Cypress Semiconductor
Molding Compound Qualification Report

QTP# 022805 VERSION 1.0
November, 2002

Sumitomo EME-6600HR Molding Compound
32.4 lead SOJ package, MSL 3 at

Omedata (INDNS-O)

CYPRESS TECHNICAL CONTACT FOR QUALIFICATION DATA:

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PACKAGE QUALIFICATION HISTORY

Qual Report		Description of Qualification Purpose		Date Comp
022805		Sumitomo EME 6600HR Molding Compound for 32-lead (400 mil) SOJ package with die size ≤ 253.3 x 265.2 mils assembled at OMEDATA Indonesia		Oct 02

MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION	
Package Designation:	V32411
Package Outline, Type, or Name:	32-lead (400 mil) Plastic Small outline J-Bend (SOJ)
Mold Compound Name/Manufacturer:	Sumitomo EME 6600HR
Mold Compound Flammability Rating:	V-O per UL94
Oxygen Rating Index:	>28%
Lead Frame Material:	Copper
Lead Finish, Composition / Thickness:	Solder Plate, 85%Sn, 15%Pb
Die Backside Preparation Method/Metallization:	N/A
Die Separation Method:	Wafer Saw
Die Attach Supplier:	Ablestik
Die Attach Material:	Ablestik 8361
Die Attach Method:	Epoxy
Bond Diagram Designation:	10-03635
Wire Bond Method:	Thermosonic
Wire Material/Size:	Au, 1.0um
Thermal Resistance Theta JA °C/W:	55.6°C/W
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	49-70092
Name/Location of Assembly (prime) facility:	OMEDATA Indonesia (INDNS-O)

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	OMEDATA Indonesia (INDNS-O)
Fault Coverage:	100%

RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENTS

Stress/Test	Test Condition (Temp/Bias)	Result P/F
Temperature Cycle	JEDEC22, Condition C, -65°C to 150°C Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs., 30°C/60%RH+3IR-Reflow, 220°C+5, -0°C	P
Pressure Cooker	121°C, 100%RH Precondition: JESD22 Moisture Sensitivity MSL 3 192 Hrs., 30°C/60%RH+3IR-Reflow, 220°C+5, -0°C	P
Electrostatic Discharge Human Body Model (ESD-HBM)	2,200V MIL-STD-883, Method 3015.7	P
Electrostatic Discharge Charge Device Model (ESD-CDM)	500V Cypress Spec. 25-00020	P
High Temperature Storage	150°C, no bias	P
Resistance to Solvents	Cypress Spec 25-00016	P
X-Ray	Cypress Spec 12-00292	P
Acoustic Microscopy, MSL3	Cypress Spec 25-000104	P

Reliability Test Data

QTP #: 022805

Device	Fab Lot #	Assy Lot #	Ass Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: ACOUSTIC, MSL3							
CY7C1046BV33-VC (7C1346C)	4126971	*510204879*	INDNS-O	COMP	10	0	
CY7C1046BV33-VC (7C1346C)	4129631	*510204944*	INDNS-O	COMP	15	0	
CY7C1046BV33-VC (7C1346C)	4126972	*510205396*	INDNS-O	COMP	10	0	
STRESS: ESD-CHARGE DEVICE MODEL, 500V							
CY7C1046BV33-VC (7C1346C)	4126971	*510204879*	INDNS-O	COMP	9	0	
CY7C1046BV33-VC (7C1346C)	4129631	*510204944*	INDNS-O	COMP	9	0	
CY7C1046BV33-VC (7C1346C)	4126972	*510205396*	INDNS-O	COMP	9	0	
STRESS: ESD-HUMAN BODY CIRCUIT PER MIL STD 883, METHOD 3015, 2,200V							
CY7C1046BV33-VC (7C1346C)	4126971	*510204879*	INDNS-O	COMP	9	0	
CY7C1046BV33-VC (7C1346C)	4129631	*510204944*	INDNS-O	COMP	9	0	
CY7C1046BV33-VC (7C1346C)	4126972	*510205396*	INDNS-O	COMP	9	0	
STRESS PRESSURE COOKER TEST, 121C, 100%RH, PRE COND 192 HR 30C/60% RH, MSL3							
CY7C1046BV33-VC (7C1346C)	4129631	*510204944*	INDNS-O	168	45	0	
STRESS: X-RAY							
CY7C1046BV33-VC (7C1346C)	4126971	*510204879*	INDNS-O	COMP	96	0	
STRESS: HIGH TEMPERATURE STORAGE, PLASTIC, 150C							
CY7C1046BV33-VC (7C1346C)	4126971	*510204879*	INDNS-O	500	45	0	
CY7C1046BV33-VC (7C1346C)	4126971	*510204879*	INDNS-O	1000	45	0	
STRESS: RESISTANCE TO SOLVENTS							
CY7C1046BV33-VC (7C1346C)	4126971	*510204879*	INDNS-O	COMP	15	0	
STRESS: TC COND. C -65C TO 150C, PRECONDITION 192 HRS 30C/60% RH, MSL3							
CY7C1046BV33-VC (7C1346C)	4126971	*510204879*	INDNS-O	300	45	0	
CY7C1046BV33-VC (7C1346C)	4126971	*510204879*	INDNS-O	500	45	0	
CY7C1046BV33-VC (7C1346C)	4129631	*510204944*	INDNS-O	300	45	0	
CY7C1046BV33-VC (7C1346C)	4129631	*510204944*	INDNS-O	500	45	0	
CY7C1046BV33-VC (7C1346C)	4126972	*510205396*	INDNS-O	300	45	0	
CY7C1046BV33-VC (7C1346C)	4126972	*510205396*	INDNS-O	500	45	0	