

Cypress Semiconductor Qualification Report

**QTP# 97434, Version 1.0
February, 1998**

28 Ld SOJ Package

Gateway Electronics Inc. Assembly

PLASTIC PACKAGE/ASSEMBLY DESCRIPTION			
Package Outline, Type, or Name:	28 Ld SOJ		
Mold Compound Name/Manufacturer:	Sumitomo - 9300HR		
Lead Frame material:	Copper		
Lead Finish, composition:	Solder Plated, 85%Sn, 15%Pb		
Die Attach Area Plating:	Silver		
Die Attach Method:	Epoxy	Die Attach Material:	Ablestik 8360H
Wire Bond Method:	Thermosonic	Wire Material/Size:	Gold / 1.0 mil
JESD22-A112 Moisture Sensitivity Level	Level 1		
Assembly Line ID and Process ID:	Gateway Electronics Inc, Philippines (PHIL-GW)		

Note: Please contact a Cypress Representative for other packages availability.

RELIABILITY TESTS PERFORMED

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 1 168 Hrs., 85°C/85%RH	P
High Accelerated Saturation Test	140°C/5.5V Precondition: JESD22 Moisture Sensitivity Level 1 168 Hrs., 85°C/85%RH	P
High Temperature Operating Life Laten Failure Rate	Dynamic Operating Condition, Vcc = 5.5V, 150°C	P
Moisture Resistance	Cypress Spec 25-00037	P
Solderability, Steam Aged	Cypress Spec. 25-00018	P
High Temperature Storage	165°C, no bias	P
Internal Visual	Cypress Spec 25-00017	P
External Visual	Cypress Spec 12-00102/12-00103	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 25-00104	P

RELIABILITY TEST DATA

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DEVICE	ASSY-LOC	FABLOT#	ASSYLOT#	DURATION	S/S	REJ	FAIL MODE

STRESS: AGE BALL SHEAR							
CY7C199-VC	PHIL-GW	3717346	3717346-1	COMP	10	0	

STRESS: BOND PULL							
CY7C199-VC	PHIL-GW	3717346	3717346-1	COMP	10	0	

STRESS: C-SAM							
CY7C199-VC	PHIL-GW	3717346	3717346-1	COMP	15	0	
CY7C199-VC	PHIL-GW	3717346	3717346-2	COMP	15	0	
CY7C199-VC	PHIL-GW	3717346	3717346-3	COMP	15	0	

STRESS: MOISTURE RESISTANCE							
CY7C199-VC	PHIL-GW	3717346	3717346-1	COMP	5	0	
CY7C199-VC	PHIL-GW	3717346	3717346-2	COMP	15	0	
CY7C199-VC	PHIL-GW	3717346	3717346-3	COMP	5	0	

STRESS: DIE SHEAR							
CY7C199-VC	PHIL-GW	3717346	3717346-1	COMP	15	0	

STRESS: EXTERNAL VISUAL							
CY7C199-VC	PHIL-GW	3717346	3717346-1	COMP	15	0	

STRESS: HI-ACCEL SATURATION TEST (140C, 5.5V), PRECOND. 168 HRS 85C/85%RH							
CY7C199-VC	PHIL-GW	3717346	3717346-1	128	45	0	
CY7C199-VC	PHIL-GW	3717346	3717346-2	128	45	0	

STRESS: HIGH TEMPERATURE STORAGE (165C, NO BIAS)							
CY7C199-VC	PHIL-GW	3717346	3717346-1	336	45	0	

STRESS: INTERNAL VISUAL							
CY7C199-VC	PHIL-GW	3717346	3717346-1	COMP	5	0	
CY7C199-VC	PHIL-GW	3717346	3717346-2	COMP	5	0	
CY7C199-VC	PHIL-GW	3717346	3717346-3	COMP	5	0	

STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (150C, 5.75V)							
CY7C199-VC	PHIL-GW	3717346	3717346-1	80	116	0	
CY7C199-VC	PHIL-GW	3717346	3717346-1	500	116	0	
CY7C199-VC	PHIL-GW	3717346	3717346-2	500	116	0	
CY7C199-VC	PHIL-GW	3717346	3717346-2	80	116	0	
CY7C199-VC	PHIL-GW	3717346	3717346-3	500	116	0	
CY7C199-VC	PHIL-GW	3717346	3717346-3	80	116	0	

RELIABILITY TEST DATA

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DEVICE	ASSY-LOC	FABLOT#	ASSYLOT#	DURATION	S/S	REJ	FAIL MODE
STRESS: SOLDERABILITY							
CY7C199-VC	PHIL-GW	3717346	3717346-1	COMP	3	0	
CY7C199-VC	PHIL-GW	3717346	3717346-2	COMP	3	0	
CY7C199-VC	PHIL-GW	3717346	3717346-3	COMP	3	0	

STRESS: TC COND. C, -65 TO 150C, PRECOND. 168 HRS 85C/85%RH							
CY7C199-VC	PHIL-GW	3717346	3717346-1	300	45	0	
CY7C199-VC	PHIL-GW	3717346	3717346-2	300	45	0	
CY7C199-VC	PHIL-GW	3717346	3717346-3	300	45	0	

STRESS: THERMAL SHOCK, CONDITION B							
CY7C199-VC	PHIL-GW	3717346	3717346-1	100	45	0	
CY7C199-VC	PHIL-GW	3717346	3717346-1	200	45	0	

STRESS: X-RAY							
CY7C199-VC	PHIL-GW	3717346	3717346-1	COMP	15	0	
CY7C199-VC	PHIL-GW	3717346	3717346-2	COMP	15	0	
CY7C199-VC	PHIL-GW	3717346	3717346-3	COMP	15	0	