

Cypress Semiconductor Package Qualification Report

**QTP# 020707 VERSION 3.0 (G1)
October 2004**

**28-lead SOJ/SNC and 20/24/28-lead SOIC Package
MSL 1
Cypress Philippines (CML-R)**

CYPRESS TECHNICAL CONTACT FOR QUALIFICATION DATA:

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PRODUCT QUALIFICATION HISTORY

QUAL REPORT	Description of Qualification Purpose	DATE COMP.
020707	Upgrade 28-lead SOJ/SNC and 20/24/28-lead SOIC and lower pin count with 300mil body size package using Sumitomo EME 6600HR Molding Compound from MSL3 to MSL1, CML-R Assembly	Apr 02

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	SN28
Package Outline, Type, or Name:	28-lead Narrow SOIC (SNC)
Mold Compound Name/Manufacturer:	Sumitomo EME6600HR
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	10-03428
Wire Bond Method:	Ultrasonic
Wire Material/Size:	Au/ 1.0 mil
Thermal Resistance Theta JA °C/W:	60C/W°
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	11-20016
Name/Location of Assembly (prime) facility:	Cypress Philippines (CML-R)

RoHS PPM level:

Package	Package Weight	Solder Plating	Assembly Site	Lead (Pb)	Mercury (Hg)	Chromium (Cr VI)	Cadmium (Cd)
SNC 28	0.88 gm	Sn/Pb	CML	3.1 ppm	< 0.05 ppm	< 2 ppm	< 1 ppm
SOIC 28	1.58 gm	Sn/Pb	CML	4.1 ppm	< 0.05 ppm	< 2 ppm	< 1 ppm
SOJ 28	1.07 gm	Sn/Pb	CML	2.4 ppm	0.1 ppm	< 2 ppm	1 ppm

Polychlorinated biphenyls (PCB)	Polybrominated biphenyls (PBB)	Polybrominated diphenylethers (PBDE)
< 1 ppm	< 1 ppm	< 1 ppm

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	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, 220°C+5, -0°C	P
High Accelerated Saturation Test	130°C, 85%RH, 3.63V Precondition: JESD22 Moisture Sensitivity MSL1 168 Hrs., 85°C/85%RH+3IR-Reflow, 220°C+5, -0°C	P
Pressure Cooker Test	No bias, 121°C, 100%, Precondition: JESD22 Moisture Sensitivity MSL 1 168 Hrs., 85°C/85%RH+3IR-Reflow, 220°C+5, -0°C	P
Acoustic Microscopy MSL1 (C-SAM)	Cypress Spec 25-00104	P

Reliability Test Data

QTP #: 020707

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC MICROSCOPE MSL1							
CY7C62256-SNC (7C62256E)	4143214	610200648	CSPI-R	COMP	15	0	
CY7C62256-SNC (7C62256E)	4143214	610200660	CSPI-R	COMP	15	0	
CY7C62256-SNC (7C62256E)	4143214	610200727	CSPI-R	COMP	15	0	
STRESS: HI-ACCEL SATURATION TEST, 130C, 85%RH, 5.5V, PRE COND 168 HR 85C/85%RH, MSL1							
CY7C62256-SNC (7C62256E)	4143214	610200648	CSPI-R	128	45	0	
STRESS: PRESSURE COOKER TEST (121C, 100%RH), PRE COND 168HRS 85C/85%RH, MSL1							
CY7C62256-SNC (7C62256E)	4143214	610200648	CSPI-R	168	50	0	
STRESS: TC CONDITION C, -65C, +150C, PRE COND. 168 HRS 85C/85% RH, MSL1							
CY7C62256-SNC (7C62256E)	4143214	610200648	CSPI-R	300	50	0	
CY7C62256-SNC (7C62256E)	4143214	610200648	CSPI-R	500	50	0	
CY7C62256-SNC (7C62256E)	4143214	610200648	CSPI-R	1000	50	0	
CY7C62256-SNC (7C62256E)	4143214	610200660	CSPI-R	300	50	0	
CY7C62256-SNC (7C62256E)	4143214	610200660	CSPI-R	500	50	0	
CY7C62256-SNC (7C62256E)	4143214	610200660	CSPI-R	1000	50	0	
CY7C62256-SNC (7C62256E)	4143214	610200727	CSPI-R	300	50	0	
CY7C62256-SNC (7C62256E)	4143214	610200727	CSPI-R	500	50	0	
CY7C62256-SNC (7C62256E)	4143214	610200727	CSPI-R	1000	50	0	