

Cypress Semiconductor Package Qualification Report

**QTP# 063001 VERSION*A
January 2015**

48-Ball Fine Pitch Ball Grid Array (FBGA)

MSL3, Pb-Free, 260°C Reflow

ASE Taiwan (TAIWAN-G)

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

Qual Report	Description of Qualification Purpose	Date Comp
063001	Qualify ASE-Taiwan using Sn (98.5%)/Ag (1.0%)/Cu (0.5%) Solder Ball Composition (6x8x1.0mm, 8x9.5x1.0mm, 6x6x1.0mm, 5x5x1.0mm) VFBGA	Jul 06

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	BZ48
Package Outline, Type, or Name:	48-Ball FBGA (6 x 8 x 1.0m) Fine Pitch Ball Grid Array
Mold Compound Name/Manufacturer:	Kyocera KE-G2270
Mold Compound Flammability Rating:	V-O per UL94
Oxygen Rating Index:	>28%
Substrate Material:	BT Resin
Lead Finish, Composition / Thickness:	Sn (98.5%), Ag (1%), Cu (0.5%)
Die Backside Preparation Method/Metallization:	Backgrind
Die Separation Method:	Wafer Saw
Die Attach Supplier:	Ablestik
Die Attach Material:	Ablestik 2025
Die Attach Method:	Epoxy
Bond Diagram Designation:	Not Applicable
Wire Bond Method:	Thermosonic
Wire Material/Size:	Au, 1.0mil
Thermal Resistance Theta JA °C/W:	35.85°C/W
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	Not Applicable
Name/Location of Assembly (prime) facility:	ASE Taiwan (Taiwan-G)

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	Cypress Philippines (CML-R)
Fault Coverage:	100%

RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENTS

Stress/Test	Test Condition (Temp/Bias)	Result P/F
High Accelerated Saturation	130°C, 3.6V, 85%RH Precondition: JESD22 Moisture Sensitivity MSL3 192 Hrs., 30°C/60%RH+3IR-Reflow, 260°C+0, -5°C	P
Pressure Cooker	121C, 100%RH, 15 Psig Precondition: JESD22 Moisture Sensitivity MSL3 192 Hrs., 30°C/60%RH+3IR-Reflow, 260°C+0, -5°C	P
Drop Test	JESD22-B111	P
Cross Section	Criteria: Meet external and internal characteristics of Cypress package	P
External Visual	MIL-PRF-38535, MIL-STD-883, METHOD 2009	P



Reliability Test Data

QTP #: 063001

<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: DROP TEST							
CY62167DV30L (7C62167D)	4309094	610316588	TAIWN -G	COMP	15	0	
STRESS: EXTERNAL VISUAL							
CY62167DV30L (7C62167D)	4309094	610316588	TAIWN -G	COMP	15	0	
STRESS: PRESSURE COOKER TEST (121C, 100%RH), 15 Psig, PRE COND 192 HR 30C/60%RH, MSL3							
CY62167DV30L (7C62167D)	4309094	610316588	TAIWN -G	168	40	0	
STRESS: HI-ACCEL SATURATION TEST (130C, 85%RH, 3.6V), PRE COND 192 HR 30C/60%RH, MSL3							
CY62167DV30L (7C62167D)	4309094	610316588	TAIWN -G	128	44	0	



Document History Page

Document Title: QTP No. 063001 : 48-Ball FBGA, MSL3, Pb-Free, 260C Reflow, ASE Taiwan
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Rev.	ECN No.	Orig. of Change	Description of Change
**	3840039	HLR	Initial Spec Release.
*A	4613007	HSTO	Align qualification report based on the new template in the front page Update the test conditions and reference standards/criteria for External Visual

Distribution: WEB

Posting: None