Cypress Semiconductor
Reflow Qualification Report

QTP# 99344 VERSION 1.1
February, 2003

235°C Solder Reflow Profile

TSOP Package Family

(All assembly sites for these packages)

CYPRESS TECHNICAL CONTACT FOR QUALIFICATION DATA:

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MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	ZS444
Package Outline, Type, or Name:	44-lead Thin Small Outline Package (TSOP II)
Mold Compound Name/Manufacturer:	Hitachi CEL 9200R IV-77
Mold Compound Flammability Rating:	V-O per UL94
Oxygen Rating Index:	>28%
Lead Frame Material:	Copper
Lead Finish, Composition / Thickness:	Solder Plated 90%Sn, 10%Pb
Die Backside Preparation Method/Metallization:	N/A
Die Separation Method:	Wafer Saw
Die Attach Supplier:	Dexter
Die Attach Material:	QMI 509
Bond Diagram Designation	10-03249
Wire Bond Method:	Thermosonic
Wire Material/Size:	Gold, 1.0mil
Thermal Resistance Theta JA °C/W:	76.84°C/W
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	11-20007
Name/Location of Assembly (prime) facility:	Cypress Philippines (CML-R)

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

Note: Please contact a Cypress Representative for other packages availability

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	Z32
Package Outline, Type, or Name:	32-lead Thin Small Outline Package
Mold Compound Name/Manufacturer:	Sumitomo EME7351LS
Mold Compound Flammability Rating:	V-O per UL94
Oxygen Rating Index:	＞28%
Lead Frame Material:	Copper
Lead Finish, Composition / Thickness:	Solder Plated 85%Sn, 15%Pb
Die Backside Preparation Method/Metallization:	N/A
Die Separation Method:	Wafer Saw
Die Attach Supplier:	Ablestik
Die Attach Material:	Ablestik 8361J
Bond Diagram Designation	10-03372
Wire Bond Method:	Thermosonic
Wire Material/Size:	Gold, 1.0mil
Thermal Resistance Theta JA °C/W:	86.6°C/W
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	49-10029
Name/Location of Assembly (prime) facility:	OSE Taiwan (TAIWN-T)

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	OSE Taiwan (TAIWN-T), Cypress Philippines (CML-R)
Fault Coverage:	100%

Note: Please contact a Cypress Representative for other packages availability

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	Z28
Package Outline, Type, or Name:	28-lead Thin Small Outline Package (TSOP)
Mold Compound Name/Manufacturer:	Hitachi CEL 9200R IV-77
Mold Compound Flammability Rating:	V-O per UL94
Oxygen Rating Index:	＞28%
Lead Frame Material:	Copper
Lead Finish, Composition / Thickness:	Solder Plated 90%Sn, 10%Pb
Die Backside Preparation Method/Metallization:	N/A
Die Separation Method:	Wafer Saw
Die Attach Supplier:	Dexter
Die Attach Material:	QMI 509
Bond Diagram Designation	10-03249
Wire Bond Method:	Thermosonic
Wire Material/Size:	Gold, 1.0mil
Thermal Resistance Theta JA °C/W:	89.17°C/W
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	11-20007
Name/Location of Assembly (prime) facility:	Cypress Philippines (CML-R)

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 SPECIFICATIONREQUIREMENT

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, 235°C+5, -0°C	P
High Accelerated Saturation Test	130°C/5.5V/85%RH Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs., 30°C/60%RH+3IR-Reflow, 235°C+5, -0°C	P
Acoustic Microscopy	Cypress Spec 25-000104	P

Reliability Test Data

QTP #: 99344

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC-MSL3							
CY7C1021-ZSC	4824437	*619810471*	CSPI-R	COMP	15	0	
CY62128-ZC	4837596	*619919886Q*	TAIWN-T	COMP	15	0	
CY7C199-ZC	4924091	*619920628*	CSPI-R	COMP	15	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 5.5V, PRE COND 192 HR 30C/60%RH,MSL3							
CY7C1021-ZSC	4824437	*619810471*	CSPI-R	128	45	0	
CY62128-ZC	4837596	*619919886Q*	TAIWN-T	128	49	0	
CY7C199-ZC	4924091	*619920628*	CSPI-R	128	49	0	
STRESS: TC COND. C -65C TO 150C, PRECONDITION 192 HRS 30C/60%R, MSL3							
CY7C1021-ZSC	4824437	*619810471*	CSPI-R	300	48	0	
CY62128-ZC	4837596	*619919886Q*	TAIWN-T	300	50	0	
CY7C199-ZC	4924091	*619920628*	CSPI-R	300	50	0	