# Silicon Wafer Japan TC Chapter

# Meeting Summary and Minutes

Japan Standards Spring Meetings 2025
Friday, April 18, 2025 2:00 PM – 4:00 PM JST
SEMI Japan, Tokyo, Japan/ Official Virtual TC Chapter Meeting (Hybrid)

## TC Chapter Announcements

*Next TC Chapter Meeting*

Friday, August 29, 2025 2:00 PM – 4:00 PM JST
SEMI Japan Office, Tokyo, Japan/ Official Virtual TC Chapter Meeting (Hybrid)

### Table 1 Meeting Attendees

*Italic* indicates virtual participants

**Co-Chairs:** Tetsuya Nakai (SUMCO), Ryuji Takeda (GlobalWafers Japan)
**SEMI Staff:** Akiko Yoshida (SEMI Japan)

| *Company* | *Last* | *First* | *Company* | *Last* | *First* |
|---|---|---|---|---|---|
| *GlobalWafers Japan* | *Okano* | *Hirofumi* | Shin-Etsu Handotai | Hagimoto | Kazunori |
| GlobalWafers Japan | Takeda | Ryuji | *Shin-Etsu Handotai* | *Kobayashi* | *Takeshi* |
| *KOKUSAI ELECTRIC* | *Matsuda* | *Mitsuhiro* | *SUMCO* | *Iwanaga* | *Kazuhisa* |
| SELF | Kawai | Naoyuki | SUMCO | Nakai | Tetsuya |
| *SELF* | *Yoshise* | *Masanori* | SEMI Japan | Koga | Nahoko |
|  |  |  | SEMI Japan | Yoshida | Akiko |

### Table 2 Leadership Changes

| *WG/TF/SC/TC Name* | *Previous Leader* | *New Leader* |
|---|---|---|
| International Epitaxial Wafers TF | Hitoshi Tsunoda | Takeshi Kobayashi |

### Table 3 TC Chapter Structure Changes

| *Previous WG/TF/SC Name* | *New WG/TF/SC Name or Status Change* |
|---|---|
| None |  |

### Table 4 Ballot Results

| *Document #* | *Document Title* | *Committee Action* |
|---|---|---|
| 7318 | New Standard: Test Method for Net Carrier Density And Resistivity Of Silicon Epitaxial Layer By Capacitance-Voltage Measurements With An Evaporated Metal Schottky Diode | **Passed** with editorial changes |

#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 Ratification Ballot Results

| *Document #* | *Document Title* | *ISC A&R Action* | *A&R Forms* |
|---|---|---|---|
| None | | | |

Note 1: **Passed** Ratification ballots will be submitted to SEMI publication for final processing.

Note 2: **Failed** Ratification ballots were returned to the originating task forces for re-work and re-balloting or abandoning.

### Table 6 Activities Approved by the GCS between meetings of the TC Chapter

| *#* | *Type* | *SC/TF/WG* | *Details* |
|---|---|---|---|
| 7318 | Ballot Adjudication at Japan TC Chapter meeting in April | Int'l Test Method TF | New Standard: Test Method for Net Carrier Density And Resistivity Of Silicon Epitaxial Layer By Capacitance-Voltage Measurements With An Evaporated Metal Schottky Diode<br>To be adjudicated at Japan TC Chapter meeting on April 18, 2025.<br>– ***Approved by GCS on 2024/12/27*** |

### Table 7 Authorized Activities

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

| *#* | *Type* | *SC/TF/WG* | *Details* |
|---|---|---|---|
| None | | | |

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

### Table 8 Authorized Ballots

| *#* | *When* | *TF* | *Details* |
|---|---|---|---|
| None | | | |

### Table 9 SNARF(s) Granted a One-Year Extension

| *#* | *TF* | *Title* | *Expiration Date* |
|---|---|---|---|
| None | | | |

### Table 10 SNARF(s) Abolished

| *#* | *TF* | *Title* |
|---|---|---|
| None | | |

### Table 11 Standard(s) to receive Inactive Status

| *Standard Designation* | *Title* |
|---|---|
| None | |

### Table 12 New Action Items

| *Item #* | *Assigned to* | *Details* |
|---|---|---|
| SW20250418-01 | SEMI Staff | To forward the ballot review result of Doc.#7318 to the ISC A&R SC for procedural review. |

**Table 13 Previous Meeting Action Items**

| *Item #* | *Assigned to* | *Details* |
|---|---|---|
| SW20240829-01 | SEMI Staff | To have a training session of Connect@SEMI for TF leaders. →Open |
| SW20241212-01 | SEMI Staff | To seek approval from Silicon Wafer GCS members for authorizing<br>Doc. 7318 New Standard: Test Method for Net Carrier Density And Resistivity Of Silicon Epitaxial Layer By Capacitance-Voltage Measurements With An Evaporated Metal Schottky Diode<br>for ballot adjudication at Japan Meeting in April 2025. →Closed. |

## 1 Welcome, Reminders, and Introductions

Ryuji Takeda (GlobalWafers Japan), called the meeting to order at 2:00 PM JST. The meeting reminders on antitrust issues, intellectual property issues and holding meetings with international attendance were reviewed. Attendees introduced themselves.

**Attachment**: 1_Required Meeting Elements March 2024_J

## 2 Review of Previous Meeting Minutes

The TC Chapter reviewed the minutes of the previous meeting.

| | |
|---|---|
| **Motion:** | Approve the minutes as written. |
| **By / 2nd:** | Tetsuya Nakai (SUMCO)/ Naoyuki Kawai (Self) |
| **Discussion:** | None. |
| **Vote:** | Result: 4-Y 0-N. **Motion Passed.** |

**Attachment**: 2_SW JA TC Minutes_20241212_R2

## 3 Liaison Report

### 3.1 *Japan Regional Standards Committee (JRSC)*

Ryuji Takeda (GlobalWafers Japan) reported for the JRSC that the meeting was held on Thursday, April 17. Topics that are relevant to the Silicon Wafer Japan TC Chapter were:

- The ISC Regulations SC recommended to postpone enforcement of implementation of use of Connect@SEMI by all the TFs until next Regs/ PM revision (which is currently aimed to become effective by NA Summer meeting in June).
- The Planning Meeting will be held on Thursday, August 28, inviting all the TF leaders as well as TC co-chairs to deepen knowledge related to standardization. More details will be provided as soon as they are finalized.

### 3.2 *Global Coordinating Subcommittee (GCS)*

Tetsuya Nakai (SUMCO) reported that the GCS authorized Doc.#7318 for review at Silicon Wafer Japan TC Chapter meeting on April 18.

### 3.3 *Silicon Wafer Europe TC Chapter*

Tetsuya Nakai (SUMCO) reported that there had been no updates from the previous meeting.

**Attachment:** 3_EU SiW Liaison Report November 2024

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

Tetsuya Nakai (SUMCO) reported for the Silicon Wafer North America TC Chapter. Of notes:

- The last meeting was held on February 25, 2025 at SEMI HQ and the next meeting will held on June 3, 2025 at SEMI HQ.
- The Int'l Advanced Wafer Geometry TF is developing Doc.#6983A, Revision of SEMI M49-0918 With Title Change To: Guide for Specifying Geometry Measurement Systems for Silicon Wafers for the 130 nm to 3 nm Technology Generations.
- 21 wafer round-robin is expected to complete by the AFM WG under the Int'l Automated Advance Surface Inspection TF before SEMICON West in October, 2025, at which time a SNARF for a new standard for AFM measurement of surface roughness on device-grade silicon wafers will be proposed.
- Doc.#7320, Revision to SEMI M1-0918, Specification for Polished Single Crystal Silicon Wafers was issued in Cycle 2-25 for review at SEMICON West in October 2025.

**Attachment:** 4_NA Si Wafer TC Chapter Liaison Report March 2025

## 4 SEMI Staff Report

Akiko Yoshida (SEMI Japan) gave the SEMI Staff Report. Of notes:

- SEMICON West 2025 will be held in Phoenix, Arizona in October. The venue of SEMICON West will alternate between Phoenix and San Francisco every October thereafter.
- By Feb 2025, all Standards Task Forces shall use Connect@SEMI to host documents that are currently in development. However, the ISC Regulations SC recommended to postpone enforcement of implementation until next Regs/ PM revision (which is currently aimed to become effective by NA Summer meeting in June). The Regs SC is working with SEMI to update both Connect@SEMI and rules so that they are aligned each other.

**Attachment:** 5_Staff Report Feb 2025 v2_ay

## 5 Ballot Review

### 5.1 Doc.#7318, New Standard: Test Method for Net Carrier Density And Resistivity Of Silicon Epitaxial Layer By Capacitance-Voltage Measurements With An Evaporated Metal Schottky Diode

- This document passed with editorial changes. Refer to attachment for more details.

**Attachment:** 6_7318_Ballot Review

## 6 Subcommittee and Task Force Reports

### 6.1 *International Advanced Wafer Geometry Task Force*

Masanori Yoshise (Self) reported for the International Advanced Wafer Geometry TF. Of notes:

- The TF is developing Doc.#6983A, Revision of SEMI M49-0918, With Title Change To: Guide for Specifying Geometry Measurement Systems for Silicon Wafers for the 130 nm to 3 nm Technology Generations.
- The TF agreed to go with "No value on Table 3. The TF also agreed to include values according to the IRDS roadmap as Related Information. The final ballot-ready draft of Doc.#6983A will be presented at the next TF meeting in June.
- M67 and M68 are coming up for 5-year review. The TF will discuss them at the next TF meeting.

Tetsuya Nakai (SUMCO) asked whether the TF would ask the NA TC Chapter at the June meeting to authorize the letter ballot and Masanori Yoshise (Self) answered Yes. Tetsuya Nakai confirmed that the draft document should be reviewed among TF members at least one week before ballot submission.

**Attachment:** 7_AWG NA Spring 2025 minutes draftA

6.2 *International/ Japan Test Method Task Force*

Ryuji Takeda (GlobalWafers Japan) reported for the International/ Japan Test Method TF. Of notes:

- The TF reviewed the voting results of the below documents which were submitted for Cycle 2-25.
    - Doc.#7318, New Standard: Test Method for Net Carrier Density And Resistivity Of Silicon Epitaxial Layer By Capacitance-Voltage Measurements With An Evaporated Metal Schottky Diode
        - The TF recommended the Japan TC Chapter to pass this document with editorial changes (refer to 5.1 above).
    - Doc.#7319, Line Item Revision to SEMI M88-0119, PRACTICE FOR SAMPLE PREPARATION METHODS FOR MEASURING MINORITY CARRIER DIFFUSION LENGTH IN SILICON WAFERS BY SURFACE PHOTOVOLTAGE METHODS
        - The TF will recommend the NA TC Chapter to pass this document (super clean) at SEMICON West.
    - Doc.#6570B, NEW STANDARD: GUIDE FOR MEASURING BULK MICRO DEFECT DENSITY AND DENUDED ZONE WIDTH IN ANNEALED SILICON WAFERS BY A LASER SCATTERING TOMOGRAPHY TECHNIQUE
        - The TF will recommend the NA TC Chapter to fail this document at SEMICON West as the TF needs to further elaborate the document. The TF expect to submit the reballot for review at SEMICON Japan 2025 or later.
- Old Business
    - Doc.#6687, Revision of M51, Test Method For Time Zero Dielectric Breakdown Characteristics Of Amorphous Sio2 Films For Silicon Wafer Evaluation.
        - Work in progress by the GOI WG. Plan to go to ballot in April 2026.
    - Doc.#6702, Revision of M60, Test Method For Time Dependent Dielectric Breakdown Characteristics Of Amorphous Sio2 Films For Silicon Wafer Evaluation
        - Work in progress by the GOI WG. Plan to go to ballot in April 2026.
    - SEMI M85, Guide for the Measurement of Trace Metal Contamination on Silicon Wafer Surface by Inductively Coupled Plasma Mass Spectrometry.
        - Due for 5 year review. Surface Metal Chemical Analysis WG will start drafting the document and prepare SNARF from next month (May, 2025).

**Attachment:** 8_International_Japan Test Method TF meeting April 2025_R1

6.3 *International Advanced Automated Surface Inspection Task Force*

Nothing was shared.

6.4 *International Polished Wafers Task Force*

Hirofumi Okano (GlobalWafers Japan) reported for the International Polished Wafers TF. Of notes:

- The TF reviewed the voting result of Doc.#7320, Revision to SEMI M1-0924, SPECIFICATION FOR POLISHED SINGLE, which was submitted for Cycle 2-25.
- The voting result will be adjudicated at SEMICON West.

### 6.5 *International Epitaxial Wafers Task Force*

Takeshi Kobayashi (Shin-Etsu Handotai) reported for the International Epitaxial Wafers TF that there have been no activities in the TF. He also reported that Hitoshi Tsunoda (Shin-Etsu Handotai) would step down from the TF leadership due to changes in his work, and Takeshi Kobayashi would be a TF co-leader instead.

| | |
|---|---|
| **Motion:** | Approve Hitoshi Tsunoda (Shin-Etsu Handotai) to step down from the leadership position of the Int'l Epi Wafers TF and Takeshi Kobayashi (Shin-Etsu Handotai) to become a co-leader of the TF. |
| **By / 2nd:** | Naoyuki Kawai (Self)/ Tetsuya Nakai (SUMCO) |
| **Discussion:** | None. |
| **Vote:** | Result: 6-Y 0-N. **Motion Passed.** |

### 6.6 *International Annealed Wafers Task Force*

Although the activities are ongoing, no report was provided.

### 6.7 *International SOI Wafers Task Force*

Nakai-san (SUMCO) reported for the International SOI TF. Of notes:

- The TF didn't meet in NA Winter meetings.
- The next TF meeting will be held in June at NA Summer meetings.

### 6.8 *International Terminology Task Force*

Tetsuya Nakai (SUMCO) reported that there had been no activities.

## 7 Old Business

### 7.1 *Project Period Review*

No SNARF will be expiring soon.

### 7.2 *5 Year Review Check*

No document is subject for 5-year review within this year except for M85, which will be addressed by the Test Method TF.

## 8 New Business

None.

## 9 Action Item Review

### 9.1 *Open Action Item*

| *Item #* | *Assigned to* | *Details* |
|---|---|---|
| SW20240829-01 | SEMI Staff | To have a training session of Connect@SEMI for TF leaders. → Open |
| SW20241212-01 | SEMI Staff | To seek approval from Silicon Wafer GCS members for authorizing<br>Doc. 7318 New Standard: Test Method for Net Carrier Density And Resistivity Of Silicon Epitaxial Layer By Capacitance-Voltage Measurements With An Evaporated Metal Schottky Diode<br>for ballot adjudication at Japan Meeting in April 2025. →Closed |

9.2 *New Action Item*

| *Item #* | *Assigned to* | *Details* |
|---|---|---|
| SW20250418-01 | SEMI Staff | To forward the ballot review result of Doc.#7318 to the ISC A&R SC for procedural review. |

## 10 Next Meeting and Adjournment

The next meeting is scheduled for Friday, August 29, 2025 2:00 PM – 4:00 PM JST at SEMI Japan office and via Official Virtual TC Chapter Meeting (Hybrid). Refer to http://www.semi.org/standards for the current list of events.

Adjournment: 4:00 PM

Respectfully submitted by:

Akiko Yoshida
Sr. Coordinator
SEMI Japan
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Email: ayoshida@semi.org

Minutes tentatively approved by:

| | |
|---|---|
| Tetsuya Nakai (SUMCO), Co-chair | April 25, 2025 |
| Ryuji Takeda (GlobalWafers Japan), Co-chair | April 30, 2025 |

**Table 14 Index of Available Attachments**[#1]

| *Title* | *Title* |
|---|---|
| 1_Required Meeting Elements March 2024_J | 5_Staff Report Feb 2025 v2_ay |
| 2_SW JA TC Minutes_20241212_R2 | 6_7318_Ballot Review |
| 3_EU SiW Liaison Report November 2024 | 7_AWG NA Spring 2025 minutes draftA |
| 4_NA Si Wafer TC Chapter Liaison Report March 2025 | 8_International_Japan Test Method TF meeting April 2025_R1 |

#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 Akiko Yoshida at the contact information above.