

Cypress Semiconductor Product Qualification Report

QTP# 96444 VERSION 2.0

August, 2003

**CY2030PVC-1, 3.3V Operation
USB, Audio and I/O Clock Generator**

CYPRESS TECHNICAL CONTACT FOR QUALIFICATION DATA:

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PRODUCT DESCRIPTION (for qualification)	
Information provided in this document is intended for generic qualification and technically describes the Cypress part supplied: 7C82650A die is a three layer mask changed from 7C82600A die which is qualified by QTP 96121.	
Marketing Part #:	CY2030PVC-1
Package:	20pins SSOP
Device Description:	USB, Audio and I/O Clock Generator
Cypress Division:	Cypress Semiconductor Corporation - CPD ^Å Division
Overall Die (or Mask) REV Level (pre-requisite for qualification):	Rev. A
What ID markings on Die:	7C82650A

TECHNOLOGY/FAB PROCESS DESCRIPTION - LG27			
Number of Metal Layers:	2	Metal Composition:	Metal 1: 500Å Ti/1,200Å TiW/6,000Å Al/1,200Å TiW Metal 2: 1,500Å TiW/10,000 Å Al/150 Å Ti
Passivation Type and Materials:	7000 Å TEOS + 6000 Å Si ₂ N ₄		
Free Phosphorus contents in top glass layer(%):	N/A		
Die Coating(s), if used:	N/A		
Generic Process Technology/Design Rule (μ-drawn):	CMOS, Double Poly, Double Metal /0.65 μm		
Gate Oxide Material/Thickness (MOS):	SiO ₂ / 145 Å		
Name/Location of Die Fab (prime) Facility:	Cypress Semiconductor - Bloomington, MN		
Die Fab Line ID/Wafer Process ID:	Fab3/LG27		

PLASTIC PACKAGE/ASSEMBLY DESCRIPTION			
Package Outline, Type, or Name:	20-pins SSOP		
Mold Compound Name/Manufacturer:	Sumitomo EME-6300		
Lead Frame material:	Copper		
Lead Finish, composition:	Solder Plated, 85%Sn, 15%Pb		
Die Attach Area Plating:	Silver Spot		
Die Attach Method:	Epoxy	Die Attach Material:	Ablestik 84-1LMISR4
Wire Bond Method:	Thermosonic	Wire Material/Size:	Gold / 1.3 mil
JESD22-A112 Moisture Sensitivity Level	Level 1 * (qualified by extension)		
Assembly Line ID and Process ID:	Anam, Philippines		

* The 28 pins SSOP was qualified with Level 1 Moisture Sensitivity on CY2254A device, QTP #95463.

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

RELIABILITY TESTS PERFORMED

Stress/Test	Test Condition (Temp/Bias)	Result P/F
Electrostatic Discharge Human Body Model (ESD-HBM)	4,400V MIL-STD-883, Method 3015.7	P
Electrostatic Discharge Charge Device Model (ESD-CDM)	2,200V Cypress Spec. 25-00020	P
Latchup Sensitivity	10V In accordance with JEDEC 17. Cypress Spec. 01-00081	P

DEVICE RELATED RELIABILITY TEST DATA

QTP #: 96121¹

EVAL #	DEVICE	ASSY-LOC	FABLOT#	ASSYLOT#	DURATION	S/S	REJ	FAIL MODE
STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-EARLY FAILURE RATE (150C, 4.05V)								
96121	CY2260ASC	PHIL-M	3610380	349604512	48	32	0	
96121	CY2260ASC	PHIL-M	3610380	349604512	48	124	0	
96121	CY2260ASC	PHIL-M	3610380	349604512	48	240	0	

STRESS: HI-ACCEL SATURATION TEST (140C, 3.8V), PRECOND. 168 HRS 85C/85%RH								
96121	CY2260ASC	PHIL-M	3610380	349604512	128	46	0	

STRESS: HIGH TEMP DYNAMIC OPERATING LIFE-LATENT FAILURE RATE (150C, 4.05V)								
96121	CY2260ASC	PHIL-M	3610380	349604512	80	116	0	
96121	CY2260ASC	PHIL-M	3610380	349604512	500	116	0	

STRESS: READ & RECORD LIFE TEST (150C, 4.05V)								
96121	CY2260ASC	PHIL-M	3610380	349604512	80	10	0	
96121	CY2260ASC	PHIL-M	3610380	349604512	500	10	0	

STRESS: TC COND. C, -65 TO 150C, PRECOND. 168 HRS 85C/85%RH								
96121	CY2260ASC	PHIL-M	3610380	349604512	300	44	0	
96121	CY2260ASC	PHIL-M	3610380	349604512	1000	44	0	

¹ CY2260 (7C8260A die), Clock Synthesizer/Driver, 3.3V Operation, LG27 technology, Fab 3 qualified in 28 pins SOIC.

DEVICE RELATED RELIABILITY TEST DATA

QTP #: 95463²

EVAL #	DEVICE	ASSY-LOC	FABLOT#	ASSYLOT#	DURATION	S/S	REJ	FAIL MODE
STRESS: HI-ACCEL SATURATION TEST (140C, 5.5V), PRECOND. 168 HRS 85C/85%RH								
95463	CY2254APVC	PHIL-M	3535485	13196 (SWR)	128	44	0	

STRESS: HI-ACCEL SATURATION TEST (140C, 85%RH, 5.5V), PRECONDITION 48 HRS PCT								
95463	CY2254APVC	PHIL-M	3535485	13196 (SWR)	128	45	0	4 TEOS NOT COUNT
95463	CY2254APVC	PHIL-M	3535485	13199A (SWR)	128	44	0	

STRESS: HIGH TEMPERATURE STORAGE (165C, NO BIAS)								
95463	CY2254APVC	PHIL-M	3535485	13199A (SWR)	336	45	0	
95463	CY2254APVC	PHIL-M	3535485	13199A (SWR)	1000	45	0	

STRESS: TEMP CYCLE, COND. C, -65 TO 150C, PRECONDITION 48 HRS PCT								
95463	CY2254APVC	PHIL-M	3535485	13196 (SWR)	300	45	0	
95463	CY2254APVC	PHIL-M	3535485	13196 (SWR)	1000	45	0	
95463	CY2254APVC	PHIL-M	3535485	13199A (SWR)	500	45	0	
95463	CY2254APVC	PHIL-M	3535485	13199A (SWR)	1000	45	0	

STRESS: THERMAL SHOCK, CONDITION B (-55C TO 150C)								
95463	CY2254APVC	PHIL-M	3535485	13199A (SWR)	100	45	0	
95463	CY2254APVC	PHIL-M	3535485	13199A (SWR)	200	45	0	

² CY2254 (7C8260A die), Clock Synthesizer/Driver, 5V Operation, LG27 technology, Fab3 qualified in 28 pins SSOP.