Reliability Report for PLL701-13

1.0 TITLE: Reliability Report on Device: PLL701-13.

2.0 Purpose and Scope

To perform the qualification of PLL701-13 based on the evaluation study of three assembly date codes of the same part. This procedure is to assure the quality and reliability of this product meets the standard set forth by PhaseLink Corp.

3.0 Description of the Device Tested .

4.1 Test Device/Vehicle: **PLL701-13**
4.2 Wafer Fabrication Vendor Name: **Chartered Semiconductor Mfg. Co.**
4.3 Wafer Fabrication Process Technology: **0.5um CMOS**
4.4 Package Assembly Vendor Name: **ChantWorld Technology Inc**
4.5 Package Type: **8 Pin SOIC**

4.0 Device/Material Lot or I.D. Number(s) Included in these Tests.

Device Part Number	Lot or Date Code Number
PLL701-13	E0263/0118
PLL701-13	E0292/0122
PLL701-13	E0292/0123

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5.0 Quality Criteria

5.0 Material shall be manufactured according to the quality standards and meet all specifications approved by PhaseLink Corp.
5.1 Any additional quality standards that apply to specific lots shall be recorded in this report.
5.2 Observe all Electro-Static Dissipations (ESD) control rules in handling device products.
5.3 The contracted laboratory performs the testing shall be ISO9000 certified.

6.0 Reliability Test Methods and Specifications

The tests follow the general guideline set forth accordance to Mil-Std. 883, while the actual test conditions may vary and set to each of the following test criteria.

6.1 ESD
6.2 Latch-Up
6.3 Pre-Conditioning Stress Test.
6.4 High Temperature Life Test - Dynamic HTOL
6.5 High Accelerated Stress Test – HAST
6.6 Temperature Cycles.

7.0 Test Results

7.1 ESD

ESD test was not performed on PLL701-13. For reference, ESD test on the PLL702-01A1, which uses the same ESD protection on the same silicon IC base was performed and passed.

Device Lot/Date Code #	Sample Size	Test Result
AI0122	3	pass

7.2 Latch-Up

Latch-Up test was not performed on PLL701-13. For reference, Latch-up test on the PLL702-01A1, which uses the silicon IC base, was performed and passed.

Device Lot/Date Code #	Sample Size	Test Result
AI0122	3	pass

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7.3 Pre-Conditioning Stress Test.

Device Lot/Date Code #	Sample Size	Test Result
E0263/0118	150	pass
E0292/0122	100	pass
E0292/0123	175	pass

7.4 High Temperature Life Test - Dynamic HTOL

Device Lot / Date Code #	Sample Size	Test Result 168 hours	Test Result 500 hours	Test Result 1000 hours
E0263/0118	55	Pass	Pass	Pass
E0292/0122	30	Pass	Pass	Pass
E0292/0123	30	Pass	Pass	Pass

Visual Inspection data: passed

7.5 High Accelerated Stress Test - HAST

Device Lot/Date Code #	Sample Size	Test Result
E0263/0118	55	pass
E0292/0122	30	pass
E0292/0123	30	pass

7.6 Temperature Cycles.

Device Lot/Date Code #	Sample Size	Test Result
E0263/0118	25	pass
E0292/0122	25	pass
NA		

Visual Inspection data: Passed

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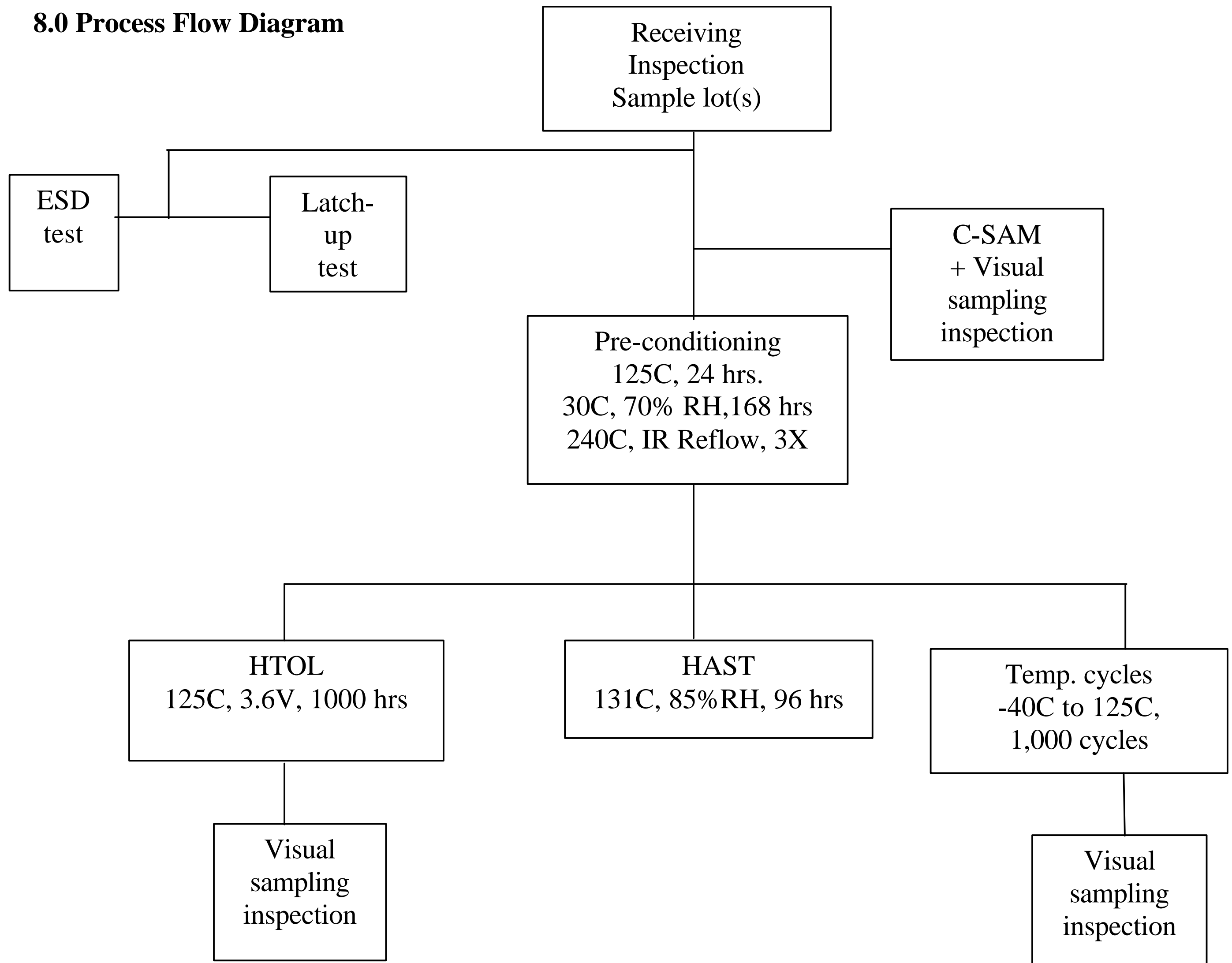
8.0 Process Flow Diagram



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