Cypress Semiconductor
Package Qualification Report

QTP# 072107 VERSION 1.0
July 2007

48-Lead Low Profile Quad Flat Pack (LQFP)
(7x7x1.4 mm)
Pure Sn, MSL3, 260C Reflow
ASE, Taiwan

CYPRESS TECHNICAL CONTACT FOR QUALIFICATION DATA:

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PACKAGE QUALIFICATION HISTORY

QUAL REPORT	DESCRIPTION OF QUALIFICATION PURPOSE	DATE COMP.
072107	Qualify ASE Taiwan for <48-lead LQFP (7x7x1.4mm), Pb-Free, MSL3, 260C Solder Reflow Temperature using 9200THF Mold Compound, 2288A Epoxy with 100% Pure Tin plating	June 07

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	AZ48
Package Outline, Type, or Name:	48-Lead Low Profile Quad Flat Pack (LQFP)
Mold Compound Name/Manufacturer:	Hitachi CEL9200 THF
Mold Compound Flammability Rating:	V-O per UL94
Oxygen Rating Index:	None
Leadframe Material:	OLIN 7025
Lead Finish, Composition / Thickness:	Pure Sn
Die Backside Preparation Method/Metallization:	Backside grinding
Die Separation Method:	
Die Attach Supplier:	Ablestik
Die Attach Material:	2288A
Bond Diagram Designation:	FT8A234CH
Wire Bond Method:	Gold wire bonding
Wire Material/Size:	Au/25 um
Thermal Resistance Theta JA °C/W:	52.3°C/W
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	64-05-2000-00165244
Name/Location of Assembly (prime) facility:	ASE Taiwan (G)
MSL Level	3
Reflow profile	260C

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	Faraday
Fault Coverage:	100%

RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENTS

Stress/Test	**Test Condition (Temp/Bias)**	**Result P/F**
Adhesion of Lead finish	Cypress Spec. 25-00029	P
External Visual		P
Cross Section		P
High Accelerated Saturation Test (HAST)	JEDEC 22-A118 130°C, 1.1V, 85%RH, 33.5PSIA Precondition: JESD22-A113-D Moisture Sensitivity MSL 3A 40 Hrs, 60°C/60%RH +3IR-Reflow, 260°C+0, -5°C	P
Pressure Cooker	JEDEC 22-A102-C 121°C, 100%RH, 29.7PSIA Precondition: JESD22-A113-D Moisture Sensitivity MSL 2A 120 Hrs, 60°C/60%RH +3IR-Reflow, 260°C+0, -5°C	P
Solderability	Steam Aging, 93°C, 16Hrs Steam Aging, 155°C, 16Hrs	P
Temperature Cycle	JEDEC 22-A104-B , Condition C, -65°C to 150°C Precondition: JESD22-A113-D Moisture Sensitivity MSL 3A 40 Hrs, 60°C/60%RH +3IR-Reflow, 260°C+0, -5°C Precondition: JESD22-A113-D Moisture Sensitivity MSL 2A 120 Hrs, 60°C/60%RH +3IR-Reflow, 260°C+0, -5°C	P

Reliability Test Data

QTP #: 072107

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ADHESION OF LEADFINISH							
FT8A234CH		MNQWQ-000	TAIWAN-G	COMP	10	0	
STRESS: EXTERNAL VISUAL							
FB20011-201			TAIWAN-G	COMP	175	0	
STRESS: CROSS SECTION							
091SC1			TAIWAN-G	COMP	5	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 1.1V PRECON 40 HR 60C/60%RH, MSL3A							
45154		FF7041.1	TAIWAN-G	96	48	0	
STRESS: PRESSURE COOKER TEST, 121C, 100%RH, 29.7 PSIA, PRECON 120HRS 60C/60%RH, MSL2A							
RT-060198-CR06		43227	TAIWAN-G	96	45	0	
RT-060198-CR06		43227	TAIWAN-G	168	45	0	
STRESS: TC CONDITION C, -65C, +150C, PRECON 120HRS 60C/60%RH, MSL2A							
RT-060198-CR06		43227	TAIWAN-G	500	45	0	
RT-060198-CR06		43227	TAIWAN-G	1000	45	0	
STRESS: TC CONDITION C, -65C, +150C, PRECON 40 HR 60C/60%RH, MSL3A							
45154		FF7041.1	TAIWAN-G	500	48	0	
45154		FF7041.1	TAIWAN-G	1000	48	0	
STRESS: SOLDERABILITY							
FB20011-201			TAIWAN-G	COMP	11	0	
091SC1			TAIWAN-G	COMP	8	0	