

Cypress Semiconductor Package Qualification Report

**QTP# 034201 VERSION 1.0
February 2004**

All Plastic Dual-In-Line Package

Pb-Free

Omedata-Indonesia Assembly

CYPRESS TECHNICAL CONTACT FOR QUALIFICATION DATA:

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PACKAGE QUALIFICATION HISTORY

| QUAL REPORT | DESCRIPTION OF QUALIFICATION PURPOSE | DATE COMP. |
|--------------------|--|-------------------|
| 034201 | Qualify All Plastic Dual-In-Line Package (PDIP), Pb-Free, using MP8000CH Mold Compound, 8361 Epoxy and Matte Tin Plating | Jan 04 |

| MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION | |
|---|--|
| Package Designation: | P08/P28/P40/PZ18 |
| Package Outline, Type, or Name: | 8-40 Pin Plastic Dual-In-Line Package (PDIP) |
| Mold Compound Name/Manufacturer: | MP8000CH |
| Mold Compound Flammability Rating: | V-O per UL 94 |
| Oxygen Rating Index: | None |
| Lead Frame Material: | Copper |
| Lead Finish, Composition / Thickness: | Pure Sn |
| Die Backside Preparation Method/Metallization: | Grinding |
| Die Separation Method: | Sawing |
| Die Attach Supplier: | Ablestik |
| Die Attach Material: | 8361H |
| Bond Diagram Designation | 10-04043/10-04020/10-03713/10-05493 |
| Wire Bond Method: | Thermosonic |
| Wire Material/Size: | Au 1.0 mil, 1.30mil (P40) |
| Thermal Resistance Theta JA °C/W: | 68°C/W |
| Package Cross Section Yes/No: | Yes |
| Assembly Process Flow: | 49-70999M |
| Name/Location of Assembly (prime) facility: | Omedata-Indonesia |

| ELECTRICAL TEST / FINISH DESCRIPTION | |
|---|-----------------------------|
| Test Location: | Cypress Philippines (CML-R) |
| Fault Coverage: | 100% |

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

RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENTS

| Stress/Test | Test Condition (Temp/Bias) | Result P/F |
|---|--|-----------------------|
| Acoustic Microscopy | Cypress Spec. 25-00104 | P |
| Adhesion of lead finish | Cypress Spec 25-00029 | P |
| External Visual | Cypress Spec. 12-00292 | P |
| High Accelerated Saturation Test (HAST) | 130°C, 3.63V, 85%RH | P |
| Pressure Cooker | 121°C, 100%RH | P |
| Solderability | Cypress Spec. 25-00018 | P |
| Temperature Cycle | MIL-STD-883C, Method 1010, Condition C, -65°C to 150°C | P |
| X-Ray | MIL-STD-883, Method 32012, Cypress Spec. 12-00292 | P |

Reliability Test Data

QTP #: 034201

| Device | Fab Lot # | Assy Lot# | Assy Loc | Duration | Samp | Rej | Failure Mechanism |
|--|------------------|------------------|-----------------|-----------------|-------------|------------|--------------------------|
| STRESS: ACOUSTIC | | | | | | | |
| CY8C26443 (8C26443D) | 2334560 | 510306923 | INDNS-O | COMP | 15 | 0 | |
| CY8C25122 (8C25122D) | 2334560 | 510306922 | INDNS-O | COMP | 15 | 0 | |
| CY7C63723 (7C63720A) | 2311088 | 510307472 | INDNS-O | COMP | 15 | 0 | |
| CY7C63413 (7C63413C) | 2248315 | 510307471 | INDNS-O | COMP | 15 | 0 | |
| STRESS: ADHESION OF LEAD FINISH | | | | | | | |
| CY8C26443 (8C26443D) | 2334560 | 510306923 | INDNS-O | COMP | 3 | 0 | |
| CY7C63413 (7C63413C) | 2248315 | 510307471 | INDNS-O | COMP | 3 | 0 | |
| STRESS: EXTERNAL VISUAL | | | | | | | |
| CY8C26443 (8C26443D) | 2334560 | 510306923 | INDNS-O | COMP | 15 | 0 | |
| CY7C63413 (7C63413C) | 2248315 | 510307471 | INDNS-O | COMP | 15 | 0 | |
| STRESS: HI-ACCEL SATURATION TEST (130C, 85%RH, 3.63V) | | | | | | | |
| CY8C26443 (8C26443D) | 2334560 | 510306923 | INDNS-O | 128 | 50 | 0 | |
| STRESS: HI-ACCEL SATURATION TEST (130C, 85%RH, 5.5V) | | | | | | | |
| CY7C63413 (7C63413C) | 2248315 | 510307471 | INDNS-O | 128 | 48 | 0 | |
| STRESS: PRESSURE COOKER TEST (121C, 100%RH) | | | | | | | |
| CY8C26443 (8C26443D) | 2334560 | 510306923 | INDNS-O | 168 | 50 | 0 | |
| CY8C25122 (8C25122D) | 2334560 | 510306922 | INDNS-O | 168 | 50 | 0 | |
| STRESS: SOLDERABILITY | | | | | | | |
| CY8C26443 (8C26443D) | 2334560 | 510306923 | INDNS-O | COMP | 3 | 0 | |
| CY7C63413 (7C63413C) | 2248315 | 510307471 | INDNS-O | COMP | 3 | 0 | |
| STRESS: X-RAY | | | | | | | |
| CY8C26443 (8C26443D) | 2334560 | 510306923 | INDNS-O | COMP | 15 | 0 | |
| CY7C63413 (7C63413C) | 2248315 | 510307471 | INDNS-O | COMP | 15 | 0 | |

Reliability Test Data

QTP #: 034201

| Device | Fab Lot # | Assy Lot# | Assy Loc | Duration | Samp | Rej | Failure Mechanism |
|--|------------------|------------------|-----------------|-----------------|-------------|------------|--------------------------|
| STRESS: TC COND. C -65C TO 150C | | | | | | | |
| CY8C26443 (8C26443D) | 2334560 | 510306923 | INDNS-O | 300 | 50 | 0 | |
| CY8C26443 (8C26443D) | 2334560 | 510306923 | INDNS-O | 500 | 50 | 0 | |
| CY8C26443 (8C26443D) | 2334560 | 510306923 | INDNS-O | 1000 | 50 | 0 | |
| CY8C25122 (8C25122D) | 2334560 | 510306922 | INDNS-O | 300 | 49 | 0 | |
| CY8C25122 (8C25122D) | 2334560 | 510306922 | INDNS-O | 500 | 49 | 0 | |
| CY8C25122 (8C25122D) | 2334560 | 510306922 | INDNS-O | 1000 | 49 | 0 | |
| CY7C63723 (7C63720A) | 2311088 | 510307472 | INDNS-O | 300 | 50 | 0 | |
| CY7C63413 (7C63413C) | 2248315 | 510307471 | INDNS-O | 300 | 50 | 0 | |