

Cypress Semiconductor Package Qualification Report

**QTP# 98148 VERSION 1.2
May, 2001**

**36 Ld, 400-mil SOJ Package
Cypress Philippines Assembly**

CYPRESS TECHNICAL CONTACT FOR QUALIFICATION DATA:

Ed Russell
Reliability Director
(408) 432-7069

Kim-Ngan Nguyen
Staff Reliability Engineer
(408) 943-2136

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	V3642
Package Outline, Type, or Name:	36-lead (400-mil) Plastic Small Outline J-Bend (SOJ)
Mold Compound Name/Manufacturer:	Hitachi CEL9200
Mold Compound Flammability Rating:	V-O per UL 94
Oxygen Rating Index:	> 28%
Lead Frame Designation:	V
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 8361H
Bond Diagram Designation	10-03009
Wire Bond Method:	Thermosonic
Wire Material/Size:	Au, 1.3um
Thermal Resistance Theta JA °C/W:	51.66°C/W
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	11-20004M
Name/Location of Assembly (prime) facility:	Cypress Philippines (CSPI-R)

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 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 Level 3 168 Hrs., 30°C/60%RH+ 3IR-Reflow, 220°C+ 5, - 0°C	P
High Accelerated Saturation Test	140°C/5.5V, 85%RH Precondition: JESD22 Moisture Sensitivity Level 3 192 Hrs., 30°C/60%RH+ 3IR-Reflow, 220°C+ 5, - 0°C	P
Internal Visual	Cypress Spec 25-00017	P
External Visual	Cypress Spec 12-00102/12-00103	P
Physical Dimension	Cypress Spec. 25-00031	P
Solderability, Steam Aged	Cypress Spec. 25-00018	P
Die Shear	Cypress Spec 24-00004	P
Ball Shear	Cypress Spec 24-00018	P
Bond Pull	Cypress Spec 24-00002	P
Thermal Shock	Cypress Spec 25-00014	P
X-Ray	Cypress Spec 12-000149	P
Acoustic Microscopy Test (C-SAM)	Cypress Spec 25-000104	P

RELIABILITY TEST DATA

QTP#: 98148

DEVICE	ASSY-LOC	FABLOT#	ASSYLOT#	DURATION	S/S	REJ	FAIL MODE
STRESS: HI-ACCEL SATURATION TEST (140C, 5.5V, 85%RH), PRECOND. 192 HRS 30C/60%RH							
CY7C1049-VC(7C1049A)	CSPI-R	4804808	619804072	128	45	0	
STRESS: HIGH TEMPERATURE STORAGE (165C, NO BIAS)							
CY7C1049-VC(7C1049A)	CSPI-R	4804808	619804072	336	45	0	
STRESS: TC COND. C, -65 TO 150C, PRECOND. 168 HRS 85C/85%RH (MSL 1)							
CY7C1049-VC(7C1049A)	CSPI-R	4804808	619804072	300	45	0	
STRESS: TC COND. C, -65 TO 150C, PRECOND. 192 HRS 30C/60%RH (MSL 3)							
CY7C1049-VC(7C1049A)	CSPI-R	4804808	619804072	300	45	0	
CY7C1049-VC(7C1049A)	CSPI-R	4804808	619804088	300	45	0	
CY7C1049-VC(7C1049A)	CSPI-R	4804808	619804129	300	44	0	
STRESS: THERMAL SHOCK, CONDITION B							
CY7C1049-VC(7C1049A)	CSPI-R	4804808	619804072	100	45	0	
CY7C1049-VC(7C1049A)	CSPI-R	4804808	619804072	200	45	0	