper
Substrate Material:	N/A
Lead Finish, Composition / Thickness:	Pure Sn
Die Backside Preparation Method/Metallization:	Backgrind
Die Separation Method:	SAW Process
Die Attach Supplier:	Ablestik
Die Attach Material:	8290
Bond Diagram Designation	001-59959
Wire Bond Method:	Thermosonic
Wire Material/Size:	0.8mil / Au
Package Cross Section Yes/No:	Yes
Thermal Resistance Theta JA (C/W)	101.8 C/W
Assembly Process Flow:	49-14999
Name/Location of Assembly (prime) facility:	Amkor-Phil (M)
MSL LEVEL	3
REFLOW PROFILE	260C

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	KY-Taiwan, CML-R, UTAC(UT)

**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
High Accelerated Saturation Test (HAST)	JEDEC STD 22-A110, 130 C, 85%RH, 2.75V Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30 C°, 60% RH, 260C Reflow)	P
Pressure Cooker Test	JESD22-A102, 121 C, 100%RH, 15 PSIG Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30 C°, 60% RH, 260C Reflow)	P
Temperature Cycle	MIL-STD-883C, Method 1010, Condition C, -65 C to 150 C Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30 C°, 60% RH, 260C Reflow)	P
High Temp Storage	JESD22-A103, 150 C, no bias	P
Acoustic Microscopy	J-STD-020 Precondition: JESD22 Moisture Sensitivity Level (192 Hrs., 30 C°, 60% RH, 260C Reflow)	P
Ball Shear	JESD22-B116A, Cpk : 1.33, Ppk : 1.66	P
Bond Pull	MIL-STD-883 – Method 2011, Cpk : 1.33, Ppk : 1.66	P
Constructional Analysis	Criteria: Meet external and internal characteristics of Cypress package	P
Dye Penetrant Test	Test to determine the existence and extent of cracks, Criteria: No Package Crack	P
Die Shear	MIL-STD-883, Method 2019  Per die size: <ul style="list-style-type: none"> <li>&lt;3000 sq. mils = 1.2 kgf</li> <li>30001-5000 sq. mils = 1.2 kgf</li> <li>&gt;5001 sq. mils = 1.2 kgf</li> </ul>	P
Thermal Shock	MIL-STD-883C, Method 1011, Condition B, -55 C to 125C and JESD22-A106B, Condition C, -55 C to 125C	P
X-Ray	MIL-STD-883 - 2012	P



## Reliability Test Data

**QTP #: 103507**

<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>							
CY14C101J2 (7C1431CCA)	4032722	611057657	M-PHIL	COMP	15	0	
CY14B101Q2A (7C1431B5A)	4032722	611057656	M-PHIL	COMP	15	0	
CY14B101Q1A (7C1431B9A)	4032722	611057658	M-PHIL	COMP	15	0	
<b>STRESS: BALL SHEAR</b>							
CY14C101J2 (7C1431CCA)	4032722	611057657	M-PHIL	COMP	30	0	
<b>STRESS: BOND PULL</b>							
CY14C101J2 (7C1431CCA)	4032722	611057657	M-PHIL	COMP	30	0	
<b>STRESS: CONSTRUCTIONAL ANALYSIS</b>							
CY14B101Q2A (7C1431B5A)	4032722	611057656	M-PHIL	COMP	5	0	
<b>STRESS: DIE SHEAR</b>							
CY14C101J2 (7C1431CCA)	4032722	611057657	M-PHIL	COMP	10	0	
CY14B101Q2A (7C1431B5A)	4032722	611057656	M-PHIL	COMP	10		
<b>STRESS: DYE PENETRATION TEST</b>							
CY14C101J2 (7C1431CCA)	4032722	611057657	M-PHIL	COMP	15	0	
CY14B101Q2A (7C1431B5A)	4032722	611057656	M-PHIL	COMP	15	0	
CY14B101Q1A (7C1431B9A)	4032722	611057658	M-PHIL	COMP	15	0	
<b>STRESS: HI-ACCEL SATURATION TEST, 130C,85%RH, 2.75V, PRE COND 192 HR 30C/60%RH, MSL3</b>							
CY14C101J2 (7C1431CCA)	4032722	611057657	M-PHIL	128	77	0	
<b>STRESS: HIGH TEMP STORAGE, 150C</b>							
CY14B101Q2A (7C1431B5A)	4032722	611057656	M-PHIL	500	77	0	
CY14B101Q2A (7C1431B5A)	4032722	611057656	M-PHIL	1000	77	0	
<b>STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR 30C/60%RH (MSL3)</b>							
CY14C101J2 (7C1431CCA)	4032722	611057657	M-PHIL	168	77	0	
<b>STRESS: THERMAL SHOCK</b>							
CY14B101Q2A (7C1431B5A)	4032722	611105435	M-PHIL	200	80	0	
<b>STRESS: X-RAY</b>							
CY14C101J2 (7C1431CCA)	4032722	611057657	M-PHIL	COMP	185	0	
CY14B101Q2A (7C1431B5A)	4032722	611057656	M-PHIL	COMP	350	0	
CY14B101Q1A (7C1431B9A)	4032722	611057658	M-PHIL	COMP	147	0	

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## Reliability Test Data

### QTP #: 103507

<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>
<b>STRESS: TC COND. C -65C TO 150C, PRE COND 192 HR 30C/60%RH, MSL3</b>							
CY14C101J2 (7C1431CCA)	4032722	611057657	M-PHIL	500	77	0	
CY14C101J2 (7C1431CCA)	4032722	611057657	M-PHIL	1000	77	0	
CY14B101Q2A (7C1431B5A)	4032722	611057656	M-PHIL	500	80	0	
CY14B101Q2A (7C1431B5A)	4032722	611057656	M-PHIL	1000	80	0	
CY14B101Q1A (7C1431B9A)	4032722	611057658	M-PHIL	500	77	0	
CY14B101Q1A (7C1431B9A)	4032722	611057658	M-PHIL	1000	77	0	

## Document History Page

Document Title: QTP 103507: 8L SOIC (150 MILS) PURE SN, AU WIRE MSL3, 260C REFLOW AMKOR-PHIL (M)  
Document Number: 001-81189

Rev.	ECN No.	Orig. of Change	Description of Change
**	3528629	NSR	Initial spec release.
*A	4056690	HSTO	Corrected package designation code from SZ185 to SZ815. Updated test location facility based on current qualified test site.
*B	4450632	HSTO	Align qualification report based on the new template in the front page

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Posting: None