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Cypress Semiconductor
Package Qualification Report

QTP# 034602 VERSION*A
September 2014

32-Lead TQFP (7 x 7 x 1.0mm)
52-Lead TQFP (10 x 10 x 1.0mm)
Pb-Free, MSL3, 260C Reflow
Amkor Bupyeong Korea Assembly

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

QUAL REPORT		DESCRIPTION OF QUALIFICATION PURPOSE		DATE COMP.
034602		Qualify Amkor Bupyeong-Korea for 32-Lead (7x7x1.0mm), 52-Lead (10x10x1.0mm) Pb-Free, MSL3, 260C Reflow, using G700L Mold Compound and 3230 Epoxy and Matte Tin Plating with Annealing Process (150C, 1hr)		Mar 04

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	A52
Package Outline, Type, or Name:	52-lead Thin Quad Flat Pack (TQFP)
Mold Compound Name/Manufacturer:	G700L
Mold Compound Flammability Rating:	V-O per UL 94
Oxygen Rating Index:	N/A
Lead Frame Material:	Copper
Lead Finish, Composition / Thickness:	Pure Sn
Die Backside Preparation Method/Metallization:	Grinding
Die Separation Method:	Wafer Saw
Die Attach Supplier:	BT
Die Attach Material:	3230
Wire Bond Method:	Thermosonic
Wire Material/Size:	Au 1.2 mil
Thermal Resistance Theta JA °C/W:	55°C/W
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	49-10997
Name/Location of Assembly (prime) facility:	Korea-Q (Amkor Bupyeong-Korea)

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

Note: Please contact a Cypress Representative for other packages availability.

RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENTS

Stress/Test	Test Condition (Temp/Bias)	Result P/F
Temperature Cycle	MIL-STD-883C, Method 1010, Condition C, -65°C to 150°C Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs., 30°C/60%RH+3IR-Reflow, 260°C+0, -5°C	P
Pressure Cooker	121°C, 100%RH Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs, 30°C/60%RH+3IR-Reflow, 260°C+0, -5°C	P
High Accelerated Saturation Test (HAST)	130°C, 3.63V, 85%RH Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs, 30°C/60%RH+3IR-Reflow, 260°C+0, -5°C	P
Acoustic Microscopy	J-STD-020	P
External Visual	MIL-PRF-38535, MILSTD-883, METHOD 2009	P
Solderability	J-STD-002, JESD22-B102	P
Adhesion of Lead Finish	MIL-STD-883, Method 2025	P

Reliability Test Data

QTP #:034602

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL3							
IMIZ9974CA (7C8Z9974C)	9140661	610346345	KOREA-Q	COMP	15	0	
IMIZ9974CA (7C8Z9974C)	9140661	610346345M	KOREA-Q	COMP	15	0	
IMIZ9974CA (7C8Z9974C)	9140661	610346345M1	KOREA-Q	COMP	15	0	
STRESS: EXTERNAL VISUAL							
IMIZ9974CA (7C8Z9974C)	9140661	610346345	KOREA-Q	COMP	15	0	
IMIZ9974CA (7C8Z9974C)	9140661	610346345M	KOREA-Q	COMP	15	0	
STRESS: HI-ACCEL SATURATION TEST (130C, 85%RH, 3.63V), PRE COND 192 HRS 30C/60%RH, MSL3							
IMIZ9974CA (7C8Z9974C)	9140661	610346345	KOREA-Q	128	50	0	
IMIZ9974CA (7C8Z9974C)	9140661	610346345M	KOREA-Q	128	50	0	
STRESS: ADHESION OF LEAD FINISH							
IMIZ9974CA (7C8Z9974C)	9140661	610346345	KOREA-Q	COMP	3	0	
IMIZ9974CA (7C8Z9974C)	9140661	610346345M	KOREA-Q	COMP	3	0	
STRESS: PRESSURE COOKER TEST (121C, 100%RH), PRE COND 192 HRS 30C/60%RH, MSL3							
IMIZ9974CA (7C8Z9974C)	9140661	610346345	KOREA-Q	168	50	0	
STRESS: SOLDERABILITY							
IMIZ9974CA (7C8Z9974C)	9140661	610346345	KOREA-Q	COMP	3	0	
IMIZ9974CA (7C8Z9974C)	9140661	610346345M	KOREA-Q	COMP	3	0	
STRESS: TC COND. C -65C TO 150C, PRE COND 192 HRS 30C/60%RH, MSL3							
IMIZ9974CA (7C8Z9974C)	9140661	610346345	KOREA-Q	300	50	0	
IMIZ9974CA (7C8Z9974C)	9140661	610346345	KOREA-Q	500	47	0	
IMIZ9974CA (7C8Z9974C)	9140661	610346345	KOREA-Q	1000	47	0	
IMIZ9974CA (7C8Z9974C)	9140661	610346345M	KOREA-Q	300	50	0	
IMIZ9974CA (7C8Z9974C)	9140661	610346345M	KOREA-Q	500	50	0	
IMIZ9974CA (7C8Z9974C)	9140661	610346345M	KOREA-Q	1000	50	0	
IMIZ9974CA (7C8Z9974C)	9140661	610346345M1	KOREA-Q	300	50	0	
IMIZ9974CA (7C8Z9974C)	9140661	610346345M1	KOREA-Q	500	50	0	
IMIZ9974CA (7C8Z9974C)	9140661	610346345M1	KOREA-Q	1000	50	0	

Document History Page

Document Title:QTP#034602:32-Lead TQFP (7 x 7 x 1.0mm) 52-Lead TQFP (10 x 10 x 1.0mm) Pb-Free, MSL3, 260C Reflow Amkor Bupyeong Korea Assembly
Document Number: 001-89445

Rev.	ECN No.	Orig. of Change	Description of Change
**	4140922	HSTO	Initial Spec Release Initiate report as per memo LGQ-315.
*A	4516872	HSTO	Align qualification report based on the new template in the front page

Distribution: WEB

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