

Cypress Semiconductor Package Qualification Report

QTP# 021903 VERSION 3.0

February 2005

28-Lead TSOP, 32-Lead STSOP

Hitachi CEL9200CYR / IV77 Molding Compound

Ni/Pd Leadframe, MSL3, 260C Reflow

Cypress Philippines (CML-R)

CYPRESS TECHNICAL CONTACT FOR QUALIFICATION DATA:

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PACKAGE QUALIFICATION HISTORY

QUAL REPORT	DESCRIPTION OF QUALIFICATION PURPOSE	DATE COMP.
021903	28-Lead TSOP, 32-Lead STSOP package (126 mil x 134 mil die size) using Hitachi CEL9200 CYR/IV77 and Ni/Pd leadframe and QMI 509 Epoxy with PMC assembled at CML-R	Sept 02

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	ZA32
Package Outline, Type, or Name:	32 Lead Small Thin Small Outline Package (STSOP)
Mold Compound Name/Manufacturer:	Hitachi CEL9200CYR/IV77
Mold Compound Flammability Rating:	V-O per UL94
Oxygen Rating Index:	>28%
Lead Frame Material:	Copper base with Ni/Pd and Gold Flash Plating
Lead Finish, Composition / Thickness:	Ni/Pd with Gold Flash
Die Backside Preparation Method/Metallization:	Backgrind to 14 mil thickness
Die Separation Method:	Wafer saw
Die Attach Supplier:	Dexter
Die Attach Material:	QMI 509
Bond Diagram Designation	10-03681
Wire Bond Method:	Thermosonic
Wire Material/Size:	Au, 1. 0 mil
Thermal Resistance Theta JA °C/W:	48.2°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 SPECIFICATION REQUIREMENT

Stress/Test	Test Condition (Temp/Bias)	Result P/F
Temperature Cycle	Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs., 30°C/60%RH+3IR-Reflow, 260°C+5, -0°C	P
High Accelerated Saturation Test	130°C, 3.63V Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs., 30°C/60%RH+3IR-Reflow, 260°C+5, -0°C	P
Pressure Cooker	Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs., 30°C/60%RH+3IR-Reflow, 260°C+5, -0°C	P
High Temperature Storage	150°C, no bias	P
Adhesion of lead finish	Cypress Spec 25-00029	P
External Visual	Cypress Spec 25-00038	P
X-Ray	Cypress Spec 12-00292	P
Solderability, Steam Aged	Cypress Spec. 25-00018	P
Acoustic Microscopy, MSL 3	Cypress Spec 25-00104	P
SEM X-Section	MIL-STD-883, Method 883-2018-2	P

Reliability Test Data

QTP #: 021903

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL3							
CY62128BLL-ZAC (7C62128H)	4128416	610211476	CSPI-R	COMP	15	0	
CY62128BLL-ZAC (7C62128H)	4128416	610211476M	CSPI-R	COMP	15	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 3.63V, PRE COND 192 HR 30C/60%RH, MSL3							
CY62128BLL-ZAC (7C62128H)	4128416	610211476	CSPI-R	128	47	0	
CY62128BLL-ZAC (7C62128H)	4128416	610211476M	CSPI-R	128	44	0	
STRESS: PRESSURE COOKER TEST, 121C, 100%RH, PRE COND 192 HR 30C/60%RH, MSL3							
CY62128BLL-ZAC (7C62128H)	4128416	610211476	CSPI-R	174	44	0	
STRESS: SOLDERABILITY							
CY62128BLL-ZAC (7C62128H)	4128416	610211476	CSPI-R	COMP	3	0	
CY62128BLL-ZAC (7C62128H)	4128416	610211476M	CSPI-R	COMP	3	0	
STRESS: ADHESION OF LEAD FINISH							
CY62128BLL-ZAC (7C62128H)	4128416	610211476	CSPI-R	COMP	3	0	
CY62128BLL-ZAC (7C62128H)	4128416	610211476M	CSPI-R	COMP	3	0	
STRESS: EXTERNAL VISUAL							
CY62128BLL-ZAC (7C62128H)	4128416	610211476	CSPI-R	COMP	288	0	
CY62128BLL-ZAC (7C62128H)	4128416	610211476M	CSPI-R	COMP	48	0	
STRESS: HIGH TEMPERATURE STORAGE, 150C, no bias							
CY62128BLL-ZAC (7C62128H)	4128416	610211476	CSPI-R	500	45	0	
CY62128BLL-ZAC (7C62128H)	4128416	610211476	CSPI-R	1000	45	0	
STRESS: X-RAY							
CY62128BLL-ZAC (7C62128H)	4128416	610211476	CSPI-R	COMP	48	0	
CY62128BLL-ZAC (7C62128H)	4128416	610211476M	CSPI-R	COMP	288	0	
STRESS: TC CONDITION C, -65C TO 150C, PRE COND. 192 HRS 30C/60% RH, MSL3							
CY62128BLL-ZAC (7C62128H)	4128416	610211476	CSPI-R	300	50	0	
CY62128BLL-ZAC (7C62128H)	4128416	610211476	CSPI-R	500	50	0	
CY62128BLL-ZAC (7C62128H)	4128416	610211476	CSPI-R	1000	50	0	
CY62128BLL-ZAC (7C62128H)	4128416	610211476M	CSPI-R	300	50	0	
CY62128BLL-ZAC (7C62128H)	4128416	610211476M	CSPI-R	500	50	0	
CY62128BLL-ZAC (7C62128H)	4128416	610211476M	CSPI-R	1000	50	0	
CY62128BLL-ZAC (7C62128H)	4128416	610211476M1	CSPI-R	300	50	0	
CY62128BLL-ZAC (7C62128H)	4128416	610211476M1	CSPI-R	500	50	0	
CY62128BLL-ZAC (7C62128H)	4128416	610211476M1	CSPI-R	1000	50	0	