

Cypress Semiconductor Package Qualification Report

**QTP# 98075 VERSION 2.0 (G1)
July, 2004**

**100 Pins TQFP Package, MSL3
Cypress Philippines Assembly**

CYPRESS TECHNICAL CONTACT FOR QUALIFICATION DATA:

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PACKAGE QUALIFICATION HISTORY

QUAL REPORT	DESCRIPTION OF QUALIFICATION PURPOSE	DATE COMP.
98075	100-pin Thin Quad Flat Pack (TQFP), MSL3, Cypress Philippines (CSPI-R)	Apr 98

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	A100R2
Package Outline, Type, or Name:	100 Lead Thin Quad Flat Pack 14x20x1.4mm
Mold Compound Name/Manufacturer:	Hitachi CEL9200
Mold Compound Flammability Rating:	V-O per UL94
Oxygen Rating Index:	>28%
Lead Frame Designation:	A
Lead Frame Material:	Cu-Alloy
Lead Finish, Composition / Thickness:	85%Sn, 15%Pb, 300-800 microns
Die Backside Preparation Method/Metallization:	Backgrind to 14 mil thickness
Die Separation Method:	Wafer saw
Die Attach Supplier:	Ablestik
Die Attach Material:	Ag filled epoxy
Bond Diagram Designation	10-03015
Wire Bond Method:	Thermosonic Au ball
Wire Material/Size:	Au/1.30 mil
Moisture Sensitivity Level:	MSL 3
Thermal Resistance Theta JA °C/W:	40°C/W
Package Cross Section Yes/No:	Yes
Assembly Process Flow:	11-20999
Name/Location of Assembly (prime) facility:	Cypress Philippines (CSPI-R)

RoHS PPM level:

Package	Package Weight	Solder Plating	Lead (Pb)	Mercury (Hg)	Chromium (CrVI)	Cadmium (Cd)
TQFP 100	0.95 gm	Sn/Pb	634.5 ppm	0.1 ppm	< 0.01 ppm	1.1 ppm

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	Cypress Philippines (CSPI-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	MIL-STD-883C, Method 1010, Condition C, -65°C to 150°C Precondition: JESD22 Moisture Sensitivity Level 3 192 Hrs., 30°C/60%RH+3IR-Reflow, 220°C+5, -0°C	P
High Accelerated Saturation Test	140°C, 3.63V Precondition: JESD22 Moisture Sensitivity Level 3 192 Hrs., 30°C/60%RH+3IR-Reflow, 220°C+5, -0°C	P
High Temperature Storage	165°C, no bias	P
Internal Visual	Cypress Spec 25-00017	P
External Visual	Cypress Spec 25-00038	P
Die Shear	Cypress Spec 12-00292	P
Ball Shear	Cypress Spec 12-00292	P
Bond Pull	Cypress Spec 12-00292	P
Thermal Shock	MIL-STD-883C, Method 1011, Condition B, -55°C, +125°C	P
X-Ray	Cypress Spec 12-000292	P
Acoustic Microscopy Test (C-SAM)	Cypress Spec 25-00104	P

Reliability Test Data

QTP #: 98075

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: HI-ACCEL SATURATION TEST (140C, 85%RH, 3.63V), PRE COND 192 HR 30C/60%RH							
CY7C1329-AC (7C1329A)	4716332	619708021	CSPI-R	128	48	0	
CY7C1334-AC (7C1334A)	4751427	619801906	CSPI-R	128	44	0	
STRESS: BOND PULL							
CY7C1329-AC (7C1329A)	4716332	619708021	CSPI-R	COMP	10	0	
STRESS: DIE SHEAR							
CY7C1329-AC (7C1329A)	4716332	619708021	CSPI-R	COMP	15	0	
STRESS: BALL SHEAR							
CY7C1329-AC (7C1329A)	4716332	619708021	CSPI-R	COMP	10	0	
STRESS: EXTERNAL VISUAL							
CY7C1329-AC (7C1329A)	4716332	619708021	CSPI-R	COMP	15	0	
STRESS: INTERNAL VISUAL							
CY7C1329-AC (7C1329A)	4716332	619708021	CSPI-R	COMP	5	0	
STRESS: ACOUSTIC							
CY7C1329-AC (7C1329A)	4716332	619708021	CSPI-R	COMP	15	0	
CY7C1329-AC (7C1329A)	4732229	619708099	CSPI-R	COMP	15	0	
CY7C1329-AC (7C1329A)	4716346	619708050	CSPI-R	COMP	15	0	
STRESS: HIGH TEMPERATURE STORAGE, 165C							
CY7C1329-AC (7C1329A)	4716346	619708050	CSPI-R	336	48	0	
STRESS: THERMAL SHOCK							
CY7C1334-AC (7C1334A)	4745052	619801352	CSPI-R	100	48	0	
CY7C1334-AC (7C1334A)	4745052	619801352	CSPI-R	200	47	0	
STRESS: X-RAY							
CY7C1329-AC (7C1329A)	4716332	619708021	CSPI-R	COMP	15	0	
STRESS: TC CONDITION C, 150C TO -65C,							
CY7C1329-AC (7C1329A)	4716332	619708021	CSPI-R	300	48	0	
CY7C1329-AC (7C1329A)	4716332	619708021	CSPI-R	1000	48	0	
CY7C1329-AC (7C1329A)	4732229	619708099	CSPI-R	300	48	0	
CY7C1329-AC (7C1329A)	4732229	619708099	CSPI-R	1000	48	0	
CY7C1329-AC (7C1329A)	4716346	619708050	CSPI-R	300	48	0	
CY7C1329-AC (7C1329A)	4716346	619708050	CSPI-R	1000	48	0	