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Continuity of ordering part numbers
Infineon continues to support existing part numbers. Please continue to use the ordering part numbers listed in the datasheet for ordering.

Cypress Semiconductor
Package Qualification Report

QTP# 063907 VERSION*A
October, 2014

32-Lead TSOP (8 x 20mm)

NiPdAu (w/o PMC)

MSL3, 260C Reflow

CML-RA

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

QTP Number	Description of Qualification Purpose	Date
063907	32-Lead TSOP, NiPdAu (w/o PMC), MSL3, 260C Reflow assembled at CML-RA	Oct 06

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	ZT32
Package Outline, Type, or Name:	32-Lead Thin Small Outline Package
Mold Compound Name/Manufacturer:	KE G3000DA - Kyocera
Mold Compound Flammability Rating:	UL94 – V0
Oxygen Rating Index:	None
Leadframe Material:	Copper
Lead Finish, Composition / Thickness:	NiPdAu
Die Backside Preparation Method/Metallization:	Backgrind
Die Separation Method:	Saw
Die Attach Supplier:	Dexter
Die Attach Material:	QMI 509
Die Attach Method:	Epoxy
Wire Bond Method:	Thermosonic
Wire Material/Size:	Au. 0.8 mil
Thermal Resistance Theta JA C/W:	50.72 °C/W
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	11-21099
Name/Location of Assembly (prime) facility:	CML-RA
MSL Level	3
Reflow Profile	260C

ELECTRICAL TEST/FINISH DESCRIPTION	
Test Location	CML-R

RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENTS

Stress/Test	Test Condition (Temp/Bias)	Result P/F
Temperature Cycle	MIL-STD-883, Method 1010, Condition C, -65°C to 150°C Precondition: JESD22 Moisture Sensitivity Level 3 192 Hrs, 30C/60%RH+ Reflow, 260°C+0, -5°C	P
Pressure Cooker Test	JESD22-A102 121°C, 100%RH, 15 Psig Precondition: JESD22 Moisture Sensitivity Level 3 192 Hrs, 30C/60%RH+ Reflow, 260°C+0, -5°C	P
High Accelerated Saturation Test (HAST)	JEDEC STD 22-A110: 130°C, 5.5V, 85%RH Precondition: JESD22 Moisture Sensitivity Level 3 192 Hrs, 30C/60%RH+ Reflow, 260°C+0, -5°C	P
Acoustics Microscopy	J-STD-020 Precondition: JESD22 Moisture Sensitivity Level 192 Hrs, 30C/60%RH+ Reflow, 260°C+0, -5°C	P
Ball Shear	JESD22-B116, Cpk : 1.33, Ppk : 1.66	P
Bond Pull	MIL-STD-883 – Method 2011, 1.33, Ppk : 1.66	P
Constructional Analysis	Criteria: Meet external and internal characteristics of Cypress package	P
Dye Penetration	Test to determine the existence and extent of cracks, Criteria: No Package Crack	P
Electrostatic Discharge Charge Device Model (ESD-CDM)	500V JESD22-A101	P
External Visual	MIL-PRF-38535, MILSTD-883, METHOD 2009	P
High Temperature Storage	JESD22-A103:150C, no bias	P
Internal Visual	MIL-STD-883-2014	P
Physical Dimension	MIL-STD-1835, JESD22-B100	P
Solderability, Steam Aged	J-STD-002, JESD22-B102 95% solder coverage minimum	P
Thermal Shock	MIL-STD-883, Method 1011, Condition B, -55 C to 125C and JESD22-A106, Condition C, -55 C to 125C	P
X-ray	MIL-STD-883 2012	P

Reliability Test Data

QTP #: 063907

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL3							
CY7C109B (7C109SM)	4630121	610652894	CML-RA	COMP	15	0	
CY7C109B (7C109SM)	4630121	610652895	CML-RA	COMP	15	0	
CY7C109B (7C109SM)	4630121	610652896	CML-RA	COMP	15	0	
STRESS: BALL SHEAR							
CY7C109B (7C109SM)	4630121	610652894	CML-RA	COMP	10	0	
STRESS: BOND PULL							
CY7C109B (7C109SM)	4630121	610652894	CML-RA	COMP	10	0	
STRESS: CONSTRUCTIONAL ANALYSIS							
CY7C109B (7C109SM)	4625285	4625285-01	CML-RA	COMP	5	0	
STRESS: DYE PENETRATION							
CY7C109B (7C109SM)	4625285	4625285-01	CML-RA	COMP	15	0	
CY7C109B (7C109SM)	4625285	4625285-05	CML-RA	COMP	15	0	
CY7C109B (7C109SM)	4625285	4625285-09	CML-RA	COMP	15	0	
STRESS: ESD-CHARGE DEVICE MODEL (500V)							
CY7C109B (7C109SM)	4630121	610652894	CML-RA	COMP	9	0	
STRESS: EXTERNAL VISUAL							
CY7C109B (7C109SM)	4630121	610652894	CML-RA	COMP	15	0	
STRESS: INTERNAL VISUAL							
CY7C109B (7C109SM)	4630121	610652894	CML-RA	COMP	5	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 5.5V, 85%RH, PRE COND 192HR 30C/60%RH, MSL3							
CY7C109B (7C109SM)	4630121	610652894	CML-RA	128	50	0	
STRESS: HIGH TEMPERATURE STORAGE, 150C, no bias							
CY7C109B (7C109SM)	4630121	610652894	CML-RA	500	45	0	
CY7C109B (7C109SM)	4630121	610652894	CML-RA	1000	45	0	
STRESS: PHYSICAL DIMENSION							
CY7C109B (7C109SM)	4630121	610652894	CML-RA	COMP	5	0	

Reliability Test Data

QTP #: 063907

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: PRESSURE COOKER TEST, 121C, 100%RH, 15 Psig, PRE COND 192HR 30C/60%RH, MSL3							
CY7C109B (7C109SM)	4630121	610652894	CML-RA	168	50	0	
CY7C109B (7C109SM)	4630121	610652895	CML-RA	168	50	0	
STRESS: SOLDERABILITY							
CY7C109B (7C109SM)	4630121	610652894	CML-RA	COMP	3	0	
STRESS: TC COND. C –65C TO 150C, PRE COND 192HR 30C/60%RH, MSL3							
CY7C109B (7C109SM)	4630121	610652894	CML-RA	300	50	0	
CY7C109B (7C109SM)	4630121	610652895	CML-RA	300	48	0	
CY7C109B (7C109SM)	4630121	610652896	CML-RA	300	45	0	
STRESS: THERMAL SHOCK							
CY7C109B (7C109SM)	4630121	610652894	CML-RA	100	50	0	
CY7C109B (7C109SM)	4630121	610652894	CML-RA	200	50	0	
STRESS: X-RAY							
CY7C109B (7C109SM)	4630121	610652894	CML-RA	COMP	15	0	

Document History Page

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Rev.	ECN No.	Orig. of Change	Description of Change
**	4148842	JYF	Initial Spec Release.
*A	4526822	JYF	Sunset review: Updated QTP title page for template alignment.

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