Cypress Semiconductor
Package Qualification Report

QTP# 063503 VERSION*A
October, 2014

≤ 28-Lead SSOP (209 mils) NiPdAu, MSL3,260C Solder Reflow Amkor-Philippines (M)

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

QTP Number	Description of Qualification Purpose	Date
063503	Qualify Amkor-Phil. for ≤28-Lead SSOP (209mils), MSL3, 260C Solder Reflow Temperature	Sep 06

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	O28
Package Outline, Type, or Name:	28-Lead Shrunk Small Outline Package (SSOP)
Mold Compound Name/Manufacturer:	G600
Mold Compound Flammability Rating:	V-O per UL 94
Oxygen Rating Index:	N/A
Lead Frame Material:	Copper
Lead Finish:	NiPdAu
Die Backside Preparation Method/Metallization:	Backgrind
Die Separation Method:	Sawing
Die Attach Supplier:	Ablestik
Die Attach Material:	8290
Die Attach Method:	Epoxy
Bond Diagram Designation	10-05678
Wire Bond Method:	Thermosonic
Wire Material/Size:	Au. 1.0 mils
Thermal Resistance Theta JA °C/W:	96°C/W
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	49-14999
Name/Location of Assembly (prime) facility:	AMKOR-PHIL (M)
MSL Level	3
Reflow Profile	260C

RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENT

Stress/Test	Test Condition (Temp/Bias)	Result P/F
Acoustic Microscopy	J-STD-020 Precondition: JESD22 Moisture Sensitivity Level 192 Hrs, 30C/60%RH+ Reflow, 260℃+0, -5℃	P
Adhesion of Lead Finish	MIL-STD-883, Method 2025	P
External Visual	MIL-PRF-38535, MILSTD-883, METHOD 2009	P
High Accelerated Saturation Test (HAST)	JEDEC STD 22-A110: 130℃, 5.25V, 85%RH Precondition: JESD22 Moisture Sensitivity Level 3 192 Hrs, 30C/60%RH+ Reflow, 260℃+0, -5℃	P
Pressure Cooker	JESD22-A102 121℃, 100%RH, 15 Psig Precondition: JESD22 Moisture Sensitivity Level 3 192 Hrs, 30C/60%RH+ Reflow, 260℃+0, -5℃	P
Temperature Cycle	MIL-STD-883, Method 1010, Condition C, -65℃ to 150℃ Precondition: JESD22 Moisture Sensitivity Level 3 192 Hrs, 30C/60%RH+ Reflow, 260℃+0, -5℃	P
Solderability, Steam Aged	J-STD-002, JESD22-B102 95% solder coverage minimum	P

Reliability Test Data

QTP #: 063503

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL3							
CY8C29466 (8C29466A)	4547386	*610608768*	PHIL-M	COMP	15	0	
CY8C29466 (8C29466A)	4548960	*610608766*	PHIL-M	COMP	15	0	
CY8C29466 (8C29466A)	4549207	*610610435*	PHIL-M	COMP	15	0	
STRESS: ADHESION OF LEAD FINISH							
CY8C29466 (8C29466A)	4547386	*610608768*	PHIL-M	COMP	5	0	
CY8C29466 (8C29466A)	4548960	*610608766*	PHIL-M	COMP	5	0	
CY8C29466 (8C29466A)	4549157	*610646359*	PHIL-M	COMP	5	0	
STRESS: EXTERNALVISUAL							
CY8C29466 (8C29466A)	4547386	*610608768*	PHIL-M	COMP	1396	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 5.25V, 85%RH, PRE COND 192 HRS, 30C/60%RH, MSL3							
CY8C29466 (8C29466A)	4547386	*610608768*	PHIL-M	128	80	0	
CY8C29466 (8C29466A)	4548960	*610608766*	PHIL-M	96	78	0	
CY8C29466 (8C29466A)	4548960	*610608766*	PHIL-M	128	78	0	
STRESS: PRESSURE COOKER TEST, 121C 100%RH, 15 Psig, PRE COND 192 HRS, 30C/60%RH, MSL3							
CY8C29466 (8C29466A)	4547386	*610608768*	PHIL-M	96	80	0	
CY8C29466 (8C29466A)	4547386	*610608768*	PHIL-M	168	80	0	
STRESS: TC CONDITION C, -65C TO 150C, PRE COND 192 HRS, 30C/60%RH, MSL3							
CY8C29466 (8C29466A)	4547386	*610608768*	PHIL-M	500	80	0	
CY8C29466 (8C29466A)	4547386	*610608768*	PHIL-M	100	75	0	
CY8C29466 (8C29466A)	4548960	*610608766*	PHIL-M	500	80	0	
CY8C29466 (8C29466A)	4548960	*610608766*	PHIL-M	1000	79	0	
CY8C29466 (8C29466A)	4549207	*610610435*	PHIL-M	1000	80	0	
STRESS: SOLDERABILITY							
CY8C29466 (8C29466A)	4547386	*610608768*	PHIL-M	COMP	15	0	
CY8C29466 (8C29466A)	4548960	*610608766*	PHIL-M	COMP	15	0	

Document History Page

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Rev.	ECN No.	Orig. of Change	Description of Change
**	4148796	JYF	Initial Spec Release.
*A	4526822	JYF	Sunset review: Updated QTP title page for template alignment.

Distribution: WEB

Posting: None