Procedural Review Voting Sheet
2014 Cycle 3

REGION: Japan
COMMITTEE: PV Materials
EVENT: Japan Standards Summer 2014
DATE OF MEETING: 2014/07/04
PLACE OF MEETING: SEMI Japan office
COMMITTEE CO-CHAIRS: Kazuhiko Kashima /Global Wafers Japan, Takashi Ishihara /Mitsubishi Electric, Tetsuo Fukuda /AIST
SEMI STAFF: Chie Yanagisawa

A&R Voter: Name/Company
Date: 200X/MM/DD

I. Document Number & Title

Document 5532	Document Title NEW STANDARD: TEST METHOD FOR MEASUREMENT OF CRACKS IN PV SILICON WAFERS IN PV MODULES BY LASER SCANNING

II. Tally (Staff to fill in)

Voting Tally: As-cast tally after close of voting period

A minimum of 60% of the voting interests that have voting members within the technical committee must return votes. (Regulations ¶ 9.6.1)

	Return		Distribution		Return Rate	
Yellow	54	÷	88	=	61.4%	>=60%
Lilac & Others	41					
Total Vote	95					
Reject	1					
Accept	37					

A&R	Not approved
	Reason:

III. Rejects

Reject 1 (sylvère Leu / Meyer Burger Technology AG)

Negative 1 of Reject 1

Negative	Referenced Section	*TF/Committee to fill in if necessary		
	Reason	*Original negative comment and justification should be included.		
		EL and PL *Since the content of this reject vote is too short to understand, SEMI requested an explanation of it, and then, the sentences below were sent by the voter on June 18, 2014. PL means Photoluminiscence which is already laser based. I do not understand the new Laser method compared with photoluminescence. In the abstract about LS , PL is not mentioned or is LS the same as PL.		
Withdrawal		X	No withdrawal made	GO TO "Related" section
			Withdrawal document received by staff on XXXX	GO TO "Final" → (A)
Related	Motion and Reason		"Related" is mutually agreed upon.	
			*This motion can be appended to the motion for Persuasive (See Persuasive Section)	
			Negative is related (needs over 1/3 votes to pass)	
		X	Negative is not related (needs 2/3 or more votes to pass)	
			Reason	PL measurement is different from that of LS. PL is widely understood as photoluminescence detection method, which detects illumination energy excited by light (e.g. laser). LS is a technique to detect defects by electric current in semiconductor materials based upon LBIC (Laser Beam Induced Current) and bias voltage controlling.
	Motion by/2nd by	Tetsuo Fukuda (AIST) / Takashi Ishihara (Mitsubishi Electric)		
	Discussion	None		
	Result of Vote (check ONE)	5-0		
			[Negative is related] > 1/3	GO TO "Persuasive"
			[Negative is not related] < 2/3	
		X	2/3=< [Negative is not related]	GO TO "Final" → (B)
Persuasive	Motion and Reason		Negative is related and persuasive (needs over 1/3 votes to pass)	
			Negative is related and not persuasive (needs 2/3 or more votes to pass)	
			Reason	XXXX
	Motion by/2nd by	Name (Company)/Name (Company)		
	Discussion			
	Result of Vote (check ONE)	XX-XX		
			[Negative is related and persuasive] > 1/3	GO TO "Final" → (E)
			[Negative is related and not persuasive] < 2/3	
			2/3=<[Negative is related and not persuasive] <90%	GO TO "Final" → (C)

			90% =< [Negative is related and not persuasive]	**GO TO** "**Not Significant Finding Option**"
Not Significant Finding Option	**This option can only be used "if the committee finds a negative not persuasive by a vote equal to or greater than 90% of the persons voting on the action". (Regulations ¶ 9.5.3.3.2)**			
			It is mutually agreed upon to term the negative "not significant"	**GO TO → (D)**
			It is mutually agreed upon to term the negative "significant"	**GO TO → (C)**
	Motion		The negative is "not significant".	
	Motion by/2nd by		Name (Company)/Name (Company)	
	Vote		XX-XX Motion passed with simple majority	**GO TO → (D)**
			XX-XX Motion failed with simple majority	**GO TO → (C)**
	Final		Negative is:	
			(A) withdrawn (counted under **h** in disposition)	
		X	**(B)** not related (counted under **i** in disposition)	
			(C) related and not persuasive (significant)	
			(D) not significant (counted under **j** in disposition)	
			(E) related and persuasive	**DOCUMENT FAILS**
			Comment generated. See comment #x	
A&R			**Not approved**	
			Reason:	

Disposition of Reject 1

1	Original number of Negatives		**(g)**
0	# of Negatives withdrawn		**(h)**
1	# of Negatives found not related		**(i)**
0	# of Negatives found not significant		**(j)**
Final	x	**g**-(**h**+**i**+**j**)=0	☐ Reject **is Not Valid and is not** included in the denominator of § VI. Approval Conditions Check
		g-(**h**+**i**+**j**)>0	☐ Reject **is** included in the denominator of § VI. Approval Conditions Check
		Reject without a Negative	☐**Not Valid**

Note: If all of the negative material included with a reject vote is withdrawn, determined to be not related, or determined to be not significant, the reject vote is not valid. (Regulations ¶ 9.4.3.3)

A&R		**Not approved**
		Reason:

IV. Comments

Comment 1

Comment	Referenced Section		7.9 AD converter An AD converter converts a current of PV cells to digital data and transfers them to a computer. Resolution should be 8 bit or more.
	From		**Vargas-Bernal, Rafael / Instituto Tecnologico**
	Comment		In subsection 7.9 'bit' must be 'bits'
	Discussion		All participants are sure “bit” is correct. “bit” is a unit which shows information volume.
Action proposed	X	**The committee agreed to do one of the following actions.**	
		***No motion is required in this step.**	
		X	No further action was taken by the committee.
			Refer to the task force for more consideration.
			New Business
			Other
	Editorial Change		
			Case 1: No vote in this section :
			To be included and voted on in § 5. Summary of Editorial Changes.
			Case 2: Voted in this section :
			Original section number and at least one full sentence are required in “FROM” and “TO” fields.
		1	**FROM: Section**
			To: Section
			Justification (If necessary)
		2	**FROM: Section xxx**
			To: Section xxx
			Justification (If necessary)
Motion by/2nd			Tetsuo Fukuda (AIST) / Takashi Ishihara (Mitsubishi Electric)
Vote			5-0 Motion passed
A&R			**Not approved**
			Reason:

Comment 2

Comment	Referenced Section	11.5 Using the formula below calculate bias voltage V_{BIAS} where a voltage on both ends of PV cell under test 1 is 0V. $V_{BIAS}=V_{OC}$ (1-1/N) N : Number of serial clusters 11.7 Apply bias voltage VBIAS with the bipolar power supply.
	From	**Lin, Jay / PV Guider**
	Comment	How to apply bias voltage is not clearly described.
	Discussion	How to apply bias voltage is clearly described in § 11.5 and § 11.7.

Action proposed	X	**The committee agreed to do one of the following actions.**	
		***No motion is required in this step.**	
		X	No further action was taken by the committee.
			Refer to the task force for more consideration.
			New Business
			Other
	Editorial Change		
			Case 1: No vote in this section :
			To be included and voted on in § 5. Summary of Editorial Changes.
			Case 2: Voted in this section :
			Original section number and at least one full sentence are required in "FROM" and "TO" fields.
		1	**FROM: Section xxx**
			To: Section xxx
			Justification (If necessary)
		2	**FROM: Section xxx**
			To: Section xxx
			Justification (If necessary)

Motion by/2nd	Tetsuo Fukuda (AIST) / Takashi Ishihara (Mitsubishi Electric)
Vote	5-0 Motion passed
A&R	**Not approved**
	Reason:

Comment 3

Comment	Referenced Section	**2 Scope** 2.1 This test method identifies and measures cracks in crystalline silicon wafers of a module.
	From	**Lin, Jay / PV Guider**
	Comment	Is it used for laminated module? The glass and EVA will diffuse the sub light and laser light, the precision will be influenced. It is a good idea though.
	Discussion	Current laminated modules do not disturb the LS measurement. Please see "SEMI Japan PV Mat Report submitted to NA PV Committee, SEMICON West 2013. http://downloads.semi.org/standards/minutes.nsf/91eeb64567db378c88256dcf006a4252/e05195f291226c3b88257bba00606f8a!OpenDocument Attachment: NAPVMaterials0713.zip

Action proposed	X	**The committee agreed to do one of the following actions.**	
		***No motion is required in this step.**	
	X	No further action was taken by the committee.	
		Refer to the task force for more consideration.	
		New Business	
		Other	
	Editorial Change		
		Case 1: No vote in this section :	
		To be included and voted on in § 5. Summary of Editorial Changes.	
		Case 2: Voted in this section :	
		Original section number and at least one full sentence are required in "FROM" and "TO" fields.	
	1	**FROM: Section xxx**	
		To: Section xxx	
		Justification (If necessary)	
	2	**FROM: Section xxx**	
		To: Section xxx	
		Justification (If necessary)	

Motion by/2nd	Tetsuo Fukuda (AIST) / Takashi Ishihara (Mitsubishi Electric)
Vote	5-0 Motion passed

A&R		**Not approved**
	Reason:	

V. Summary of Editorial Changes

Note: Original section number and at least one full sentence are required in "FROM" and "TO" fields.

1	**FROM: Section 11.5** 11.5 Using the formula below calculate bias voltage V_{BIAS} where a voltage on both ends of PV cell under test 1 is 0V. $V_{BIAS} = V_{OC}$ (1-1/N) N : Number of serial clusters NOTE 2: 1 PV cell under test means PV cell under laser scanning.
	TO: Section 11.5 11.5 Using the formula below calculate bias voltage V_{BIAS} where a voltage on both ends of PV cell under test ~~1~~ is 0V. $V_{BIAS} = V_{OC}$ (1-1/N) N : Number of serial clusters NOTE 2: ~~1~~ PV cell under test means PV cell under laser scanning.
	Justification: (If necessary) **"Using the formula below calculate bias voltage V_{BIAS} where a voltage on both ends of PV cell under test 1" and "1 PV cell under test means PV cell under laser scanning." are typo.**
2	**FROM: Section 11.14** Current induced in PV cells are retrieved through contact probes and converted into voltage signals by the current-voltage converter.
	TO: Section 11.14 Current induced in PV cells is retrieved through contact probes and converted into voltage signals by the current-voltage converter.
	Justification: (If necessary) **"Current induced in PV cells are retrieved…" is a typo.**

Motion		To approve the above editorial changes
Motion by/2nd by		Tetsuo Fukuda (AIST) / Takashi Ishihara (Mitsubishi Electric)
Discussion		**None**
Vote		5-0 Motion passed
A&R		**Not approved**
	Reason:	

VI. Approval Conditions Check

APPROVAL CONDITION 1: All negatives have been discussed and were withdrawn, found not related, or not persuasive. (Regulations ¶ 9.6.2)

APPROVAL CONDITION 2: At least 90% of the sum of the valid accept and reject votes must be accept. (Regulations ¶ 9.6.3)

Note: if both approval conditions are not satisfied, the document fails.

		Accepts		(Accepts + Valid Rejects)			
Approval Rate	=	37	/	37	=	100.0%	>=90%

A&R		Not approved
		Reason:

VII. Safety Check

See § 14 of the Regulations for further information

Motion:	X	This is not a Safety Document: when all safety-related information is removed, the document is still technically sound and complete.
		This is a Safety Document: when all safety-related information is removed, the document is not technically sound and complete.
		Safety Checklist (Regulations ¶ 14.3) is complete and has been included with the document throughout the balloting process.

Motion by/2nd by	Tetsuo Fukuda (AIST) / Takashi Ishihara (Mitsubishi Electric)
Discussion	**None**
Vote	5-0 Motion passed

A&R		Not approved
		Reason:

VIII. Intellectual Property Check

Note: This ballot may be all or part of a Standard or Safety Guideline. This IP check applies to the entire Standard or Safety Guideline. See § 15 of the Regulations for further information

X	The meeting chair asked those present in person or by electronic link, if they were aware of any potentially material patented technology or copyrighted items* in the Standard or Guideline.		
		No potentially material patented technology or copyrighted items are known	**GO TO SECTION IX**
	X	Potentially material patented technology or copyrighted items are known but a Letter of Assurance (LOA) or copyright release for such material has been obtained or presented to the committee.	**GO TO SECTION IX**
		Potentially material patented technology or copyrighted items are known but an LOA or copyright release for some of the material(s) has NOT been obtained or presented to the committee	
	MOTION		Ask ISC for special permission to publish
			Quit activity
			Wait for LOA for patented technology or release of copyrighted items.
	Motion by/2nd by		Name (Company)/Name (Company)
	Discussion		XXXX
	Vote		XX-XX
	Final Action		Motion Passed
			Motion Failed
A&R		**Not approved**	
		Reason:	

* Note: Such potentially material patented technology or copyrighted items might have become known since the Standard or Safety Guideline was last reviewed, or might become relevant due to this ballot.

IX. Action for this document

Motion		This document passed committee review as balloted and will be forwarded to the A&R for procedural review.	
	X	This document passed committee review with editorial changes and will be forwarded to the A&R for procedural review.	
		This document failed committee review and will be returned to the task force for rework.	
		This document failed committee review and work will be discontinued.	
Motion by/2nd by		Tetsuo Fukuda (AIST) / Takashi Ishihara (Mitsubishi Electric)	
Discussion		None	
Vote		5-0	
Final Action		X	Motion passed
			Motion failed
A&R		**Approved**	
		Not approved	
		Reason:	