Product Change Notice (PCN)

Subject: UV tape change for IGBT of 8inch unsawn wafer
Publication Date: 6/19/2023
Effective Date: 10/1/2023

Revision Description:
Initial release

Description of Change:
Renesas will change the top-side UV tape of 8inch Unsawn wafer for IGBT from the same manufacturer. And Renesas will change the storage period to 6months, but the delivery specifications will be exchanged again. Please contact Renesas sales department for details on requesting delivery specifications.

Affected Product List:

RBN75N125S1UFWA-800#FF0	RBN75N125S1UFWA-850#FF0	RBN75N125S1UFWA-8F0#FF0
RBN40N125S1UFWA-800#FF0	RBN40N125S1UFWA-850#FF0	RBN40N125S1UFWA-8F0#FF0
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RJP65S06DWA-80#W0	RJP65S06DWA-85#W0	RJP65S06DWA-8F#W0
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RJP1CS06DWA-80#W0	RJP1CS06DWA-85#W0	RJP1CS06DWA-8F#W0
RJP1CS07DWA-80#W0	RJP1CS07DWA-85#W0	RJP1CS07DWA-8F#W0
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RJP1CS25DWA-80#W0	RJP1CS25DWA-85#W0	RJP1CS25DWA-8F#W0
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RJP1CS27DWA-80#W0	RJP1CS27DWA-85#W0	RJP1CS27DWA-8F#W0
RJP1CS28DWA-80#W0	RJP1CS28DWA-85#W0	RJP1CS28DWA-8F#W0

Reason for Change:
Standardization and improvement productivity.

Impact on Fit, Form, Function, Quality & Reliability:
No impact on the function, quality & Reliability.
Please refer to "<Appendix> Supplementary material" for appearance and our evaluation results.

Product Identification:
Our production history data can be queried by using trace code of the product.

Qualification Status: N/A.
Sample Availability Date: N/A
Device Material Declaration: N/A.

Note:
1. Acknowledgement must be received by Renesas within 30 days or Renesas will consider the change as approved.

2. If timely acknowledgement is provided by Customer, then Customer shall have 90 days from the date of receipt of this PCN to make any objections to this PCN. If Customer fails to make objections to this PCN within 90 days of the receipt of the PCN then Renesas will consider the PCN changes as approved.

3. If customer cannot accept the PCN then customer must provide Renesas with a last time buy demand and purchase order.

For additional information regarding this notice, please contact your Renesas sales representative.

<APPENDIX>

SUPPLEMENTARY MATERIAL
- UV-TAPE CHANGE

BL202301552

PC-APW-A009A/E

19TH, JUN. 2023

HV POWER DEVICE DESIGN DEPARTMENT
POWER SYSTEM BUSINESS DIVISION
AUTOMOTIVE SOLUTION BUSINESS UNIT
RENESAS ELECTRONICS CORPORATION

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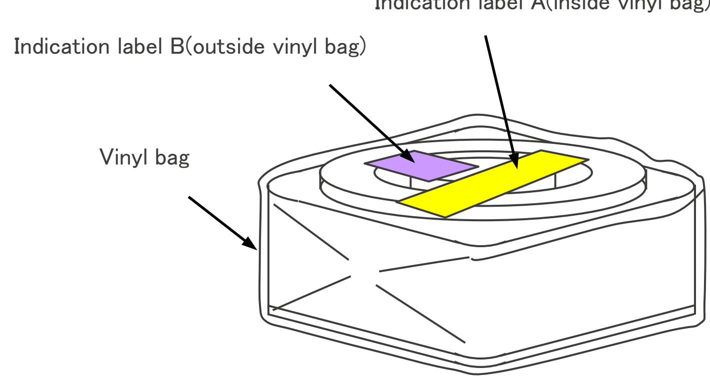
EFFECTIVE DATE

Shipments with a date after ’23. 10. 01 on the Indication label A are UV tape changed products.



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16	−
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19	−
20	−
21	−
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23	−
24	−
25	−
計	1,717

品　名 RBN150N180S2HFWA-80
LotNo. SFTV04200C
納入数量1,717
梱包日 ’2 3. 4. 0 5

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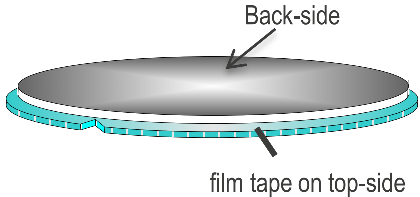
CHANGING POINTS OF TOP-SIDE FILM TAPE



* Datasheet value

item	Current	New
Product	UV tape	←
Base film	Polyolefin	←
film thickness *	150um	130um
Adhesive layer	Acrylic adhesive	←
Color	White / high transparency	White / little transparency
Recommended storage period	Un-opened: 6months from packing date of label Opened: 7days from opened	6months from packing date of label

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VISUAL

Note) Photo of wafers in Ring Cutting process (on Dicing frame)

item	Current	New
UV tape		
Wafer with UV tape *Wafer/chip type is only example		
Expansion of wafer edge and UV tape *Wafer/chip type is only example		

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EVALUATION FOR 6 MONTHS

1. Purpose

   In order to extend the storage period of Unsawn wafers according to the UV tape change, we have evaluated below item:

   a) Die bond ability

   b) Wire bonding strength

   This time, we will report the results of 6 months.

2. Summary

   There are no issue in this evaluation.

   a) OK (p.7-8)

   b) OK (p.9)

   For detail, please find following pages.

Evaluation Sample: IGBT 1800V product

Sample#	#1	#2
Shipping form	Unsawn	←
Period	6months	←
Storage condition	w/ vinyl bag, un-opened	w/ vinyl bag, opened
Note	Standard shipment form for Unsawn-wafer	

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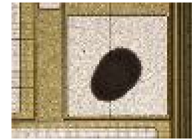
A) DIE CONDITION / BOND ABILITY (1/2)

- To check bond ability after die mount, we confirmed below items.

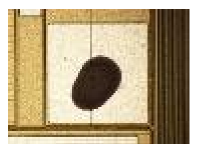
	Item	Judgement method	Sample qty	Result
i	Visual check for wafer	Check crack and paste residue after peeling film-tape by sight	1 wafer / each specs(#1, #2)	OK *No damage and visible residue*
ii	Visual check for ink mark	Check ink mark peeled off by sight	1 wafer / each specs(#1, #2)	OK *No damage for ink mark*
iii	Solder wettability	Check solder coting by sight	5 chip x 1 wafer / each specs(#1, #2)	OK *Coated full area*

**Note. i & ii are fully depended on film-tape spec.*

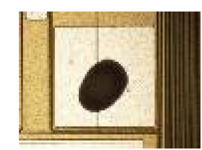
ii) Visual check for ink mark



Initial state (reference)



#1 Un-opened (6months)



#2 Opened (6months)

Compared with reference, visual check after peeling film-tape is no damage for ink mark.

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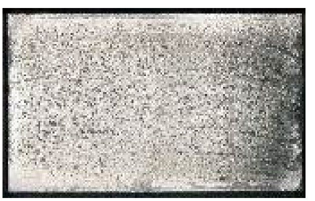
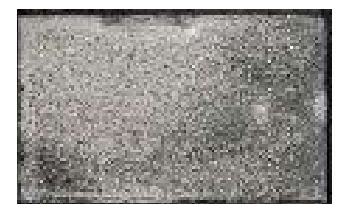
A) DIE CONDITION / BOND ABILITY (2/2)

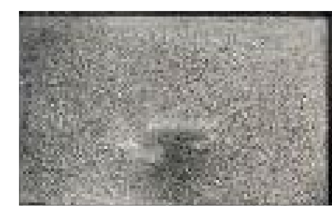
iii) Solder wettability



Initial state (reference)



#1 Un-opened (6months)



#2 Opened (6months)

Coated all area and no abnormality compared to reference is confirmed for all spec.

- Result

From i~iii results, die condition and bond ability after more than 6 months is no problem.

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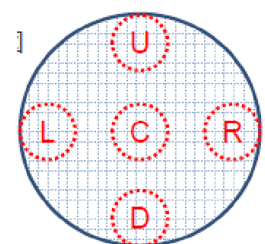
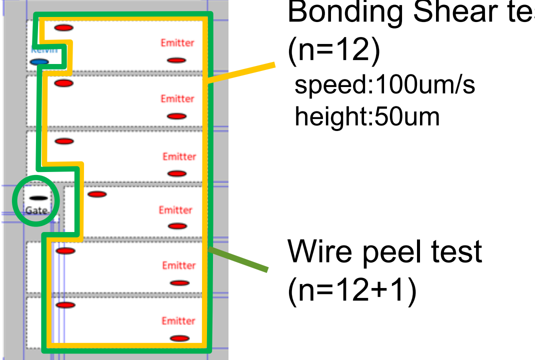
b) Wire Bonding Strength

Bonding 500um(Emitter pads) & 300um(Gate pad) Al wire and evaluated below items.

	Item	Judgement method	Sample qty	Result
i	Visual check	Check bonding status by sight	5chips x 1wafer / each specs(#1, #2)	OK *No abnormality*
ii	Wire peel	Check remained Al on pad	5chips x13bonding wire (Emitter:12, Gate:1) n=65 x 1wafer / each specs(#1, #2)	OK *No abnormality on pad*
iii	Bonding shear	Check shear strength value **Criteria: > 1100g*	5chips x12bonding wire x 1wafer / each specs(#1, #2) n=60	OK *No deterioration to initial value* **Results are shown below*

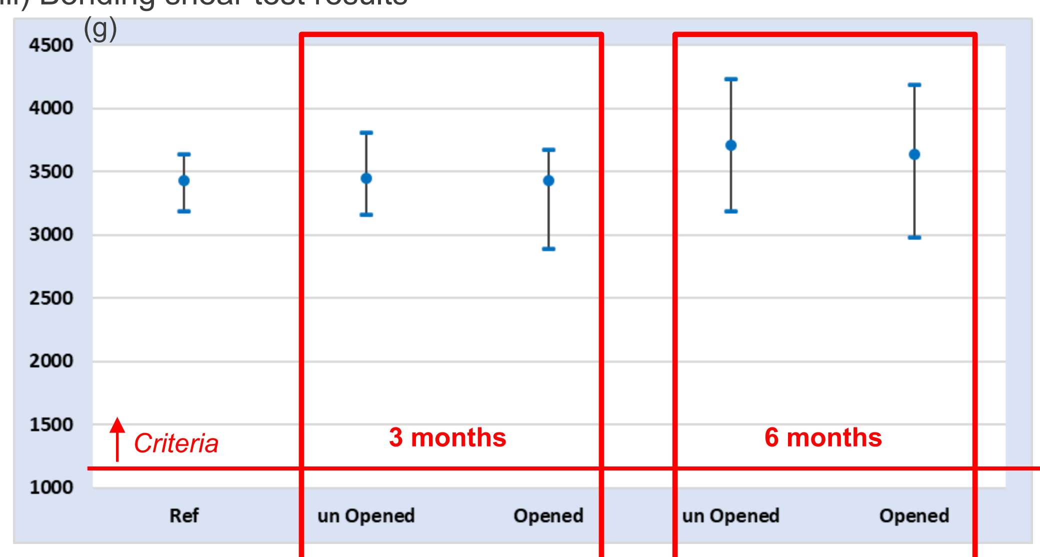
Evaluation chips in wafer(5chips)





* Chip image

iii) Bonding shear test results



- Result

From i~iii results, wire bonding strength after more than 6 months storage is no problem.

No deterioration to initial value compared to reference is confirmed for all spec.

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