Cypress Semiconductor
Package Qualification Report

QTP# 97458 VERSION 1.0
January, 2002

28-lead Ceramic Dual-In-Line Package (CerDIP)
32-lead Ceramic Windowed Dual-In-Line Package (CerDIP)
Anam Philippines

CYPRESS TECHNICAL CONTACT FOR QUALIFICATION DATA:

Ed Russell
Reliability Director
(408) 432–7069

Al Laxman
Quality Engineering
(408) 745–7120

PACKAGE QUALIFICATION HISTORY

Qual Report	Description of Qualification Purpose	Date Comp
97458	32-lead Ceramic Windowed Dual-In-Line (W-CerDIP) package, with die size N/A, and 28-lead Ceramic Dual-In-Line (CerDIP) package, with die size 125 x 361mils at Anam Philippines	Aug 98

HERMETIC PACKAGE/ASSEMBLY DESCRIPTION	
Package Designation:	D28
Package Outline, Type, or Name:	28-lead Ceramic Dual-In-Line (CerDIP)
Lead Seal Method/Material:	Glass / KC700 or T187
Mold Compound Flammability Rating:	N/A
Oxygen Rating Index:	N/A
Lead Frame Material:	A42
Lead Finish, Composition / Thickness:	Solder Dip 85%SN, 15%pB
Die Backside Preparation Method/Metallization:	N/A
Die Separation Method:	Wafer Saw
Die Attach Method:	Ag / Glass Paste
Die Attach Supplier:	QMI
Die Attach Material:	2419MA
Bond Diagram Designation	10-02071
Wire Bond Method:	Wedge
Wire Material/Size:	Al/ 1.25mil
Thermal Resistance Theta JA °C/W:	N/A
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	49-14999
Name/Location of Assembly (prime) facility:	Anam Philippines (PHIL-M)

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	Anam Philippines (PHIL-M)
Fault Coverage:	100%

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

HERMETIC PACKAGE/ASSEMBLY DESCRIPTION	
Package Designation:	W32
Package Outline, Type, or Name:	32-lead Ceramic Windowed Dual-In-Line (W-CerDIP)
Lead Seal Method/Material:	Glass / KC700 or T187
Mold Compound Flammability Rating:	N/A
Oxygen Rating Index:	N/A
Lead Frame Material:	A42
Lead Finish, Composition / Thickness:	Solder Dip 85%SN, 15%pB
Die Backside Preparation Method/Metallization:	N/A
Die Separation Method:	Wafer Saw
Die Attach Method:	Ag / Glass Paste
Die Attach Supplier:	QMI
Die Attach Material:	2419MA
Bond Diagram Designation	N/A
Wire Bond Method:	Wedge
Wire Material/Size:	Al/ 1.25mil
Thermal Resistance Theta JA °C/W:	N/A
Package Cross Section Yes/No:	N/A
Assembly Process Flow:	49-14999
Name/Location of Assembly (prime) facility:	Anam Philippines (PHIL-M)

ELECTRICAL TEST / FINISH DESCRIPTION	
Test Location:	Anam Philippines (PHIL-M)
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 (Military)	MIL-STD-883C, Method 1010, Condition C, -65°C to 150°C	P
Internal Visual	Cypress Spec 25-00017	P
Lead Integrity	Cypress Spec 25-00004	P
Physical Dimension	Cypress Spec. 25-00031	P
Military Life Test Group C	150C, 5.75V	P
External Visual	Cypress Spec 25-00038	P
Salt Atmosphere	Cypress Spec 25-00013/Cypress Spec 25-00038	P
Adhesion of Lead Finish	Cypress Spec. 25-00029	P
Lid Torque	Cypress Spec. 25-00035	P
Thermal Series	MIL-STD-883C, Method 5005	P
Stud Pull, Hermetic	Cypress Spec. 12-00292	P
Die Shear	Cypress Spec. 12-00292	P
Solderability, Steam Aged	Cypress Spec. 25-00018	P
X-Ray	MIL-STD-883C, Method 2012 / Cypress Spec. 12-00292	P
Mechanical Series	MIL-STD-883C, Method 5005	P
Internal Water Vapor	MIL-STD-883C, Method 1018	P

Reliability Test Data

QTP #: 97458

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: PHYSICAL DIMENSIONS							
CY27C010-WMB (7C201A)	2720557	*349705318*	PHIL-M	COMP	15	0	
CY27C010-WMB (7C201A)	3629153	*349705478*	PHIL-M	COMP	15	0	
STRESS: LEAD INTEGRITY							
CY27C010-WMB (7C201A)	2720557	*349705318*	PHIL-M	COMP	4	0	
CY27C010-WMB (7C201A)	2720557	*349705318*	PHIL-M	COMP	4	0	
STRESS: THERMAL SERIES							
CY27C010-WMB (7C201A)	2720557	*349705318*	PHIL-M	COMP	17	0	
CY7C199-DMB (7C199C)	3629153	*349705478*	PHIL-M	COMP	17	0	
STRESS: MECHANICAL SERIES							
CY27C010-WMB (7C201A)	2720557	*349705318*	PHIL-M	COMP	17	0	
CY7C199-DMB (7C199C)	3629153	*349705478*	PHIL-M	COMP	17	0	
STRESS: SALT ATMOSPHERE							
CY27C010-WMB (7C201A)	2720557	*349705318*	PHIL-M	COMP	15	0	
CY7C199-DMB (7C199C)	3629153	*349705478*	PHIL-M	COMP	15	0	
STRESS: INTERNAL WATER VAPOR							
CY27C010-WMB (7C201A)	2720557	*349705318*	PHIL-M	COMP	3	0	
CY7C199-DMB (7C199C)	3629153	*349705478*	PHIL-M	COMP	3	0	
STRESS: ADHESION OF LEAD FINISH							
CY27C010-WMB (7C201A)	2720557	*349705318*	PHIL-M	COMP	3	0	
CY7C199-DMB (7C199C)	3629153	*349705478*	PHIL-M	COMP	3	0	

Reliability Test Data

QTP #: 97458

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: EXTERNAL VISUAL							
CY27C010-WMB (7C201A)	2720557	*349705318*	PHIL-M	COMP	15	0	
CY7C199-DMB (7C199C)	3629153	*349705478*	PHIL-M	COMP	15	0	
STRESS: DIE SHEAR							
CY27C010-WMB (7C201A)	2720557	*349705318*	PHIL-M	COMP	15	0	
CY7C199-DMB (7C199C)	3629153	*349705478*	PHIL-M	COMP	15	0	
STRESS: INTERNAL VISUAL							
CY27C010-WMB (7C201A)	2720557	*349705318*	PHIL-M	COMP	5	0	
CY7C199-DMB (7C199C)	3629153	*349705478*	PHIL-M	COMP	5	0	
STRESS: SOLERABILITY/ STEAM AGED							
CY27C010-WMB (7C201A)	2720557	*349705318*	PHIL-M	COMP	3	0	
CY7C199-DMB (7C199C)	3629153	*349705478*	PHIL-M	COMP	3	0	
STRESS: MILITARY LIFE TEST GROUP C, 150C, 5.75V							
CY27C010-WMB (7C201A)	2720557	*349705318*	PHIL-M	184	49	0	
CY7C199-DMB (7C199C)	3629153	*349705478*	PHIL-M	184	50	0	
STRESS: X-RAY							
CY27C010-WMB (7C201A)	2720557	*349705318*	PHIL-M	COMP	15	0	
CY7C199-DMB (7C199C)	3629153	*349705478*	PHIL-M	COMP	15	0	
STRESS: LID TORQUE							
CY27C010-WMB (7C201A)	2720557	*349705318*	PHIL-M	COMP	5	0	
CY7C199-DMB (7C199C)	3629153	*349705478*	PHIL-M	COMP	5	0	

Reliability Test Data

QTP #: 97458

Device	Fab Lot #	Assy Lot #	Assy Loc	Duration	Samp	Rej	Failure Mechanism
STRESS: STUD PULL, HERMETIC							
CY7C199-DMB (7C199C)	3629153	*349705478*	PHIL-M	COMP	15	0	
STRESS: TC CONDITION C, 150C TO -65C, MSL1							
CY27C010-WMB (7C201A)	2720557	*349705318*	PHIL-M	100	47	0	
CY27C010-WMB (7C201A)	2720557	*349705318*	PHIL-M	1000	47	0	
CY7C199-DMB (7C199C)	3629153	*349705478*	PHIL-M	100	50	0	
CY7C199-DMB (7C199C)	3629153	*349705478*	PHIL-M	1000	50	0	