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Continuity of ordering part numbers
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Cypress Semiconductor
Package Qualification Report

QTP# 083104 VERSION*A
October 2014

484-Balls PBGA (27x27x2.33mm)
SnAgCu, MSL3, 260C Reflow
ASE-Taiwan

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

QUAL REPORT	DESCRIPTION OF QUALIFICATION PURPOSE	DATE COMP.
083104	484- PBGA(27x27x2.33mm) SnAgCu, MSL3, 260C Reflow using Hitachi 9750ZHF 10AK mold compound, Ablestik 2100A and QMI-536 epoxy assembled at ASE, Taiwan	Aug 08

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	BY484
Package Outline, Type, or Name:	484-Ball Plastic Ball Grid Array (PBGA)
Mold Compound Name/Manufacturer:	HITACHI 9750ZHF 10AK
Mold Compound Flammability Rating:	V-0 UL-94
Oxygen Rating Index:	N/A
Substrate Material:	BT 1+4+1
Lead Finish, Composition / Thickness:	SnAgCu
Die Backside Preparation Method/Metallization:	Backgrind
Die Separation Method:	Saw
Die Attach Supplier:	Ablestik / Henkel
Die Attach Material:	2100A and QMI-536
Die Attach Method:	Epoxy
Bond Diagram Designation:	001-11340, 001-10145, 001-09683
Wire Bond Method:	Thermosonic
Wire Material/Size:	Au/ 0.9mil
Thermal Resistance Theta JA °C/W :	>12 C/W
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	49-41999
Name/Location of Assembly (prime) facility:	ASE-Taiwan
MSL Level:	3
Reflow Profile:	260C

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	ASE Taiwan (G)

RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENTS

Stress/Test	Test Condition (Temp/Bias)	Result P/F
Temperature Cycle	JEDEC22, Condition B, -55°C to 125°C Precondition: JESD22 Moisture Sensitivity MSL3 192 Hrs, 30°C/60% RH+3IR-Reflow, 260°C+0, -5°C	P
Electrostatic Discharge Charge Device Model (ESD-CDM)	500V, JESD22-C101	P
Electrostatic Discharge Human Body Model (ESD-HBM)	2,200V JESD-22 Method A114-E	P
High Accelerated Saturation Test (HAST)	130C, 85%RH, 1.8V Precondition: JESD22 192 Hrs, Precondition: JESD22 Moisture Sensitivity MSL3 192 Hrs, 30°C/60% RH+3IR-Reflow, 260°C+0, -5°C	P
Acoustic Microscopy Test	J-STD-020	P
Ball Shear	JESD22-B116A	P
Bond Pull	MIL-STD-883 – Method 2011	P
Die Shear	MIL-STD-883, Method 2019	P
External Visual	MIL-PRF-38535, MILSTD-883, METHOD 2009	P
High Temperature Storage	150C, no bias	P
Internal Visual	MIL-STD-883-2014	P
Physical Dimension	MIL-STD-1835, JESD22-B100	P
Thermal Shock	MIL-STD-883C, Method 1011	P
X-ray	MIL-STD-883 - 2012	P

Reliability Test Data

QTP #: 083104

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL3							
CYD36S72V18 (7C08652AC)	4745285	610820071	G-TAIWAN	COMP	15	0	
CYD36S72V18 (7C08652AC)	4749803	610820083	G-TAIWAN	COMP	15	0	
CYD36S72V18 (7C08652AC)	4801412	610820079	G-TAIWAN	COMP	15	0	
STRESS: BALL SHEAR							
CYD36S72V18 (7C08652AC)	4745285	610820071	G-TAIWAN	COMP	20	0	
CYD36S72V18 (7C08652AC)	4749803	610820083	G-TAIWAN	COMP	20	0	
CYD36S72V18 (7C08652AC)	4801412	610820079	G-TAIWAN	COMP	30	0	
STRESS: BOND PULL							
CYD36S72V18 (7C08652AC)	4745285	610820071	G-TAIWAN	COMP	68	0	
CYD36S72V18 (7C08652AC)	4749803	610820083	G-TAIWAN	COMP	64	0	
CYD36S72V18 (7C08652AC)	4801412	610820079	G-TAIWAN	COMP	92	0	
STRESS: DIE SHEAR							
CYD36S18V18 (7C08352A)	4603073	610659448	G-TAIWAN	COMP	15	0	
STRESS: EXTERNAL VISUAL							
CYD36S18V18 (7C08352AC)	4615663	610658133	G-TAIWAN	COMP	15	0	
STRESS: HIGH TEMPERATURE STORAGE, 150C, NO BIAS							
CYD36S18V18 (7C08352A)	4603073	610659448	G-TAIWAN	500	45	0	
CYD36S18V18 (7C08352A)	4603073	610659448	G-TAIWAN	1000	45	0	
STRESS: PHYSICAL DIMENSIONS							
CYDD36S18V18 (7C08352BC)	4605735	610657631	G-TAIWAN	COMP	5	0	
STRESS: INTERNAL VISUAL							
CYDD36S18V18 (7C08352BC)	4605735	610657631	G-TAIWAN	COMP	5	0	
STRESS: TC COND. C –55C TO 125C PRE COND 192 HR 30C/60%RH, MSL3							
CYD36S72V18 (7C08652AC)	4745285	610820071	G-TAIWAN	500	50	0	
CYD36S72V18 (7C08652AC)	4745285	610820071	G-TAIWAN	1000	50	0	
CYD36S72V18 (7C08652AC)	4749803	610820083	G-TAIWAN	500	52	0	
CYD36S72V18 (7C08652AC)	4749803	610820083	G-TAIWAN	1000	52	0	
CYD36S72V18 (7C08652AC)	4801412	610820079	G-TAIWAN	500	54	0	
CYD36S72V18 (7C08652AC)	4801412	610820079	G-TAIWAN	1000	54	0	

Reliability Test Data

QTP #: 083104

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: THERMAL SHOCK							
CYD36S72V18 (7C08652AC)	4745285	610820071	G-TAIWAN	100	50	0	
CYD36S72V18 (7C08652AC)	4745285	610820071	G-TAIWAN	200	50	0	
CYD36S72V18 (7C08652AC)	4745285	610820071	G-TAIWAN	400	50	0	
STRESS: X-RAY							
CYD36S18V18 (7C08352A)	4603073	610659448	G-TAIWAN	COMP	76	0	
STRESS: HI-ACCEL SATURATION TEST (130C, 85%RH, 1.8 V) PRE COND 192 HR 30C/60%RH, MSL3							
CYD36S18V18 (7C08352AC)	4625265	610662212	G-TAIWAN	128	46	0	
STRESS: ESD-CHARGE DEVICE MODEL, 500V							
CYD36S36V18 (7C08552AC)	4626844	610660707	G-TAIWAN	COMP	9	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER JEDEC EIA/JESD22-A114-E, 2,200V							
CYD36S36V18 (7C08552AC)	4626844	610660707	G-TAIWAN	COMP	2	0	
CYD36S72V18 (7C08652AC)	4619133	610663113	G-TAIWAN	COMP	2	0	
CYD36S18V18 (7C08352AC)	4615663	610654065	G-TAIWAN	COMP	2	0	

Document History Page

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Document Number: 001-89619

Rev.	ECN No.	Orig. of Change	Description of Change
**	4150801	HSTO	Initial Spec Release Initiate report as per memo HGA-552.
*A	4536462	HSTO	Align qualification report based on the new template in the front page

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