

Cypress Semiconductor Qualification Report

**QTP# 98193 VERSION 1.0
December, 1998**

**292-Pin BGA Package
ASE, Taiwan Assembly**

CYPRESS TECHNICAL CONTACT FOR QUALIFICATION DATA:

Cypress Semiconductor
Quality and Reliability Department

PLASTIC PACKAGE/ASSEMBLY DESCRIPTION			
Package Outline, Type, or Name:		292-Pin BGA	
Mold Compound Name/Manufacturer:		Plaskon /SMT-B-1	
Substrate material:		BT Resin	
Lead Finish, composition:		N/A	
Die Attach Area Plating:		Substrate Copper Plating	
Die Attach Method:		Silver Epoxy	Die Attach Material: Ablebond 8355
Wire Bond Method:		Thermosonic	Wire Material/Size: Gold / 1.0/1.3 mil
JESD22-A112 Moisture Sensitivity Level		Level 3	
Assembly Line ID and Process ID:		ASE, Taiwan (TAIWAN-G)	

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

RELIABILITY TESTS PERFORMED

Stress/Test	Test Condition (Temp/Bias)	Result P/F
High Temperature Operating Life Early Failure Rate	Dynamic Operating Condition, Vcc = 5.75V, 150°C	P
High Temperature Operating Life Latent Failure Rate	Dynamic Operating Condition, Vcc = 5.75V, 150°C	P
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	P
High Accelerated Saturation Test	130°C/5.5V Precondition: JESD22 Moisture Sensitivity Level 3 192 Hrs., 30°C/60%RH	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
Physical Dimension	Cypress Spec. 25-00031	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

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DEVICE	ASSY-LOC	FABLOT#	ASSYLOT#	DURATION	S/S	REJ	FAIL MODE
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 5.75V)							
CY37256P256-BGC	TAIWN-G	9821116	619805724	48	250	0	
CY37256P256-BGC	TAIWN-G	9821116	619807607	48	250	0	
STRESS: HI-ACCEL SATURATION TEST (130C, 5.5V), PRECOND. 192 HRS 30C/60%RH							
CY37256P256-BGC	TAIWN-G	9821116	619805724	128	45	0	
CY37256P256-BGC	TAIWN-G	9821116	619807607	128	45	0	
STRESS: HIGH TEMPERATURE STORAGE (165C, NO BIAS)							
CY37256P256-BGC	TAIWN-G	9821116	619805724	336	45	0	
CY37256P256-BGC	TAIWN-G	9821116	619805724	1000	45	0	
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (150C, 5.75V)							
CY37256P256-BGC	TAIWN-G	9821116	619805724	80	76	0	
CY37256P256-BGC	TAIWN-G	9821116	619805724	500	76	0	
CY37256P256-BGC	TAIWN-G	9821116	619807607	80	76	0	
CY37256P256-BGC	TAIWN-G	9821116	619807607	500	76	0	
STRESS: TC COND. C, -65 TO 150C, PRECOND. 192 HRS 30C/60%RH (MSL 3)							
CY37256P256-BGC	TAIWN-G	9821116	619805724	300	45	0	
7C37652AF-GBGC	TAIWN-G	9825123	619807496	300	45	0	
CY37256P256-BGC	TAIWN-G	9821116	619807607	300	45	0	
STRESS: THERMAL SHOCK, CONDITION B							
CY37256P256-BGC	TAIWN-G	9821116	619807607	100	45	0	
CY37256P256-BGC	TAIWN-G	9821116	619807607	200	45	0	