
Latent Damage and Reliability in Semiconductor Devices

Advisor: Dr. Randall Geiger

Client: Dr. Randall Geiger, EcpE

Members (roles):

Sean Santella (Leader)

Jaehyuk Han (Webmaster)

Hayle Olson (Communication Leader)

David Ackerman (Key Concept Holder)

Weekly Summary:

We held both team and advisor meetings this week. We were able to finally destroy our first device and started to develop a few ideas as to why we are having trouble stressing devices. We also placed an order for some insulating varnish which may help solve our issues.

Meeting Notes:

Team Meeting (Feb. 23rd at 2PM in Coover 3014)

Duration: 1 Hour

Members Present: Sean Santella, Jaehyuk Han, Hayle Olson, David Ackerman

Notes: During this team meeting we continued to try to find a stressing condition for our DUTs. We were able to destroy our first DUT by connecting the electric fencer directly to the DUT. Our capacitor seemed to be short-circuiting we believe because the leads are too close together.

Advisor Meeting (Feb. 25th at 1PM in Coover 1219)

Duration: 1 Hour

Members Present: Dr. Geiger, Sean Santella, Jaehyuk Han, Hayle Olson, David Ackerman

Notes: During this advisor meeting we were able to discuss with Dr. Geiger the issues we've been having with the capacitor short-circuiting. He suggested that we purchase some type of liquid or varnish to insulate the leads. It was also suggested that we look into using tri-state buffers to switch the modes of our DUTs while in the burn-in oven.

Weekly Accomplishments:

- Destroyed our first DUT
- Placed an order for some insulating varnish

Plans for Next Week:

- Start developing a new PCB design for our burn-in boards.
- Find a stressing condition that will destroy 50% of our devices.
- Find burn-in temperature.

Pending Issues:

- None

Individual Contributions:

Sean Santella: Attended both team and advisor meetings, researched and placed an order for insulating varnish.

Jaehyuk Han: Attended both team and advisor meetings.

Hayle Olson: Attended both team and advisor meetings, and wrote weekly report.

David Ackerman: Attended both team and advisor meetings, and tinkered with the stress PCB.

Hourly Contributions:

<u>Member:</u>	<u>Weekly Hours:</u>	<u>Semester Hours:</u>	<u>Yearly Hours:</u>
Sean Santella	2.5	8.5	61.5
Jaehyuk Han	2.0	8.0	44.5
Hayle Olson	2.5	11.0	57.5
David Ackerman	3.0	10.5	52.5

Semester Total: 38.0 Hours

Yearly Total: 216.0 Hours