

Cypress Semiconductor Package Qualification Report

**QTP# 001403 VERSION 1.0
May, 2001**

**64-lead Ceramic Quad Flatpack (CQFP)
Alphatec, Bangkok**

CYPRESS TECHNICAL CONTACT FOR QUALIFICATION DATA:

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PACKAGE QUALIFICATION HISTORY

Qual Report	Description of Qualification Purpose	Date Comp
001403	64-lead Ceramic Quad Flatpack (CQFP) Package assembled at ALPHA-X	Feb 01

HERMETIC PACKAGE/ASSEMBLY DESCRIPTION	
Package Designation:	U64A
Package Outline, Type, or Name:	64-lead Ceramic Quad Flatpack (CQFP)
Lead Seal Method / Material:	Furnace Seal / Glass Seal KC – 700
Mold Compound Flammability Rating:	V-O per UL 94
Oxygen Rating Index:	> 28%
Lead Frame Designation:	U
Lead Frame Material:	Alloy 42
Lead Finish, Composition / Thickness:	Solder finish, 63%Sn, 37%Pb / 200um – 300um
Die Backside Preparation Method/Metallization:	N/A
Die Separation Method:	Wafer Saw
Die Attach Supplier:	QMI
Die Attach Material:	2419MA Silver Glass
Bond Diagram Designation	10-02890
Wire Bond Method:	Ultrasonic
Wire Material/Size:	Al / 1.25mil
Thermal Resistance Theta JA °C/W:	80.7 °C/W
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	49-15096M
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 Devices)	MIL-STD-883C, Method 1010, Condition C, -65°C to 150°C	P
Bond Pull	Cypress Spec 12-00292	P
Die Shear	Cypress Spec 12-00292	P
Internal Visual	Cypress Spec 25-00017	P
Physical Dimension	Cypress Spec. 25-00031	P
Military Life Test Group C	Dynamic Operating Condition, Vcc Max = 5.75V, 150°	P
External Visual	Cypress Spec 25-00038	P
Lead Finish Adhesion	Cypress Spec 25-00029	P
Lead Integrity	Cypress Spec 25-00004	P
Lead Torque	Cypress Spec 25-00035	P
Solderability	Cypress Spec 25-00018	P
Salt Atmosphere	Cypress Spec 25-00013/Cypress Spec 25-00038	P
Thermal Series	MIL-STD-883C, Method 5005	P
Mechanical Series	MIL-STD-883C, Method 5005	P
Internal Water Vapor	MIL-STD-883C, Method 1018	P
X-Ray	MIL-STD-883C, Method 2012 / 12-00292	P

Reliability Test Data

QTP #: 001403

<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: GROUP C, LIFE TEST (150C, 5.75V, Vcc Max)							
CY7C960-UM	2004734	610027915	ALPHA-X	184	50	0	
STRESS: PHYSICAL DIMENSIONS							
CY7C960-UM	2004734	610027915	ALPHA-X	COMP	15	0	
STRESS: BOND PULL							
CY7C960-UM	2004734	610027915	ALPHA-X	COMP	10	0	
STRESS: DIE SHEAR							
CY7C960-UM	2004734	610027915	ALPHA-X	COMP	15	0	
STRESS: MECHANICAL SERIES							
CY7C960-UM	2004734	610027915	ALPHA-X	COMP	17	0	
STRESS: THERMAL SERIES							
CY7C960-UM	2004734	610027915	ALPHA-X	COMP	17	0	
STRESS: SALT ATMOSPHERE							
CY7C960-UM	2004734	610027915	ALPHA-X	COMP	15	0	
STRESS: INTERNAL WATER VAPOR							
CY7C960-UM	2004734	610027915	ALPHA-X	COMP	3	0	
STRESS: LID TORQUE							
CY7C960-UM	2004734	610027915	ALPHA-X	COMP	5	0	
STRESS: EXTERNAL VISUAL							
CY7C960-UM	2004734	610027915	ALPHA-X	COMP	15	0	
STRESS: ADHESION OF LEAD FINISH							
CY7C960-UM	2004734	610027915	ALPHA-X	COMP	15	0	

Reliability Test Data

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STRESS: INTERNAL VISUAL							
CY7C960-UM	2004734	610027915	ALPHA-X	COMP	5	0	
STRESS: SOLERABILITY							
CY7C960-UM	2004734	610027915	ALPHA-X	COMP	12	0	
STRESS: X-RAY							
CY7C960-UM	2004734	610027915	ALPHA-X	COMP	15	0	
STRESS: TC CONDITION C, 150C to 65C, HERMETIC DEVICE							
CY7C960-UM	2004734	610027915	ALPHA-X	1000	50	0	