Compound Semiconductor Materials Japan TC Chapter

Meeting Summary and Minutes

Japan Spring Meetings 2024
Tuesday, May 21, 2024 14:00 – 17:30 JST
OVTCCM/ SEMI Japan Office, Tokyo, Japan (Hybrid)

TC Chapter Announcements

Next TC Chapter Meeting

Friday, November 8, 2024 14:00-16:00 JST

OVTCCM/ SEMI Japan Office, Tokyo, Japan (Hybrid)

Table 1 Meeting Attendees

Italics indicate virtual participants

Co-Chairs: Masayoshi Obara (Shin-Etsu Handotai)
SEMI Staff: Akiko Yoshida

Company	*Last*	*First*	*Company*	*Last*	*First*
DENSO	*Yamamoto*	*Toshimasa*	*Self*	*Kitabatake*	*Makoto*
Nidek	*Kondo*	*Toshiyuki*	Shin-Etsu Handotai	Obara	Masayoshi
Resonac	*Matsuse*	*Akihiro*	*SiC Alliance*	*Toda*	*Kenji*
Scientific Visual SA	*Chèze*	*Caroline*	SEMI Japan	Kanno	Hirofumi
Self	Yoshise	Masanori	SEMI Japan	Yoshida	Akiko

Table 2 Leadership Changes

WG/TF/SC/TC Name	*Previous Leader*	*New Leader*
None		

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*
7211	Line Item Revision to SEMI M92-0423, Specification for 4H-SiC Homoepitaxial Wafer	
Line Item 1	Revise the test pattern in section 6.4.3.1	**Failed** and returned to TF for rework and reballot
Line Item 2	Revise the specification of test points coordinates in Table 2 in section 6.4.3.2	**Failed** and returned to TF for rework and reballot

Table 4 Ballot Results

Document #	*Document Title*	*Committee Action*
Line Item 3	Revise the calculation formula of Tolerance in section 6.4.3.3	**Passed** with editorial changes
Line Item 4	Revise the specification of carrier concentration of Tolerance in Table 3 in section 6.4.3.4	**Passed** as balloted
Line Item 5	Revise the specification of thickness of Tolerance in Table 4 in section 6.4.4.2	**Passed** as balloted

#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*
7211	SNARF/ Ballot Authorization	SiC Epitaxial Wafer Liaison Task Force	Line Item Revision to SEMI M92-0423, Specification for 4H-SiC Homoepitaxial Wafer - ***Approved by GCS on 02/02/2024***

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) Cancelled

#	*TF*	*Title*
None		

Table 11 Standard(s) to receive Inactive Status

Standard Designation	*Title*
None	

Table 12 New Action Items

Item #	*Assigned to*	*Details*
CSM_20240521-01	SEMI Staff	To send Doc.#7211 Line Item 3-5 adjudication results to the ISC A&R SC for procedural review.
CSM_20240521-02	CSM_20240521-01	To have an explanatory session for Connect@SEMI.

Table 13 Previous Meeting Action Items

Item #	*Assigned to*	*Details*
20220119-01	SEMI Staff	To confirm China SEMI Staff that two JA members (Masayoshi Obara and Toshimasa Yamamoto) surely are registered in China Sic Epitaxial Water TF and China Silicon Carbide Substrate TF. →Closed
20220119-02	SEMI Staff	To ask China TF leaders to contact above JA members through SEMI China Staff about Documents #6693, 6767-9. →Closed
20220119-03	Silicon Carbide Substrate Liaison TF leaders and SiC Epitaxial Wafer liaison TF leaders	To confirm the contents of Document #6693, 6767-9 and their ballot schedule and share them to the JA TF members and hold meetings as necessary. →Open

1 Welcome, Reminders, and Introductions

Masayoshi Obara (Shin-Etsu Handotai) called the meeting to order at 14:00. The meeting reminders on antitrust issues, intellectual property issues and holding meetings with international attendance were reviewed. Attendees introduced themselves.

Attachment: 01_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:	Masanori Yoshise (Self)/ Kenji Toda (SiC Alliance)
Discussion:	None.
Vote:	5-Y 0-N. Motion passed.

Attachment: 02_220119_CSM Japan Minutes

3 Liaison Reports

3.1 *Japan Regional Standards Committee (JRSC)*

Akiko Yoshida (SEMI Japan) reported for the JRSC. At the previous meeting held on April 9, the JRSC recommended that GoToMeeting, which has been used for many years as an official web conferencing system for audio and visual content for the Japan TC Chapter meetings, be replaced by Microsoft Teams due to recent connection problems.

3.2 *Global Coordinating Subcommittee (GCS)*

Akiko Yoshida (SEMI Japan) reported for the JRSC that SNARF for Line Item Revision to SEMI M92-0423, Specification for 4H-SiC Homoepitaxial Wafer was approved and ballot issuance for Cycle 3 was authorized by the GCS on February 2, 2024.

3.3 *Compound Semiconductor Materials Europe TC Chapter*

Akiko Yoshida (SEMI Japan) reported for the Compound Semiconductor Materials Europe TC Chapter. Of note:

- Doc.#7161, Line-Item Revision of SEMI M93-0923, Test Method For Quantifying Basal Plane Dislocation Density In 4H-SiC By X-Ray Diffraction Topography/Imaging passed as balloted.
- New SNARF for New standard, Specification for Silicon Carbide Engineered Substrate as well as for Line Item Revision of SEMI M54, Guide for Semi-Insulating (SI) GaAs Material Parameters were approved.

Attachment: 03_CSM EU TC Chapter April 2024

3.4 *Compound Semiconductor Materials North America TC Chapter*

Akiko Yoshida (SEMI Japan) reported for the Compound Semiconductor Materials North America TC Chapter that there had been no updates from the previous meeting.

Attachment: 04_NA CSM TC Chapter Liaison report Nov 2022 v1

3.5 *Compound Semiconductor Materials China TC Chapter*

Akiko Yoshida (SEMI Japan) reported for the Compound Semiconductor Materials China TC Chapter. Of note:

- The voting results of Doc.#6769B, New Standard: Test Method for Residual Stress of Silicon Carbide Wafers by Photoelastic were adjudicated by the China TC Chapter on April 26, but failed.
- The rest of the TC Chapter meeting will be held in June.

Attachment: 05_CSM China TC Chapter April 2024

4 SEMI Staff Report

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

- New online voting system went live for Cycle 3, 2024. This integrates and streamlines sign-in process with various SEMI/Standards member services, and improves data management for SEMI internal database. It is also expected to bring updated user interface while maintaining functionality that's familiar to voters.
- SEMI Standards Regulations and Procedure Manual were updated in February 2024. They are available at www.semi.org/standards (under Tools for Developing Standards).
- TFs have one year from 02/20/24 to implement use of Connect@SEMI (https://connect.semi.org) for TF management and document development depository. Once TFs have implemented use of Connect@SEMI, they shall use it to: maintain the TF member roster up to date, share the working drafts in PDF, and distribute the Draft Document at least one week before ballot submission to SEMI.
- Meeting Required Elements have been updated to include notice on confidential information.

Attachment: 06_Staff Report March 2024 v4.2

5 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.

5.1 *Doc.#7211, Line Item Revision to SEMI M92-0423, Specification for 4H-SiC Homoepitaxial Wafer*

5.1.1 Line Item 1: Revise the test pattern in section 6.4.3.1

Failed and returned to TF for rework and reballot.

5.1.2 Line Item 2: Revise the specification of test points coordinates in Table 2 in section 6.4.3.2

Failed and returned to TF for rework and reballot.

5.1.3 Line Item 3: Revise the calculation formula of Tolerance in section 6.4.3.3

Passed with editorial changes.

5.1.4 Line Item 4: Revise the specification of carrier concentration of Tolerance in Table 3 in section 6.4.3.4

Passed as balloted.

5.1.5 Line Item 5: Revise the specification of thickness of Tolerance in Table 4 in section 6.4.4.2

Passed as balloted.

Attachment: 07_03-24-Compound Semiconductor Materials_Tally_20240520
08_7211_Ballot Review_Final

6 Subcommittee and Task Force Reports

6.1 *Silicon Carbide Substrate Liaison Task Force*

Masanori Yoshise (Self) reported for the Silicon Carbide Substrate Task Force regarding Doc.#6767, New Standard: Test Method for Flatness of Silicon Carbide Wafers by Optical Interference, which is under development by the Silicon Carbide Substrate Task Force under the Compound Semiconductor Materials China TC Chapter. He summarized some important points which should be considered by the Silicon Carbide Substrate Task Force when drafting Doc.# 6767A.

Attachment: 09_Consideration for Doc 6767 Discussion 20240521

Regarding Doc.#6769B, New Standard: Test Method for Residual Stress of Silicon Carbide Wafers by Photoelastic, Makoto Kitabatake (Self) reported that he attended the Compound Semiconductor Materials China TC Chapter meeting held on April 6, where the voting results of Doc.#6769B were adjudicated. The ballot failed and was retuned to the Silicon Carbide Substrate Task Force for rework and reballot. He said that he would continue to communicate with the Task Force to brush up on the draft.

However, concerns were also raised regarding TC operation (such as lack of advance notice of TC meetings and uncertainty in information sharing) and the Japan TC Chapter wishes the China TC Chapter and its Task Forces to operate in accordance with the SEMI Standards Regulations.

6.2 *SiC Epitaxial Wafer Liaison Task Force*

No report provided.

7 Old Business

7.1 *Project Period Review*

None.

7.2 *5-Year Review*

None.

8 New Business

8.1 *New SNARF for M92 Revision*

Toshimasa Yamamoto (DENSO) mentioned that expanding scope of SEMI M92 to include 200 mm 4H-SiC epitaxial wafers would be addressed after ongoing works on revising M92 are completed.

9 Next Meeting and Adjournment

The next meeting is scheduled for Friday, November 8, 2024 at SEMI Japan, Tokyo, Japan as well as via OVTCCM (Hybrid). See http://www.semi.org/standards-events for the current list of events.

Adjournment: 17:30.

Respectfully submitted by:

Akiko Yoshida
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SEMI Japan
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Minutes tentatively approved by:

Masayoshi Obara (Shin-Etsu Handotai), Co-chair	May 31, 2024

Table 14 Index of Available Attachments[#1]

Title	*Title*
01_Required Meeting Elements March 2024_J	06_Staff Report March 2024 v4.2
02_220119_CSM Japan Minutes	07_03-24-Compound Semiconductor Materials_Tally_20240520
03_CSM EU TC Chapter April 2024	08_7211_Ballot Review_Final
04_NA CSM TC Chapter Liaison report Nov 2022 v1	09_Consideration for Doc 6767 Discussion 20240521
05_CSM China TC Chapter April 2024	

#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.