

Cypress Semiconductor Assembly Site Transfer Qualification Report

**QTP# 003102 VERSION 1.0
December, 2000**

**160/208-pin Ceramic Quad Flatpack (CQFP)
Alphatec, Bangkok**

CYPRESS TECHNICAL CONTACT FOR QUALIFICATION DATA:

Ed Russell
Reliability Director
(408) 432-7069

Rene Rodgers
Staff Reliability Engineer
(408)943-2732

PRODUCT QUALIFICATION HISTORY

Qual Report	Description of Qualification Purpose	Date Comp.
97061	160-lead CQFP Package Qualification at Golden Altos, USA	Nov 97
003102	Assembly Site Transfer to Alphatec Qualification	Oct 00

HERMETIC PACKAGE/ASSEMBLY DESCRIPTION	
Package Designation:	U208H
Package Outline, Type, or Name:	208-pin Ceramic Quad Flatpack (CQFP)
Mold Compound Name/Manufacturer:	N/A
Mold Compound Flammability Rating:	N/A
Oxygen Rating Index:	> 28%
Lead Frame Designation:	U
Lead Frame Material:	Copper Alloy
Lead Finish, Composition / Thickness:	85Sn / 15Pb
Die Backside Preparation Method/Metallization:	N/A
Die Separation Method:	Wafer Saw
Die Attach Supplier:	Ablestik
Die Attach Material:	8361H
Bond Diagram Designation	10-03504
Wire Bond Method:	Ultrasonic
Wire Material/Size:	Al/ 1.25mil
Thermal Resistance Theta JA °C/W:	N/A
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	49-41009
Name/Location of Assembly (prime) facility:	Alphatec Bangkok (ALPHA-X)

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	Alphatec Bangkok (ALPHA-X)
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, Hermetic Package	MIL-STD-883C, Method 1010, Condition C, -65°C to 150°C (97061/003102)	P
Group D, Moisture Series	MIL-STD-883C, Method 5005 (003102)	P
Group C, Sub Group 1 Life Test	150C/5.75V (97061)	
Internal Visual	Cypress Spec 25-00017 (97061/003102)	P
External Visual	Cypress Spec 12-00292 (97061)	P
Lead Integrity	Cypress Spec 25-00004 (97061/003102)	P
Adhesion of Lead Finish	Cypress Spec 25-00029 (97061/003102)	P
Physical Dimension	Cypress Spec. 25-00031 (97061/003102)	P
Solderability, Steam Aged	Cypress Spec. 25-00018 (97061/003102)	P
Internal Water Vapor	Mil-STD-883 – 1018 (97061/003102)	P
Mechanical Shock	MIL-STD-883 - 5005, D4 (97061/003102)	P
Die Shear	12-00292 (003102)	P
Bond Pull	12-00292 (003102)	P
Lead Torque	25-00035/ MIL-STD-883C, Method 5005 (97061)	P
Salt Atmosphere	Cypress Spec 25-00013 (97061/003102)	P
X-Ray	Cypress Spec 12-000149 (97061/003102)	P

Reliability Test Data

QTP #: 003102

<i>Device</i>	<i>Fab Lot #</i>	<i>Assy Lot #</i>	<i>Assy Loc</i>	<i>Duration</i>	<i>Samp</i>	<i>Rej</i>	<i>Failure Mechanism</i>
STRESS: BOND PULL							
CY7C37512P208B-UM	9025715	610028343	ALPHA-X	COMP	10	0	
STRESS: PHYSICAL DIMENSIONS							
CY7C37512P208B-UM	9025715	610028343	ALPHA-X	COMP	15	0	
STRESS: MOISTURE SERIES							
CY7C37512P208B-UM	9025715	610028343	ALPHA-X	COMP	17	0	
STRESS: MECHANICAL SERIES							
CY7C37512P208B-UM	9025715	610028343	ALPHA-X	COMP	17	0	
STRESS: SALT ATMOSPHERE							
CY7C37512P208B-UM	9025715	610028343	ALPHA-X	COMP	15	0	
STRESS: INTERNAL WATER VAPOR							
CY7C37512P208B-UM	9025715	610028343	ALPHA-X	COMP	3	0	
STRESS: DIE SHEAR							
CY7C37512P208B-UM	9025715	610028343	ALPHA-X	COMP	15	0	
STRESS: INTERNAL VISUAL							
CY7C37512P208B-UM	9025715	610028343	ALPHA-X	COMP	5	0	
CY7C37512P208B-UM	9025715	610028343	ALPHA-X	COMP	5	0	
STRESS: SOLERABILITY							
CY7C37512P208B-UM	9025715	610028343	ALPHA-X	COMP	3	0	
CY7C37512P208B-UM	9025715	610028343	ALPHA-X	COMP	3	0	
STRESS: TC CONDITION C, 150C TO -65C, HERMETIC DEVICE							
CY7C37512P208B-UM	9025715	610028343	ALPHA-X	100	48	0	
CY7C37512P208B-UM	9025715	610028343	ALPHA-X	1000	48	0	
STRESS: X-RAY							
CY7C37512P208B-UM	9025715	610028343	ALPHA-X	COMP	15	0	

RELIABILITY TEST DATA

QTP#: 97061

DEVICE	ASSY-LOC	FABLOT#	ASSYLOT#	DURATION	S/S	REJ	FAIL MODE
STRESS: PHYSICAL DIMENSIONS							
7C375DT-GAUMB	USA-GA	2633051	349701384	COMP	15	0	
STRESS: LEAD INTEGRITY							
7C375DT-GAUMB	USA-GA	2633051	349701384	COMP	3	0	
STRESS: MOISTURE RESISTANCE							
7C375DT-GAUMB	USA-GA	2633051	349701384	COMP	17	0	
STRESS: MECHANICAL SHOCK							
7C375DT-GAUMB	USA-GA	2633051	349701384	COMP	17	0	
STRESS: SALT ATMOSPHERE							
7C375DT-GAUMB	USA-GA	2633051	349701384	COMP	15	0	
STRESS: INTERNAL WATER VAPOR							
7C375DT-GAUMB	USA-GA	2633051	349701384	COMP	6	0	
STRESS: ADHESION OF LEAD FINISH							
7C375DT-GAUMB	USA-GA	2633051	349701384	COMP	3	0	
STRESS: EXTERNAL VISUAL							
7C375DT-GAUMB	USA-GA	2633051	349701384	COMP	15	0	
STRESS: GROUP C, SUBGROUP 1, LIFE TEST (150C, 5.75V)							
7C375DT-GAUMB	USA-GA	2633051	349701384	184	50	0	
STRESS: INTERNAL VISUAL							
7C375DT-GAUMB	USA-GA	2633051	349701384	COMP	5	0	
STRESS: SOLDERABILITY							
7C375DT-GAUMB	USA-GA	2633051	349701384	COMP	3	0	
STRESS: TC COND. C, -65 TO 150C, HERMETIC DEVICES							
7C375DT-GAUMB	USA-GA	2633051	349701384	100	48	0	
7C375DT-GAUMB	USA-GA	2633051	349701384	1000	48	0	
STRESS: X-RAY							
7C375DT-GAUMB	USA-GA	2633051	349701384	COMP	15	0	