Japan Silicon Wafer TC Chapter
Meeting Summary and Minutes

Japan Summer Standards Meeting
Friday, September 18, 2015, 13:30-17:30
Meeting Room 2, SEMI Japan, Tokyo, Japan

Next TC Chapter Meeting
December 17, 2015, 09:00-17:00,
Conference Tower, Tokyo Big Sight, Tokyo, Japan

Table 1 Meeting Attendees
Co-Chairs: Naoyuki Kawai (The University of Tokyo), Tetsuya Nakai (SUMCO)
SEMI Staff: Junko Collins (SEMI Japan)

<table>
<thead>
<tr>
<th>Company</th>
<th>Last</th>
<th>First</th>
<th>Company</th>
<th>Last</th>
<th>First</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hitachi High Technologies</td>
<td>Ikota</td>
<td>Masami</td>
<td>Global Wafers Japan</td>
<td>Takeda</td>
<td>Ryuji</td>
</tr>
<tr>
<td>The University of Tokyo</td>
<td>Kawai</td>
<td>Naoyuki</td>
<td>Takenaka Consulting</td>
<td>Takenaka</td>
<td>Takao</td>
</tr>
<tr>
<td>Hitachi Kokusai Electric</td>
<td>Matsuda</td>
<td>Mitsuhiro</td>
<td>Shin’etsu-Handotai</td>
<td>Toda</td>
<td>Naohisa</td>
</tr>
<tr>
<td>Kumai Consulting</td>
<td>Kumai</td>
<td>Sadao</td>
<td>-</td>
<td>Yoshise</td>
<td>Masanori</td>
</tr>
<tr>
<td>Global Wafers Japan</td>
<td>Takamori</td>
<td>Yasutoshi</td>
<td>HST Vision</td>
<td>Sasaki</td>
<td>Kunihiko</td>
</tr>
<tr>
<td>Global Wafers Japan</td>
<td>Iizunome</td>
<td>Koji</td>
<td>Miraial</td>
<td>Nagashima</td>
<td>Tsuyoshi</td>
</tr>
<tr>
<td>SUMCO</td>
<td>Nakai</td>
<td>Tetsuya</td>
<td>SEMI Japan</td>
<td>Collins</td>
<td>Junko</td>
</tr>
</tbody>
</table>

Table 2 Leadership Changes
International Polished Wafer Task Force
H. Iizunome stepped down and Y. Takamori newly appointed as leader.

Table 3 Ballot Results
Passed ballots and line items will be forwarded to the ISC Audit & Review Subcommittee for procedural review.
Failed ballots and line items were returned to the originating task forces for re-work and re-balloting.

<table>
<thead>
<tr>
<th>Document #</th>
<th>Document Title</th>
<th>Committee Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>5877</td>
<td>Revision to SEMI M80-0514, Mechanical Specification for Front-Opening Shipping</td>
<td>Passed as balloted, super clean</td>
</tr>
<tr>
<td></td>
<td>Box Used to Transport and Ship 450 mm Wafers with title change to: Specification for</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Guide for measuring bulk micro defect density and denuded zone width in annealed silicon wafers.</td>
<td></td>
</tr>
</tbody>
</table>

Table 4 Authorized Ballots

<table>
<thead>
<tr>
<th>Document #</th>
<th>When</th>
<th>SC/TF/WG</th>
<th>Details</th>
</tr>
</thead>
</table>
### Table 5 Authorized Activities

<table>
<thead>
<tr>
<th>Document #</th>
<th>Type</th>
<th>SC/TF/WG</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>5770</td>
<td>SNARF</td>
<td>International Test Method TF</td>
<td>Test Methods for Bulk micro defect density and demounded zone width in annealed silicon wafers. Guide for measuring bulk micro defect density and demounded zone width in annealed silicon wafers. Note: 2 weeks Global TC members' review process was done before this meeting.</td>
</tr>
</tbody>
</table>

Note: SNARFs and TFOFs are available for review on the SEMI Web site at: http://downloads.semi.org/web/wstdsbal.nsf/TFOFSNARF

### Table 6 New Action Items

<table>
<thead>
<tr>
<th>Item #</th>
<th>Assigned to</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>SiW150918-01</td>
<td>Test Method TF</td>
<td>Submit 5770 to Cycle 8</td>
</tr>
<tr>
<td>SiW150918-02</td>
<td>J. Collins</td>
<td>2 weeks Global TC members' review process for 5774</td>
</tr>
<tr>
<td>SiW150918-03</td>
<td>J. Collins</td>
<td>Review the organization chart and fix incorrect expression of task force name and leaders</td>
</tr>
<tr>
<td>SiW150612-03</td>
<td>Staff</td>
<td>To contact to Watanabe-san about leadership position of International 450mm Wafer TF</td>
</tr>
</tbody>
</table>

### Action Items from Previous meetings

<table>
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<tr>
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<tbody>
<tr>
<td>SiW150306-01</td>
<td>Junko Collins</td>
<td>1 To forward the modified charter in Agenda 5.1 to GCS for getting approval (including ISC approval) → done</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 To change the charter on the website. → open</td>
</tr>
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<td>SiW150306-01</td>
<td>Junko Collins</td>
<td>1 To forward the modified charter in Agenda 5.1 to GCS for getting approval (including ISC approval)</td>
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<tr>
<td>SiW150306-05</td>
<td>Naoyuki Kawai Tetsuya Nakai</td>
<td>To discuss with related members on merging International 450mm Task Force into International Polished Wafer Task Force in the GCS face to face meeting during SEMICON West 2015.</td>
</tr>
</tbody>
</table>
1 Welcome, Reminders, and Introductions

Naoyuki Kawai, committee co-chair, called the meeting to order at 13:30. Self-introductions were made followed by the agenda review.

2 Required Meeting Elements

The meeting reminders on program membership requirement, antitrust issues, intellectual property issues and international effective meeting guidelines, were reviewed by Naoyuki Kawai.

Attachment: 2.0_Required_Elements_Reg_20140926_E+J

3 Review of Previous Meeting Minutes

The committee reviewed the minutes of the previous meeting held on March 6, 2015.

Motion: To approve the minutes of the previous meeting as submitted.

By / 2nd: Tetsuya Nakai (SUMCO) / Masanori Yoshise (self)

Discussion: None

Vote: 11 in favor and 0 opposed. Motion passed.

Attachment: None

4 SEMI Staff Report

Junko Collins gave the SEMI staff report. This report included Global SEMI Events, Global Standards Meetings Schedule, Ballot Critical Dates, Publication Update, A&R Ballot Review and Contact Information. J. Collins gave quick report about JRSC Annual planning meeting held on Aug.31, the following speakers gave presentation with respect to Insutrie 4.0. One more highlight is establishing Japan TC Chapter of Global 3DS-IC Technical Committee. Kick off meeting was held on September 7.

Attachment:
5 Liaison Reports

5.1 Japan Regional Standards Committee (JRSC)
Some high light were included in the staff report and no other special report from the last JRSC meeting.

Action Items: None

5.2 Global Coordinating Subcommittee (GCS)
Tetsuya Nakai reported for the Global Coordinating Subcommittee (GCS).
The draft of Global Charter was approved at the TC chapter meeting during SEMICON West. The draft will be officially approved by the GCS after approval by Japan and Europe Chapter.

Motion to approve the draft endorsed by NA TC Chapter by T. Nakai and seconded by M. Yoshise.
10 in favor and 0 opposed. Motion passed.

5.3 North America Silicon Wafer TC Chapter
T. Nakai reported for the North America Silicon Wafer Committee.

- NA 450mm Wafer Task Force was disbanded.

Organization chart should be reviewed by staff for fixing how to show international task force and local task force.

Attachment: NA Si Wafer Liaison Report 20150811

5.4 Europe Silicon Wafer Committee
T. Nakai reported for the North America Silicon Wafer Committee.

Attachment: 150914_Europe_SW_LiaisonReport

5.5 JEITA Report
Naoyuki Kawai reported JEITA activities. Of note:

- Some of JEITA activities will be transferred to JSNM (Japan Society of Newer Metals).
- SEMI will collaborate to globalize their standards if it is requested.

Attachment: None

6 Ballot Review

6.1 5877: Revision to SEMI M80-0514, Mechanical Specification for Front-Opening Shipping Box Used to Transport and Ship 450 mm Wafers with title change to: Specification for Front-Opening Shipping Box Used to Transport and Ship 450 mm Wafers

Motion: This Document passed TC Chapter review as balloted and will be forwarded to the ISC A&R SC for procedural

By / 2nd: T. Nagashima (Miraial) / S. Kumai (Kumai Consulting)

Discussion: None

Vote: 10 in favor and 0 opposed. Motion passed.

Attachment: 5877_Ballot report on Sep. 18_R0.1
7.1 **International Advanced Wafer Geometry Task Force / Japan AWG Task Force**
Masanori Yoshise reported for the International Advanced Wafer Geometry Task Force / the Japan AWG Task Force. Please see the attachment for details.

**Attachment:**

7.2 **International Polished Wafer Task Force / International 450mm Wafer Task Force**
Naoyuki Kawai reported for the International Polished Wafer Task Force / International 450mm Wafer Task Force. Of note:

- 450mm wafer specification is originally in scope of Polished Wafer Task Force. NA 450mm Wafer Task force was disbanded due to loose leaders. According with these matters, this task force should be disbanded.
- Motion to disband the 450mm Wafer Task Force by T. Takenaka and seconded by R. Takeda.
- 10 in favor and 0 opposed. Motion passed.

**Attachment:** None

7.3 **International Epitaxial Wafers Task Force**
There was no meeting and no particular report. However, N. Toda will check the ballot schedule of Doc. 5911.

**Attachment:** None

7.4 **International Annealed Wafers Task Force**
No report was provided by the Task Force.

**Attachment:** None

7.5 **International SOI Wafers Task Force**
There was no meeting and no particular report.

**Attachment:** None

7.6 **International Terminology Task Force**
There was no meeting and no particular report.

**Attachment:** None

7.7 **International Test Method Task Force / Japan Test Method Task Force**
Ryuji Takeda reported for the JA Test Method Task Force.

- Revision to the SNARF 5770: Test Methods for Bulk micro defect density and denuded zone width in annealed silicon wafers.
  - Title change to Guide from Test Method.
  - Copyright approval was got from JEITA.
  - Motion to revise the SNARF by R. Takeda and seconded by T. Takenaka
  - 10 in favor and 0 opposed. Motion passed.
- Ballot submission of 5770
  - Motion to cycle 8 by R. Takeda and seconded by T. Takenaka
  - 10 in favor and 0 opposed. Motion passed
- Revision to the SNARF 5774: Guide for Sample Preparation Methods for Minority Carrier Diffusion Length Measurements in Silicon Wafers by Surface Photovoltage Methods
• Title Change to Guide form Test Method.
• Need two week review will be conducted after this meeting
• Task Force plans to submit the ballot in Feb. 2016 for TC Chapter ballot review at the meeting in conjunction with SEMICON West 2016.

• New Business
  □ SANRF of TEST METHOD FOR RECOMBINATION LIFETIME OF THE EPILAYER OF THE SILICON EPITAXIAL WAFER (p/p+, n/n+) BY THE SHORT WAVELENGTH EXCITATION MICROWAVE PHOTOCURRENT DECAY METHOD
  □ Two week review was done before this meeting
  □ Motion to approve this new SANRF by R. Takeda and seconded by T. Takenaka
  □ 10 in favor and 0 opposed. Motion passed

• Attachment: 20150805JEITA 規格移管まとめ(竹田記入)
  Japan Test Method TF progress 2015 September
  Meeting Minutes of Japan Test Method TF on Sep 11th 2015_v0

7.8 International Advanced Surface Inspection Task Force
Masami Ikota reported for the International Advanced Surface Inspection Task Force.
  □ Leader of task force in Japan is Masami Ikota was confirmed within the task force.
  □ See the details in the attachment.

• Attachment: IAASITF_NA_Liaison Report_10Sep15
  Intl AASI TF Agenda Oct_06_Dresden_v1

7.9 International 450mm Shipping Box Task Force / JA Shipping Box Task Force
Tsuyoshi Nagashima reported for the International 450mm Shipping Box Task Force / JA Shipping Box Task Force. Of note:
  □ SEMI Draft Document 5877: REVISION to SEMI M80-0514, MECHANICAL SPECIFICATION FOR FRONT-OPENING SHIPPING BOX USED TO TRANSPORT AND SHIP 450 mm WAFERS with Title Change to Specification for Front-Opening Shipping Box used to Transport and Ship 450mm Wafers
  □ Ballot was approved today at this meeting.
  □ See the attachment with respect to other activities. Of note;
  □ Japan Task Force will propose the draft of Wafer Shipping System Discussion was made at the meeting on March 31 during NA Spring meeting and the task force concluded to wait to submit Shipping System document (Doc. 5069B).

• Attachment: 450mm SB-TF_Report_150918

7.10 Fiducial Mark Interoperability Task Force
Mitsuhiro Matsuda reported for the Fiducial Mark Interoperability Task Force. See the details in the attachment.

• Attachment: 20150911FMI-TF-Report_r1
7.11 TC Chapter Project

The following items are reviewed at the meeting.

- 3-year Project Period
- Consideration of 5-year review
- Procedures for Correcting Nonconforming Titles of Published Standards Documents
8 Old Business

8.1 Previous Meeting Action Items

Junko Collins reviewed the previous meeting action items.

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<td></td>
<td>2 To change the charter on the website. → open</td>
<td>open</td>
</tr>
<tr>
<td>SiW150612-02</td>
<td>Kawai-san, Nakai-san</td>
<td>1 To ask Izunome-san about leadership for Polished Wafer Task Force</td>
<td>done</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 To advise TF to choose new leader if Izunome-san can’t continue</td>
<td>done</td>
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<td>Staff</td>
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<td>open (on going)</td>
</tr>
<tr>
<td>SiW141203-04</td>
<td>International 450mm Wafer Task Force</td>
<td>To submit Doc. #5794, New Standard: Specification for Developmental 450 mm Diameter Polished Single Crystal Notchless Silicon Wafers with Back Surface Fiducial Marks for Cycle 3 or 4.</td>
<td>open (NA)</td>
</tr>
</tbody>
</table>

9 New Business

None

10 Action Item Review

10.1 New Action Items

Junko Collins reviewed the new action items. These can be found in the New Action Items table at the beginning of these minutes.

11 Next Meeting and Adjournment

The next meeting of the Japan Chapter of Global Silicon Wafer Technical Committee is scheduled for December 17, 2015, 09:00-17:00, Tokyo Big Sight, Tokyo Japan

Having no further business, a motion was made to adjourn the Japan Chapter of Global Silicon Wafer Technical Committee meeting on September 18 in conjunction with the Japan Standards Fall Meetings. Adjournment was at 17:30.
Minutes respectfully submitted by:
Junko Collins
Director, Standards & EHS
SEMI Japan
jcollins@semi.org

Minutes approved by:

<table>
<thead>
<tr>
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</tbody>
</table>

#1 Due to file size and delivery issues, attachments must be downloaded separately. A .zip file containing all attachments for these minutes is available at www.semi.org. For additional information or to obtain individual attachments, please contact Junko Collins at the contact information above.