Cypress Semiconductor
Package Qualification Report

QTP# 060902 VERSION 2.0
December 2006

20/24-Lead QSOP
(without downbonds)
NiPdAu, MSL3
235C & 260C Reflow
CML-R

CYPRESS TECHNICAL CONTACT FOR QUALIFICATION DATA:

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PACKAGE QUALIFICATION HISTORY

QUAL REPORT		DESCRIPTION OF QUALIFICATION PURPOSE		DATE COMP.
060902		20/24-Lead QSOP (without downbonds), NiPdAu, MSL1, 260C Reflow assembled at CML-R		May 06
060902		Cypress established policy requiring MSL and Reflow Peak Temperature alignment for Cypress and its Assembly Subcontractors.		Oct 06

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	SQ24
Package Outline, Type, or Name:	24-Lead Quarter Small Outline Package (QSOP)
Mold Compound Name/Manufacturer:	CEL 9200CYR / Hitachi with PMC
Mold Compound Flammability Rating:	UL94
Oxygen Rating Index:	V0
Leadframe Material:	Copper
Lead Finish, Composition / Thickness:	NiPdAu
Die Backside Preparation Method/Metallization:	Wafer Backgrind
Die Separation Method:	100% Saw
Die Attach Supplier:	QMI
Die Attach Material:	QMI 509
Die Attach Method:	Epoxy
Bond Diagram Designation	10-06043
Wire Bond Method:	Thermosonic
Wire Material/Size:	Au. 1.0 mil
Thermal Resistance Theta JA □C/W:	125.57°C/W
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	11-20051
Name/Location of Assembly (prime) facility:	CML-R
MSL Level	3
Reflow Profile	235C & 260C

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	CML-R

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 MSL1 168 Hrs, 85°C/85%RH+3IR-Reflow, 260°C+0, -5°C	P
Pressure Cooker Test	121°C, 100%RH, 15 Psig Precondition: JESD22 Moisture Sensitivity MSL1 168 Hrs, 85°C/85%RH+3IR-Reflow, 260°C+0, -5°C	P
High Accelerated Saturation Test (HAST)	130°C, 5.5V, 85%RH Precondition: JESD22 Moisture Sensitivity MSL1 168 Hrs, 85°C/85%RH+3IR-Reflow, 260°C+0, -5°C	P
Acoustics Microscopy	Cypress Spec. 25-00104	P
High Temperature Storage	150°C, no bias	P

Reliability Test Data

QTP #: 060902

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL1							
CY7C63743 (7C63740A)	2414282	610427851	CML-R	COMP	15	0	
CY7C63743 (7C63740A)	2601858	610614315	CML-R	COMP	15	0	
CY7C63743 (7C63740A)	2552803	610613502	CML-R	COMP	15	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 5.5V, 85%RH, PRE COND 168 HR 85C/85%RH, MSL1							
CY7C63743 (7C63740A)	2414282	610427851	CML-R	128	44	0	
STRESS: HIGH TEMPERATURE STORAGE, 150C, no bias							
CY7C63743 (7C63740A)	2414282	610427851	CML-R	500	47	0	
CY7C63743 (7C63740A)	2414282	610427851	CML-R	1000	47	0	
STRESS: PRESSURE COOKER TEST, 121C, 100%RH, 15 Psig, PRE COND 168 HR 85C/85%RH, MSL1							
CY7C63743 (7C63740A)	2414282	610427851	CML-R	176	50	0	
STRESS: TC COND. C –65C TO 150C, PRE COND 168 HR 85C/85%RH, MSL1							
CY7C63743 (7C63740A)	2414282	610427851	CML-R	300	50	0	
CY7C63743 (7C63740A)	2414282	610427851	CML-R	500	49	0	
CY7C63743 (7C63740A)	2414282	610427851	CML-R	1000	49	0	
CY7C63743 (7C63740A)	2601858	610614315	CML-R	300	49	0	
CY7C63743 (7C63740A)	2552803	610613502	CML-R	300	50	0	