# Silicon Wafer Japan TC Chapter

# Meeting Summary and Minutes

Japan Summer

July 30, 14:00 – 17:00

SEMI Japan Office, Chiyoda, Tokyo

**TC Chapter Announcements**

*Next TC Chapter Meeting*

October 2, 2018, 13:00 – 15:00

SEMI Japan Office, Chiyoda, Tokyo

**Table 1 Meeting Attendees**

*Italics* indicate virtual participants

**Co-Chairs:** Naoyuki Kawai (Meiji University), Tetsuya Nakai (SUMCO)
**SEMI Staff:** Junko Collins

| *Company* | *Last* | *First* | *Company* | *Last* | *First* |
|---|---|---|---|---|---|
| Meiji University | Kawai | Naoyuki | SUMCO | Nakai | Tetsuya |
| Tokyo Electron | Mashiro | Supika | Kokusai Electric | Matsuda | Mitsuhiro |
| Wafer Information Servie | Yoshise | Masanori | ShinEtsu Handotai | Toda | Naohisa |
| Global Wafers Japan | Takeda | Ryuji | Consultant | Kumai | Sadao |
| Hitachi High Technologies | Ikota | Masami | Global Wafers Japan | Araki | Koji |
| Raytex Optima | Akiyama | Satoshi | | | |

**Table 2 Leadership Changes: none**

| *WG/TF/SC/TC Name* | *Previous Leader* | *New Leader* |
|---|---|---|
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**Table 3 Committee Structure Changes: None**

| *Previous WG/TF/SC Name* | *New WG/TF/SC Name or Status Change* |
|---|---|
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**Table 3 Committee Structure Changes: None**

| *Previous WG/TF/SC Name* | *New WG/TF/SC Name or Status Change* |
|---|---|
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**Table 4 Ballot Results: None**

| *Document #* | *Document Title* | *Committee Action* |
|---|---|---|
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#1 **Passed** ballots and line items will be submitted to the ISC Audit & Review Subcommittee for procedural review.

#2 **Failed** ballots and line items were returned to the originating task forces for re-work and re-balloting or abandoning.

**Table 5 Activities Approved by the GCS between meetings of the TC Chapter: None**

| *#* | *Type* | *SC/TF/WG* | *Details* |
|---|---|---|---|
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**Table 6 Authorized Activities: None**

Listing of all revised or new SNARF(s) approved by the Originating TC Chapter.

| *#* | *Type* | *SC/TF/WG* | *Details* |
|---|---|---|---|
| | | | |
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#1 SNARFs and TFOFs are available for review on the SEMI Web site at:
http://downloads.semi.org/web/wstdsbal.nsf/TFOFSNARF

**Table 7 Authorized Ballots: None**

| *#* | *When* | *TF* | *Details* |
|---|---|---|---|
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**Table 8 SNARF(s) Granted a One-Year Extension: None**

| *#* | *TF* | *Title* | *Expiration Date* |
|---|---|---|---|
| | | | |

**Table 8 SNARF(s) Granted a One-Year Extension: None**

| *#* | *TF* | *Title* | *Expiration Date* |
|---|---|---|---|
| | | | |
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**Table 9 SNARF(s) Abolished**

| *#* | *TF* | *Title* |
|---|---|---|
| 5770 | Japan Test Method Task Force | New Standard: Guide For Measuring Bulk Micro Defect Density and Denuded Zone Width in Annealed Silicon Wafers |
| 6087 | Japan Test Method Task Force | Test method for nitrogen content in silicon by charged particle activation analysis |
| | | |

**Table 10 Standard(s) to receive Inactive Status: None**

| *Standard Designation* | *Title* |
|---|---|
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**Table 11 New Action Items:**

| *Item #* | *Assigned to* | *Details* |
|---|---|---|
| SiW180730-01 | J. Collins | To correct portion pointed out. |
| SiW180730-02 | R. Takeda | To find out documents that JSNM wants to access, and to coordinate with SEMI staff |
| SiW180730-03 | Test Method Task Force | To set up the technical presentation session regarding this topic at their task force meeting in conjunction with SEMICON Japan 2018 period |
| | | |

**Table 12 Previous Meeting Action Items:**

| *Item #* | *Assigned to* | *Details* |
|---|---|---|
| SiW180420-01 | M. Yoshise | To submit Items Revision to SEMI M1-1117. Add Bow 3Point to Shape Decision Tree and add Illustrations of Shape Parameters to Cycle 5 → Closed |
| SiW180420-02 | Staff/ M. Yoshise | To submit Reapproval of SEMI MF1451-0707 (Reapproved 0512) - Test Method for Measuring Sori on Silicon Wafers by Automated Noncontact Scanning → Closed |
| SiW180420-03 | Staff/N. Toda | To submit Reapproval of SEMI M61-0612 SPECIFICATION FOR SILICON EPITAXIAL WAFERS WITH BURIED LAYERS → Closed |
| SiW180420-04 | R. Takeda | To submit 5774A: NEW STANDARD: Practice for Sample Preparation Methods for Measuring Minority Carrier Diffusion Length in Silicon Wafers by Surface Photovoltage Methods → Closed |
| SiW180420-05 | Staff | To conduct two-week SNARF review by GTC members and GCS and conduct GCS approval for submission for Revision to M56 → Closed |

## 1 Welcome, Reminders, and Introductions

Naoyuki Kawai called the meeting to order at 14:00. Attendees introduced themselves. The meeting reminders on antitrust issues, intellectual property issues and holding meetings with international attendance were reviewed.

**Attachment**: 01.00_Required_Elements_Reg_20150327_E+J_2016NewStdTemplate,
01.00_SiW_Agenda_180730_R0.1

## 2 Review of Previous Meeting Minutes

The TC Chapter reviewed the minutes of the previous meeting.

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|---|---|
| **Motion:** | To approve the meeting minutes on April 20, 2018 |
| **By / 2nd:** | T. Nakai (SUMCO) / M. Yoshise (Wafer Information Service) |
| **Discussion:** | Need some editorial changes regarding name of participants and date of the next meeting. |
| **Vote:** | Motion passed |

**Action Item**: SiW180730-01: J. Collins to correct portion pointed out.

**Attachment**: 02.00_Si Japan TC Chapter 2018.04.20 R0.1
02.00_Si Japan TC Chapter 2018.04.20 R1.0,

## 3 Liaison Reports

### *3.1 GCS*

T. Nakai (SUMCO) reported.

- International Terminology Task Force will be disbanded and M59: Terminology for Silicon Technology will be inactive. If it is necessary, new terminologies will be added to the document.
- Regarding request to share workload of 5-year review, this issue will be discussed at the next GCS meeting (SEMICON Europa 2018 or SEMICON Japan 2018) based on the list Kevin provides.

### 3.2 *Silicon Wafer North America TC Chapter*

T. Nakai (SUMCO) reported for the Silicon Wafer NA TC Chapter. See attachment for details.

**Action Item**: None,

**Attachment**: NA Silicon Wafer TC Liaison Report July 2018 v1,

### 3.3 *Silicon Wafer Europe TC Chapter*

No report for the Silicon Wafer Europe TC Chapter.

**Action Item**: None,

**Attachment**: None,

### 3.4 *JSNM / M4S (Material Standards Study Group for Semiconductor Supply Chain) Report*

M. Yoshise (Wafer Information Service) reported. Of note:

JSNM aims at international standardization (ISO) of the evaluation technology of silicon crystals for power semiconductors.

**Action Item:** None,

**Attachment:** None,

3.5 *SEMI Staff Report*

J. Collins (SEMI) gave the SEMI Staff Report. See the attachment for details

**Action Item:** none,

**Attachment:** SEMI Staff Report 20180718_v1.1(Si),

## 4 Ballot Review

NOTE 1: TC Chapter adjudication on ballots reviewed is detailed in the Audits & Review (A&R) Subcommittee Forms for procedural review. The A&R forms are available as attachments to these minutes. The attachment number for each balloted document is provided under each ballot review section below.

There is no ballot review.

## 5 Subcommittee and Task Force Reports

5.1 *International 450mm Shipping Box Task Force / JA Shipping Box Task Force*

No report from the task force this time.

**Action Item:** none,

**Attachment:** none,

5.2 *International Advanced Wafer Geometry Task Force/Japan Advanced Wafer Geometry Task Force*

M. Yoshise (Wafer Information Service) reported for the International Advanced Wafer Geometry Task Force. See details in the attachment.

**Action Item:** none,

**Attachment:** AWG_Report 2018.07.30,

5.3 *International Polished Wafers Task Force*

No report from the task force this time.

**Action Item:** none,

**Attachment:** none,

*5.4 International Epitaxial Wafers Task Force*

N. Toda (ShinEtsu Handotai) reported for the International Epitaxial Wafers Task Force. Of note;

Doc. 6397, Reapproval of SEMI M61-0612 SPECIFICATION FOR SILICON EPITAXIAL WAFERS WITH BURIED LAYERS was balloted and was approved at the NA TC Chapter meeting

**Action Item:** none,

**Attachment:** none,

*5.5 International Annealed Wafers Task Force*

There is no special report since there is no current activity.

**Action Item:** None,

**Attachment:** None,

*5.6 International SOI Wafers Task Force*

No special report since there is no current activity.

**Action Item:** none,

**Attachment:** none,

*5.7 International Terminology Task Force*

No special report, except the topics addressed at GCS Report.

**Action Item:** none,

**Attachment:** none,

*5.8 International Test Methods Task Force / Japan Test Method Task Force*

R. Takeda (Global Wafers Japan) reported. Of note;

Withdrawal of the following three documents was discussed at the task force meeting and proposed withdrawal of SNARF 5770 and SNARF 6087 to the TC Chapter.

Withdrawal of SNARF 5770: New Standard: Guide For Measuring Bulk Micro Defect Density and Denuded Zone Width in Annealed Silicon Wafers

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|---|---|
| **Motion:** | To withdraw SNARF 5770 New Standard: Guide For Measuring Bulk Micro Defect Density and Denuded Zone Width in Annealed Silicon Wafers since this SNARF should be divided to two new SNARF. |
| **By / 2nd:** | R. Takeda (Global Wafers Japan) / T. Nakai (SUMCO) |
| **Discussion:** | none |
| **Vote:** | 10/1 Motion passed |

Withdrawal of SNARF 6089: Test method for nitrogen content in silicon by charged particle activation analysis

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|---|---|
| **Motion:** | To withdraw SNARF 6089: Test method for nitrogen content in silicon by charged particle activation analysis since technology covered by this SNARF is not suitable for standardization. |
| **By / 2nd:** | R. Takeda (Global Wafers Japan) / T. Nakai (SUMCO) |
| **Discussion:** | This activity will be abolished. |
| **Vote:** | 10/1 Motion passed |

See the attachment for more activities.

**Action Item:** none,

**Attachment:** 05.10_Test Method TF Meeting Minutes_2018.7.7,

*5.9 International Advanced Surface Inspection Task Force*

M. Ikota reported. See the attachment for details

**Action Item:** none,

**Attachment:** 05.09_IAASI_West_09Jul2018,

IAASI_West_09Jul2018

## 6 Old Business

6.1 *Previous Action Items*

All previous action items are closed. See Table 12 Previous Meeting Action Items.

**Action Item:** None,

**Attachment:** None,

6.2 3-year Project Period

As reported in the Staff Report, there is no SNARF to be considered.

6.3 Consideration of 5-year Review

As reported in the Staff Report, there is no SNARF to be considered.

## 7 New Business

7.1 *Cooperation to international standardization (ISO) on evaluation technology of silicon crystals for power semiconductors, which JSNM is working on.*

Ryuji Takeda addressed the committee on this topic. In development of their standards drafts, checking the contents of SEMI Standards Documents is needed. For that reason, JSNM asked about the possibility of access to related SEMI Standards Documents.

Japan TC Chapter understood their request.

**Action Item:** SiW180730-02, R. Takeda to find out documents that JSNM wants to access, and to coordinate with SEMI staff

**Attachment:** None,

*7.2 Presentation opportunity regarding FTIP discussion in JSNM*

T. Nakai (SUMCO) addressed the committee on this topic. For better understanding FTIR discussion in JSNM, One of European standard members asked him to have an opportunity to hear some presentation regarding this FTIR discussion, during SEMICON Japan 2018 period.

**Action Item:** SiW180730-03, Test Method Task Force to set up the technical presentation session regarding this topic at their task force meeting in conjunction with SEMICON Japan 2018 period

**Attachment:** None,

## 8 Next Meeting and Adjournment

The next meeting is scheduled for October 2 at SEMI Japan Office. See http://www.semi.org/standards-events for the current list of events.

Adjournment: 17:00.

Respectfully submitted by:

Junko Collins

Standards & EHS

SEMI Japan

Phone: 81.3.3222.5819

Email: jcollins@semi.org

Minutes tentatively approved by:

| | |
|---|---|
| <Name> (<Company>), Co-chair | <Date approved> |
| <Name> (<Company>), Co-chair | <Date approved> |

**Table 13 Index of Available Attachments[#1]**

| *Title* | *Title* |
|---|---|
| 01.00_Required_Elements_Reg_20150327_E+J_2016NewStd Template | 02.00_Si Japan TC Chapter 2018.04.20 R0.1 |
| 02.00_Si Japan TC Chapter 2018.04.20 R1.0 | 03.00_SEMI Staff Report 20180718_v1.1(Si) |
| 05.02_AWG_Report 2018.07.30 | 05.08_Test Method TF Meeting Minutes_2018.7.7 |
| 05.09_IAASI_West_09Jul2018 | 01.00_SiW_Agenda_180730_R0.1 |

#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 [SEMI Staff Name] at the contact information above.