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**Datasheet for the decision
of 20 November 2025**

Case Number: T 0583/25 - 3.4.03

Application Number: 18184940.7

Publication Number: 3425682

IPC: H01L31/0745, H01L31/056,
H01L31/18

Language of the proceedings: EN

Title of invention:

FRONT CONTACT SOLAR CELL WITH BACKSIDE POLY-CRYSTALLINE
SILICON EMITTER

Applicant:

Maxeon Solar Pte. Ltd.

Relevant legal provisions:

EPC Art. 76(1), 111(1)
RPBA 2020 Art. 12(6)

Keyword:

Divisional application - subject-matter extends beyond content
of earlier application (no) - after amendment
Late-filed request - admitted (yes)
Remittal to the department of first instance - (yes)



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Case Number: T 0583/25 - 3.4.03

D E C I S I O N
of Technical Board of Appeal 3.4.03
of 20 November 2025

Appellant: Maxeon Solar Pte. Ltd.
(Applicant) 8 Marina Boulevard 05-02
Marina Bay Financial Centre
Singapore 018981 (SG)

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Decision under appeal: **Decision of the Examining Division of the
European Patent Office posted on
27 November 2024 refusing European patent
application No. 18184940.7 pursuant to
Article 97(2) EPC.**

Composition of the Board:

Chairman T. Häusser
Members: M. Ley
G. Decker

Summary of Facts and Submissions

I. The appeal is against the decision of the examining division refusing European patent application No. 18 184 940 pursuant to Article 97(2) EPC on the ground that the requirements of Article 76(1) EPC were not fulfilled; patent application No. 18 184 940 being a European divisional application (Article 76 EPC) relating to earlier European patent application No. 09 713 116.

II. The appellant requests that the impugned decision be set aside and that the case be remitted to the examining division for further prosecution with a view to grant a patent on the basis of the set of claims according to the auxiliary request filed with the statement setting out the grounds of appeal.

The set of claims according to the main request underlying the impugned decision as well as the request for oral proceedings were withdrawn in the appellant's letter dated 24 October 2025.

III. Claim 1 of the auxiliary request filed with the statement setting out the grounds of appeal has the following wording:

*A solar cell, comprising:
an N-type silicon substrate (101) having a front surface that faces the sun to collect solar radiation during normal operation and a back surface opposite the front surface, the N-type silicon substrate having a textured front surface;
a passivating oxide layer (124) disposed on the front surface of the N-type silicon substrate;*

*an anti-reflective coating (103) on the passivating oxide layer (124);
a tunnel oxide layer (107) disposed over the back surface of the N-type silicon substrate;
a P-type polysilicon emitter (108) layer disposed over the tunnel oxide layer (107), the P-type polysilicon emitter layer (108) forming a backside junction with the N-type silicon substrate;
a front electrode (102) that is coupled to the front surface of the N-type silicon substrate;
a back electrode (110) that is coupled to the P-type polysilicon emitter on the back surface of the N-type silicon substrate; and
a dielectric (109) over the P-type polysilicon emitter layer (108).*

- IV. The appellant argued that amended claim 1 overcame the objection under Article 76(1) EPC raised against claim 1 of the main request underlying the impugned decision.

Reasons for the Decision

1. The present invention relates to a silicon solar cell having an N-type silicon substrate, a tunnel oxide layer disposed over the back surface of the N-type silicon substrate and a P-type polysilicon emitter layer disposed over the tunnel oxide layer.
2. The examining division held that the subject-matter of claim 1 of the main request (sole request) underlying the decision under appeal did not specify that the "polysilicon emitter" was a "P-type polysilicon emitter" and therefore contravened the requirements of Article 76(1) EPC, as this constituted an unallowable intermediate generalisation.

3. In a communication pursuant to Rule 100(2) EPC dated 26 June 2025, the board preliminarily agreed with the examining division and provided reasons for its view.

4. Auxiliary request - admittance under Article 12(6) RPBA

The examining division's objection under Article 76(1) EPC (regarding the omission of the term "P-type") was raised for the first time in its communication under Article 94(3) EPC dated 30 October 2023, point 2.1. It was repeated in its telephone conversation of 10 January 2024, in its email of 12 January 2024, in the annex to the summons to attend oral proceedings, point 2.1, and during the oral proceedings.

Obviously, the amendments made to claim 1 of the auxiliary request overcome the sole reason for the refusal of the application, because the omitted term "P-type" is added in amended claim 1.

Consequently, the auxiliary request could and should have been submitted in the examination proceedings. According to Article 12(6) RPBA, the board shall not admit such requests, unless the circumstances of the appeal case justify their admittance.

In the present case, the board admits the auxiliary request into the appeal proceedings. The fact that the amendment in claim 1 of the auxiliary request overcomes the examining division's objection is regarded as a justifying circumstance within the meaning of Article 12(6) RPBA.

In this context, the board also takes into account the fact that the only possibility to have the examining division's decision on the claims of the main request

reviewed by the board was to uphold the main request. In other words, even if the appellant had filed the auxiliary request in the examination proceedings as an auxiliary request, the examining division would have decided to refuse the main request, and the appellant would have had to file an appeal against this decision to have it reviewed by the board.

5. Remittal to the examining division for further prosecution - Article 111(1) EPC
- 5.1 In point 10.2 of the statement setting out the grounds of appeal, the appellant expressed its understanding that the examining division found the claims according to the first auxiliary request "acceptable".
- 5.2 The board notes that no communication under Rule 71(3) EPC was issued by the examining division to inform the appellant that it intended to grant a patent on the basis of the present auxiliary request.

In an annex to a "Result of consultation" dated 18 January 2024, the primary examiner stated that an email had been sent to the appellant including the sentence "We remain of the opinion that the suggested claim 1 in the communication dated 30-10-2023 would be allowable". While in the communication dated 30 October 2023 objections under Article 76(1) EPC were raised and suggestions to overcome said objections were made, the complete text of a "suggested claim 1" cannot be identified by the board. The examining division only stated under point 3 that it "seems that a set of amended claims taking into account the above-mentioned comments, with dependent claims correspondingly adapted, could be considered novel and inventive with respect to the known prior art".

It is thus not entirely clear to the board if a full examination with respect to all Articles of the EPC of the subject-matter of claim 1 of the auxiliary request has been performed by the examining division.

It is thus appropriate to remit the case to the examination division for further prosecution by the examining division on the basis of the auxiliary request.

When assessing novelty and inventive step, the examining division might consider the following documents of which the board is aware:

- D6 WO 2007/130188 A2 (inventor: P. Cousins)
- D7 Y. Tonomura et al., "Development of high-end-of-life efficiency silicon space solar cell", Proceedings of the 2nd World Conference and Exhibition on Photovoltaic Solar Energy Conversion, 6 to 10 July 1998, Vienna, Austria
- D8 J. Zhao et al., "High Efficiency PERT Cells on N-type Silicon Substrates", IEEE Photovoltaic Specialists Conference, New Orleans, May 2002
- D9 V.D. Mihailetschi et al., "17.4% Efficiency Solar Cells On Large Area And Thin N-type Silicon With Screen-Printed Aluminum-Alloyed Rear Emitter", 22nd European Photovoltaic Solar Energy Conference, 3 to 7 September 2007, Milan, Italy

Order

For these reasons it is decided that:

1. The decision under appeal is set aside.
2. The case is remitted to the examining division for further prosecution.

The Registrar:

The Chairman:



S. Sánchez Chiquero

T. Häusser

Decision electronically authenticated