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SPARC Processors Cleaning Procedure at Disassembly

Overview

This document describes the procedure for cleaning of SPARC processor lids after dekitting and disassembly from board assembly.

The objective of this document is to ensure the laser markings can be readable to human eyes and for machine vision for 2D barcode detection after disassembly of SPARC processors from heatsink stack-up assembly during a disassembly (or dekit) process.

Audience

This document is for Oracle external manufacturers (EMs), Oracle Services, and Oracle personnel involved in lid marking and traceability requirements.

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1 PROCEDURAL REQUIREMENTS

Refer to *Permanency Specifications for Human-Readable and Two-Dimensional (2D) Laser Markings on SPARC Processors*, 914-1757, and to ANSI/ESD S20.20-2007, Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices), for additional information. This document is the first to detail SPARC processor cleaning at disassembly.

1.1 PREPARATION

1. Verify ESD straps are properly adjusted and pass at test station. Refer to ANSI/ESD S20.20-2007, Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices), for additional information.
2. Disassemble the board heatsink stackup by removing the heatsink, and the bolster plate by following the Oracle disassembly procedure for the dekitted board.
3. Clean the work surface with a cleaning agent approved for this purpose.
4. Arrange cleaning swabs and cloths so they are readily available for use.
5. Inspect processor trays to be used for cleaning parts to ensure that they are not already contaminated with grease; check top and bottom. Blow off the tray with the ionized air gun to remove loose debris. Place the clean tray at a convenient location on the bench.

1.2 EQUIPMENT LIST

- Cleaning swabs, small Chemtronics (at 1-800-645-5244), including:
  - Coventry 20080 (preferred)
  - Coventry 20050
  - Coventry 48040
- Approved cleaning solvent: Chemtronics Electrowash CZ, CZ part number ES7100, in dispenser bottle
- Cleaning cloths: Texwipe Alphawipe TX1004
- Clean processor trays
- ESD/solvent resistant gloves: TechNitrile
- ESD wriststrap
- Hazardous waste disposal container
- CPU assembly bench (less CPU Assembly fixture) with ionized air gun

1.3 BEFORE YOU BEGIN

General information:

- If gloves become contaminated with grease, replace them.
- Use extreme caution in handling processors since they are expensive; use firm pressure when holding them so they are not dropped.

- **Do not** spray solvent onto processors; only apply solvent via swabs or cloths.
- **Do not** soak swabs or cloth with solvent, a small application will be sufficient.
- Clean the processor over the workbench surface, so that if it slips it will not fall as far.
- For any issues not covered by this instruction, follow standard factory procedures.
- If you have any question, call your Oracle Engineer.
- **Do not** handle the processors with bare hands.
- According to the manufacturer, an open work area should provide sufficient ventilation.

If you feel the odor is over-powering or if you feel light-headed, stop the work immediately and move the operations into a fume hood.

Change operator's gloves prior to final inspection if they are contaminated by grease.

1.4 CLEANING PROCEDURE

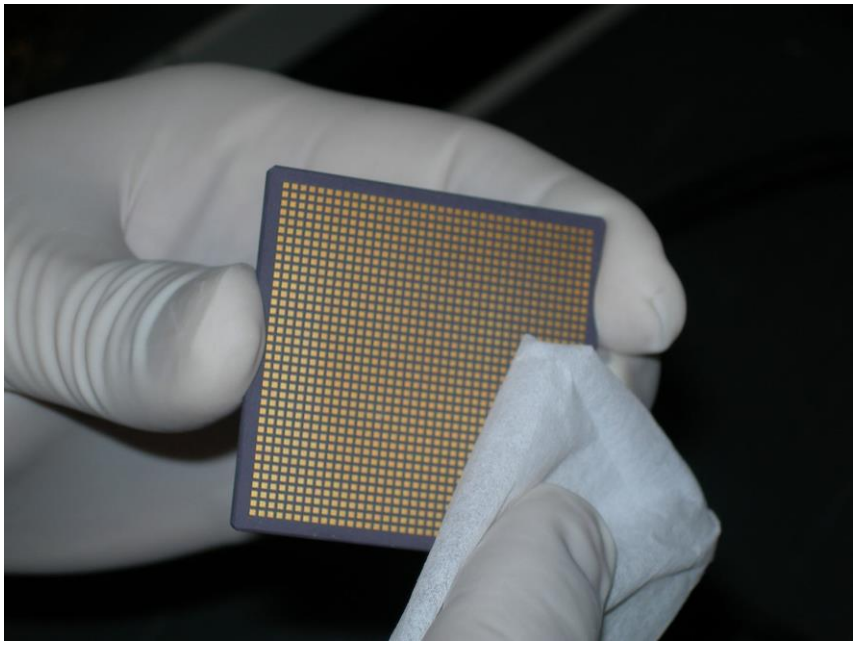
1. Place a tray of dirty processors in a convenient location on bench.
2. Clean a processor in the following order:

a. Top surface (lid)

b. Recessed areas around the lid

c. Sides of processor

d. Gold pads



3. Apply a small amount of cleaning solution to a cleaning cloth and clean the top surface of the processor lid.
4. Apply a small amount of cleaning solution to a small swab and clean the recessed areas where the processor lid meets the base and the sides of the processor.
5. Apply a small amount of cleaning solution to a cleaning cloth and clean the gold pads, using moderate pressure.
6. Repeat *Steps 3* through *5*, above, with new cloths and swabs.
7. If cloths and swabs are not clean, repeat *Steps 3* through *5* again.

8. Carefully hold the processor by the edges, and blow off the gold pads area with the filtered deionized air gun; point the air gun away from the bench when doing this cleaning.
9. Place cleaned processor in clean tray.
10. Repeat for balance of processors.
11. Upon completing the cleaning of the last processor in each tray, recheck each processor (top and bottom) to assure that none have re-contaminated during the cleaning process.
12. Blow off tray with filtered deionized air gun to remove any loose debris from swabs or cloths.
13. For storage purposes, place all trays with newly cleaned parts in ESD bags, then vacuum and seal the trays.

1.5 CLEANUP

Upon completion of cleaning, place all contaminated swabs and cloths in hazardous waste bin.

Document History

REVISION	DESCRIPTION	DATE
01	Initial Release	4/2006
02	Update from Sun to Oracle and replace 914-1301 with ANSI/ESD S20.20-2007 for ESD specification.	11/2013
03	Update owner to Ed Maxwell, and move any references to older now defunct groups to Semiconductor Engineering.	1/2018
04	Convert to current corporate template	3/2022

Related Information

REFERENCE DOCUMENTS
Permanency Specifications for Human-Readable and Two-Dimensional (2D) Laser Markings on SPARC Processors 914-1757
ANSI/ESD S20.20-2007, Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices) ANSI/ESD S20.20-2007

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