

Cypress Semiconductor Package Qualification Report

**QTP# 060911 VERSION 1.0
August 2006**

48/56-Lead SSOP

(300mils)

(Limited to devices w/o downbonds)

NiPdAu, MSL3, 260C Reflow

CML-R

CYPRESS TECHNICAL CONTACT FOR QUALIFICATION DATA:

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PACKAGE QUALIFICATION HISTORY

| QUAL REPORT | DESCRIPTION OF QUALIFICATION PURPOSE | DATE COMP. |
|--------------------|---|-------------------|
| 060911 | 48/56-Lead SSOP (300 mils), (limited to devices without down bonds), NiPdAu, MSL3, 260C Reflow assembled at CML-R | Jun 06 |

| MAJOR PACKAGE INFORMATION USED IN THIS QUALIFICATION | |
|---|---|
| Package Designation: | SP56 |
| Package Outline, Type, or Name: | 56-Lead Shrunk Small Outline Package (300 mils) |
| Mold Compound Name/Manufacturer: | MP8500 |
| Mold Compound Flammability Rating: | UL94 – V0 |
| Oxygen Rating Index: | None |
| Lead frame Material: | Cu |
| Lead Finish, Composition / Thickness: | NiPdAu |
| Die Backside Preparation Method/Metallization: | Grinding |
| Die Separation Method: | Sawing |
| Die Attach Supplier: | Dexter |
| Die Attach Material: | QMI509 |
| Die Attach Method: | Epoxy |
| Bond Diagram Designation | 10-05456 |
| Wire Bond Method: | Thermosonic |
| Wire Material/Size: | Au. 1.0 mil |
| Thermal Resistance Theta JA □C/W: | 55 °C/W |
| Package Cross Section Yes/No: | N/A |
| Assembly Process Flow: | 11-20048 |
| Name/Location of Prime Assembly facility: | CML-R |
| MSL Level | 3 |
| Reflow Profile | 260C |

| ELECTRICAL TEST / FINISH DESCRIPTION | |
|---|-------|
| Test Location: | CML-R |

RELIABILITY TESTS PERFORMED PER SPECIFICATION REQUIREMENTS

| Stress/Test | Test Condition (Temp/Bias) | Result P/F |
|---|--|---------------|
| Temperature Cycle | MIL-STD-883C, Method 1010, Condition C, -65 C to 150 C Precondition: JESD22 Moisture Sensitivity MSL3 192 Hrs 30°C/60%RH+3IR-Reflow, 260°C+0, -5°C | P |
| Pressure Cooker Test | 121°C, 100%RH, 15 Psig Precondition: JESD22 Moisture Sensitivity MSL3 192 Hrs 30°C/60%RH+3IR-Reflow, 260°C+0, -5°C | P |
| High Accelerated Saturation Test (HAST) | 130°C, 3.3V, 85%RH Precondition: JESD22 Moisture Sensitivity MSL3 192 Hrs 30°C/60%RH+3IR-Reflow, 260°C+0, -5°C | P |
| Acoustics Microscopy | Cypress Spec. 25-00104 | P |

Reliability Test Data

QTP #: 060911

| <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: ACOUSTIC, MSL3 | | | | | | | |
| CY7C68300A (7C68003A) | 4536902 | 610552119 | CML-R | COMP | 15 | 0 | |
| CY7C64113A (7C64113A) | 2510472 | 610537053 | CML-R | COMP | 15 | 0 | |
| CY7C68001 (7C68001E) | 4542977 | 610557579 | CML-R | COMP | 15 | 0 | |
| STRESS: HI-ACCEL SATURATION TEST, 130C, 3.3V, 85%RH, PRE COND 192 HR 30C/60%RH, MSL3 | | | | | | | |
| CY2220PVC (7C822000A) | 2129123 | 610223392 | CML-R | 128 | 45 | 0 | |
| STRESS: PRESSURE COOKER TEST, 121C, 100%RH, 15 Psig, PRE COND 192 HR 30C/60%RH, MSL3 | | | | | | | |
| CY7C68300A (7C68003A) | 4536902 | 610552119 | CML-R | 168 | 50 | 0 | |
| STRESS: TC COND. C -65C TO 150C, PRE COND 192 HR 30C/60%RH, MSL3 | | | | | | | |
| CY7C68300A (7C68003A) | 4536902 | 610552119 | CML-R | 168 | 50 | 0 | |
| CY7C68300A (7C68003A) | 4536902 | 610552119 | CML-R | 500 | 50 | 0 | |
| CY7C68300A (7C68003A) | 4536902 | 610552119 | CML-R | 1000 | 50 | 0 | |
| CY7C64113A (7C64113A) | 2510472 | 610537053 | CML-R | 300 | 50 | 0 | |
| CY7C64113A (7C64113A) | 2510472 | 610537053 | CML-R | 500 | 50 | 0 | |
| CY7C64113A (7C64113A) | 2510472 | 610537053 | CML-R | 1000 | 50 | 0 | |
| CY7C68001 (7C68001E) | 4542977 | 610557579 | CML-R | 300 | 48 | 0 | |
| CY7C68001 (7C68001E) | 4542977 | 610557579 | CML-R | 500 | 48 | 0 | |