非受控文件

Specification of 182.2*182.2mm mono 16BB TOPCON Bifacial Half-cut Pattern Solar Cell

（182.2*182.2 Φ247）

Doc.No.： LW-M10-BiFi-2083

Revision No.： A

Prepared Dept： Process Department

Effective Date： 2024.11.13

Prepared by	LIUQIANG	Checked by	LIHAIPING	Approved by	ZHANGQING

Revision Record

Doc.No.:LW-M10-BiFi-2083

Revision	Modification page number	Revised content	Prepared by	Revision Date
A	All	First Edition	LIUQIANG	2024.11.13

非受控文件

Lightway Energy Technology Co.,Limited		
Product Specification	Product Name	LWM16BB-BiFi-SE-247
	Document Name	Specification of 182.2*182.2 BiFi 16BB Solar Cell
	Document Number	LW-M10-BiFi-2083
	Revision Number	A

1.0 Range of Application

This specification is suitable for Lightway Solar 182.2*182.2mm mono 16BB TOPCON Bifacial solar cells and builds up the character and working condition of solar cells.

2.0 Product List

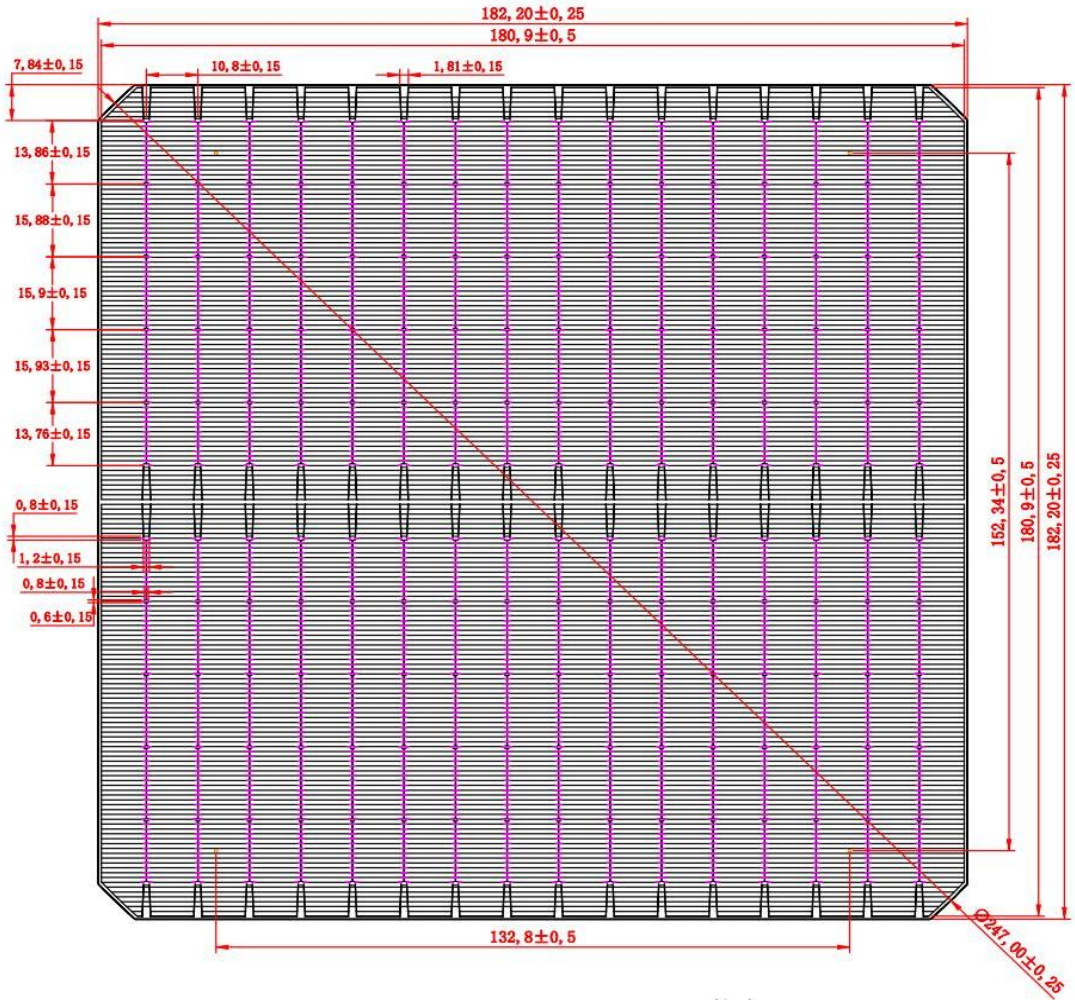
Silicon type	Size	Solar cell thickness
N-Type mono-crystalline	182.2*182.2±0.25Φ247mm	130±13μm

2.1 Cell Product Number: LWM16BBNBiFi247

3.1 Solar Cell Structure

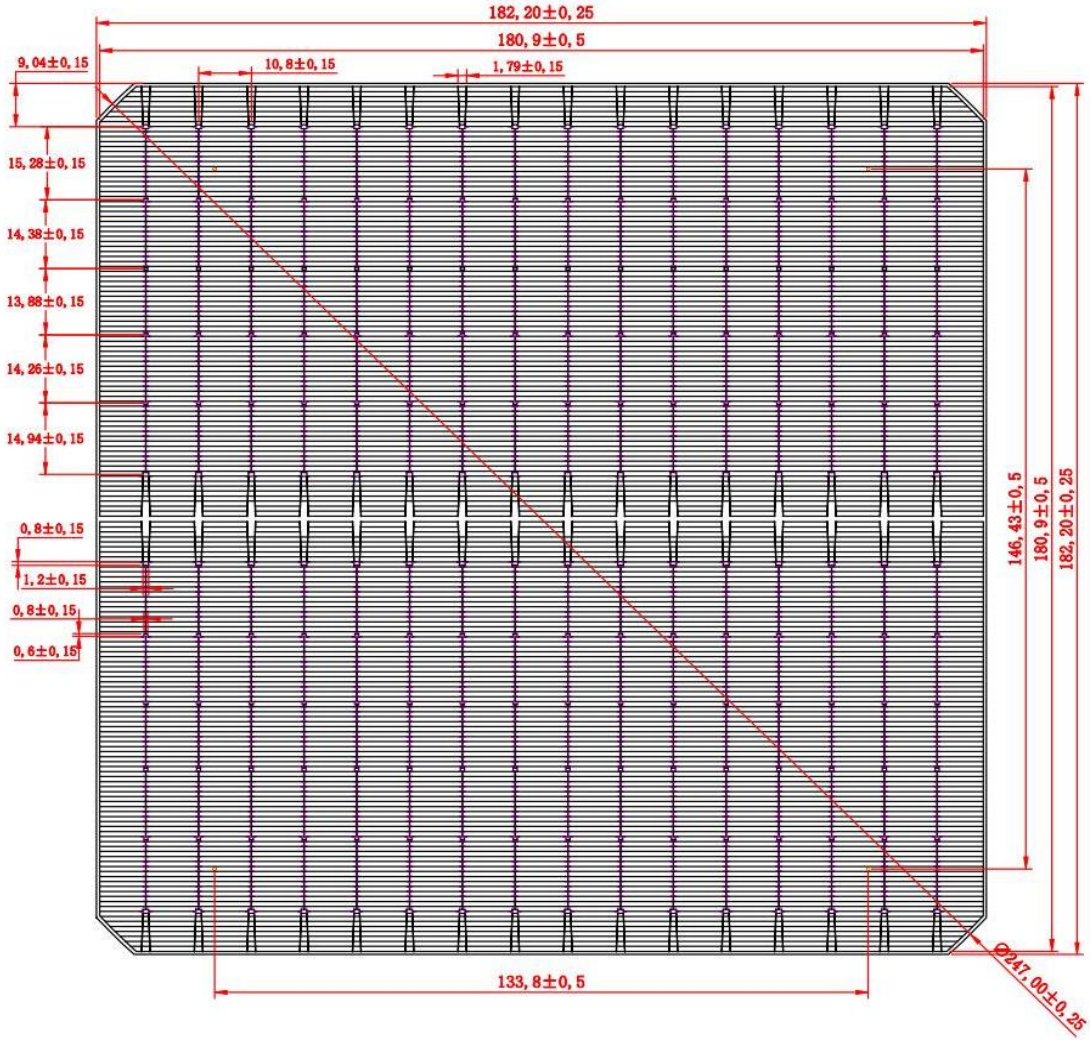
3.1.1 Front electrode pattern

The positive electrode is designed according to the following drawing,the main grid of solar cell consists of sixteen busbars with a spacing of 10.8mm and a width of 0.05mm.



3.1.2 Back electrode pattern

The back electrodes and electric field are designed according to the following drawing.The back grids of solar cells are sixteen sliver-aluminium grids with a distance of 10.8mm and a width 0.05mm.



Parameter Items			Spec.	Tolerance	Unit
Front side	A	Finger quantity	172	N/A	Line
	B	Width of busbar	0.05	±0.15	mm
	C	Distance between busbars	10.8	±0.15	mm
Back side	A	Finger quantity	174	N/A	Line
	B	Width of busbar	0.05	±0.15	mm
	C	Distance between busbars	10.8	±0.15	mm

3.2 Electrical Performance

3.2.1 Front Efficiency

Eff(%)	Pmpp(W)	Umpp(V)	Impp(A)	Uoc(V)	Isc(A)
25.60%	8.45	0.625	13.523	0.728	13.714
25.50%	8.42	0.624	13.491	0.727	13.712
25.40%	8.39	0.622	13.482	0.726	13.712
25.30%	8.35	0.621	13.450	0.726	13.712
25.20%	8.32	0.620	13.419	0.725	13.709
25.10%	8.29	0.618	13.409	0.724	13.706
25.00%	8.25	0.617	13.377	0.724	13.706
24.90%	8.22	0.615	13.367	0.723	13.705
24.80%	8.19	0.614	13.335	0.723	13.704
24.70%	8.15	0.613	13.303	0.722	13.699
24.60%	8.12	0.611	13.292	0.721	13.695
24.50%	8.09	0.610	13.260	0.720	13.693
24.40%	8.05	0.609	13.227	0.719	13.689

3.2.2 Electrical Characteristic under STC Standard

a: Intensity: 1000W/m²

b: Spectrum: AM 1.5G

c: Temperature: 25℃

3.2.3 Temperature Coefficients

Voc: -0.27 %/℃

Isc: +0.045 %/℃

Pm: -0.33 %/℃

3.2.4 Standard solar cells origin

First-class: Fraunhofer

3.3 Visual inspection

3.3.1 Sampling plan: According to GB/T2828.1-2012

3.3.2 Defect standard and sampling level: Major defect-Level III -QALO.5

3.3.3 Inspection Time: Not less than 800LUX,about 5 seconds

3.3.4 Color classification: A range of solar cell is divided into four grade,from Light Blue to Dark Blue based on solar cells visual standard(solar cell color sample)

4.0 Records

N/A

5.0 Attachments

N/A

Note:The specification can apply to Lightway Energy Technology Co.,Limited,Jiangsu Lightway Energy PV Technology Co.,Limited,Jiangxi Lightway Energy PV Technology Co.,Limited,Shenzhen Lightway Energy Technology Co.,Limited,Lightway Technology Development Limited and other related subordinate companies under Lightway Group.