## Package Qualification Report

Reliability By Design

## Qualification Description:

The information contained herein represents proof of Reliability and Performance of the Package Series listed below in accordance with the Qualification Plan and test methods referenced in Section 7.0, after exposure to a variety of environments and mechanical events that occur during installation and operational lifetime of the product. Upon conclusion of the testing the product continued to operate within specification limits, demonstrating its capability of reliable operation throughout its lifetime.

The purpose of this report is to present Qualification Test results of the referenced Package Series. The Pericom product data presented in this report qualifies the products manufactured in this package configuration, using the same bill of materials and assembled by the identified subcontractor location. The report describes the qualification test program, procedures utilized, criteria enforced (at the time of product validation), and specific result data obtained during the testing of three lots of semiconductors. The three lots consist of an equal number of units from different date codes, from the same production line and SubContractor to ensure manufacturing repeatability.

## Lot Background Information:

| Qual Part Number: | PI74LCX16245VE |
| ---: | :--- |
| Supplier (Code): | SPEL (X) |
| Pkg Type - Code: | SSOP-48 (V48) |
| Outline Drawing: | PD-1401 |
|  | By Extension Pkg: |
|  |  |


| Qual Test Date: | Sep-2011 |
| ---: | :--- |
| Die Attach Material: | CRM 1076 |
| Wire Size \& Material: | 1.0 mil Gold |
| Mold Compound: | EME G600 |
| Leadframe Material: | A194 Copper |
| Lead Finish: | $100 \%$ Matte Sn |
| Date Codes: | 1125 CC |

Pericom's Qualification Test Results:

| Stress Test | Test Procedure | Test Conditions | Duration | $\begin{aligned} & \text { \# of } \\ & \text { Lots } \end{aligned}$ | Samples per Lot | Results Pass/Fail |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Preconditioning | JESD22-A113 | MSL1 | NA | 1 | 100 | 100 / 0 |
| CSAM | J-STD-020 | No delamination of Die Top, Wire bond, Down bond areas | NA | 1 | 22 | 22 / 0 |
| PreCon UHAST | JESD22-A118 | $130^{\circ} \mathrm{C}, \mathrm{RH} 85 \%, 33.3$ psia, OV | 96 hrs | 1 | 45 | $45 / 0$ |
| PreCon Temp Cycle | JESD22-A104 | $-65^{\circ} \mathrm{C}$ to $+150^{\circ} \mathrm{C} \quad 500$ Cycles | 100 cycles | 1 | 45 | 45 / 0 |
|  |  | $-65^{\circ} \mathrm{C}$ to $+150^{\circ} \mathrm{C} \quad 500$ Cycles | 500 cycles | 1 | 45 | 45 / 0 |
| HTSL (no PreCon) | JESD22-A103 | 1000hrs, 0 V, $150^{\circ} \mathrm{C}$ | 500 hrs | 1 | 45 | $45 / 0$ |
|  |  | 1000hrs, $0 \mathrm{~V}, 150^{\circ} \mathrm{C}$ | 1000 hrs | 1 | 45 | $45 / 0$ |
| Physical Dimension | JESD22-B100 | Per Datasheeet | NA | 1 | 5 | $5 / 0$ |
| External Visual Insp | JESD22-B101 | NA | NA | 1 | 5 | $5 / 0$ |
| Terminal Strength | JESD22-B105 | $90^{\circ}$ Bends, 2 bend min. | NA | 1 | 5 | $5 / 0$ |
| Solderability | $\begin{aligned} & \hline \text { J-STD-020 } \\ & \text { JESD22-B102 } \end{aligned}$ | Pb-Free Solder Dip $245^{\circ} \mathrm{C}$ | NA | 1 | 5 | $5 / 0$ |

## Qualificaton by Extension Information:

Where a product of interest is not sampled during this period, it is valid to use the reliability data of the particular process technology or package type family to which the part belongs. All parts within the same family are designed to the same rules, and manufacturing is controlled by SPC. Within a product family, a device can only be fabricated on one process technology/ option, and only assembled on one package type process.

| Date: | Sep-2011 |
| :--- | :--- |
| PKG Type \& Code: | SSOP-48 (V48) |
|  |  |
| Assembler-Code: | SPEL (X) |
| Qual Device: | PI74LCX16245VE |
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By extension: Pericom active devices using the Fab/Process at the time of the Qualification:

| PI6C180BVE |  |  |  |  |
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| PI6C180BVEX |  |  |  |  |
| PI6C180VE |  |  |  |  |
| PI6C180VEX |  |  |  |  |
| PI6C20800SIVE |  |  |  |  |
| PI6C20800SIVEX |  |  |  |  |
| PI6C20800SVE |  |  |  |  |
| PI6C20800SVEX |  |  |  |  |
| PI6C20800VE |  |  |  |  |
| PI6C20800VEX |  |  |  |  |
| PI74ALVTC16245VE |  |  |  |  |
| PI74ALVTC16245VEX |  |  |  |  |
| PI74FCT162245ATVE |  |  |  |  |
| PI74FCT162245ATVEX |  |  |  |  |
| PI74FCT162245CTVE |  |  |  |  |
| PI74FCT162245CTVEX |  |  |  |  |
| PI74FCT162245TVE |  |  |  |  |
| PI74FCT162245TVEX |  |  |  |  |
| PI74FCT16244CTVE |  |  |  |  |
| PI74FCT16244CTVEX |  |  |  |  |
| PI74FCT16244TVE |  |  |  |  |
| PI74FCT16244TVEX |  |  |  |  |
| PI74FCT16245ATVE |  |  |  |  |
| PI74FCT16245ATVEX |  |  |  |  |
| PI74FCT16245CTVE |  |  |  |  |
| PI74FCT16245CTVEX |  |  |  |  |
| PI74FCT16245TVE |  |  |  |  |
| PI74FCT16245TVEX |  |  |  |  |
| PI74LCX16245VE |  |  |  |  |
| PI74LCX16245VEX |  |  |  |  |
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