Form

Data form for critical components and material information

Product Service

Applicant name and address .....:	Jolywood (Taizhou) Solar Technology Co., Ltd. (98081) Kaiyang Rd. Jiangyan Economic Development Zone, Taizhou City, Jiangsu Province,225500, P.R. China.
Manufacturer name and address .....:	Jolywood (Taizhou) Solar Technology Co., Ltd. (98081) Kaiyang Rd. Jiangyan Economic Development Zone, Taizhou City, Jiangsu Province,225500, P.R. China.
Name and address of factory / factories.....:	1.Jolywood (Taizhou) Solar Technology Co., Ltd. Kaiyang Rd. Jiangyan Economic Development Zone, Taizhou City, Jiangsu Province, 225500, PEOPLE'S REPUBLIC OF CHINA CBW No.: 098081 2.MASDAR FACTORY COMPANY FOR MANUFACTURING SOLAR PANELS LLC 3283, Industrial City, 47343 Tabuk, SAUDI ARABIA CBW No.:131647 3.ECONESS ENERGY CO.,LTD. No.58 Haida Road, Huashi Town, 214421 Jiang Yin, Jiangsu Province, PEOPLE'S REPUBLIC OF CHINA CBW No.:078439 4.Hefei GCL System Integration New Energy Technology Co., Ltd. Southeast Corner of Intersection of Sidingshan Road and Ruquan Road, Hefei Circular Economy Demonstration Park, Feidong County, 231699 Hefei, Anhui, PEOPLE'S REPUBLIC OF CHINA CBW No.:115225 5.PT ATELIER SOLAR INDONESIA Wiraraja Industrial Park I, Blok A No. 2 & 3A, Jalan Wiraraja, Ke-lurahan Kabil, Kecamatan Nongsa, 29467 Kota Batam, Provinsi Kepulauan Riau, INDONESIA CBW No.:135673
Project-No./Report-No. .....:	704062423204-10
Test item description .....:	See the corresponding test report
Model/Type reference :	Part 1 Double Glass Module Double Glass PV Modules with 182 Half-cut Mono N-type Bifacial Solar Cell NM1016B 1) 156 cells: JW-HD156N-xxx (xxx=610-635, in steps of 5) 2) 144 cells: JW-HD144N-xxx (xxx=545-590, in steps of 5) 3) 108 cells: JW-HD108N-xxx (xxx=415-445, in steps of 5) 4) 156 cells: JW-HD156N-xxxS (xxx=610-635, in steps of 5) 5) 144 cells: JW-HD144N-xxxS (xxx=545-590, in steps of 5)

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Name of Project Handler: Mingxuan Qi

Doc No.: 168870 Revision: 4 - released

	6) 108 cells: JW-HD108N-xxxS (xxx=415-445, in steps of 5) Double Glass PV Modules with 182.2*183.75 Half-cut Mono N-type Bifacial Solar Cell NM10L16B, N183.75R16B 7) 156 cells: JW-HD156N-R0-xxx (xxx=610-660, in steps of 5) 8) 144 cells: JW-HD144N-R0-xxx (xxx=570-610, in steps of 5) 9) 108 cells: JW-HD108N-R0-xxx (xxx=420-455, in steps of 5) 10) 156 cells: JW-HD156N-R0-xxxS (xxx=610-660, in steps of 5) 11) 144 cells: JW-HD144N-R0-xxxS (xxx=570-610, in steps of 5) 12) 108 cells: JW-HD108N-R0-xxxS (xxx=420-455, in steps of 5) Double Glass PV Modules with 182.2*186.7 and 182.2*187.5 Half-cut Mono N-type Bifacial Solar Cell NM10L216B, NM10L4-16B, N187.5R16B 13) 120 cells: JW-HD120N-R3-xxx (xxx=480-515, in steps of 5) 14) 108 cells: JW-HD108N-R3-xxx (xxx=430-460, in steps of 5) 15) 120 cells: JW-HD120N-R3-xxxS (xxx=480-515, in steps of 5) 16) 108 cells: JW-HD108N-R3-xxxS (xxx=430-460, in steps of 5) Double Glass PV Modules with 182.2*191.6 Half-cut Mono N-type Bifacial Solar Cell N191.6R16B 17) 144 cells: JW-HD144N-R1-xxx (xxx=595-625, in steps of 5) 18) 120 cells: JW-HD120N-R1-xxx (xxx=495-525, in steps of 5) 19) 108 cells: JW-HD108N-R1-xxx (xxx=445-470, in steps of 5) 20) 144 cells: JW-HD144N-R1-xxxS (xxx=595-625, in steps of 5) 21) 120 cells: JW-HD120N-R1-xxxS (xxx=495-525, in steps of 5) 22) 108 cells: JW-HD108N-R1-xxxS (xxx=445-470, in steps of 5) Double Glass PV Modules with 182*210 and 182.3*210 Half-cut Mono N-type Bifacial Solar Cell N210R16B, N210R18B (all models) and M210R16BTP10, G12R-A-16BB (except for 156 cells) 43) 156 cells: JW-HD156N-R2-xxx (xxx=715-740, in steps of 5) 23) 132 cells: JW-HD132N-R2-xxx (xxx=595-660, in steps of 5) 24) 120 cells: JW-HD120N-R2-xxx (xxx=540-600, in steps of 5) 25) 108 cells: JW-HD108N-R2-xxx (xxx=485-540, in steps of 5) 26) 96 cells: JW-HD96N-R2-xxx (xxx=430-480, in steps of 5) 44) 156 cells: JW-HD156N-R2-xxxS (xxx=715-740, in steps of 5) 27) 132 cells: JW-HD132N-R2-xxxS (xxx=595-660, in steps of 5) 28) 120 cells: JW-HD120N-R2-xxxS (xxx=540-600, in steps of 5) 29) 108 cells: JW-HD108N-R2-xxxS (xxx=485-540, in steps of 5) 30) 96 cells: JW-HD96N-R2-xxxS (xxx=430-480, in steps of 5)

	Double Glass PV Modules with 182.5*212.5 Half-cut Mono N-type Bifacial Solar Cell N210R16B
	25) 108 cells: JW-HD108N-R2-xxx (xxx=485-540, in steps of 5)
	26) 96 cells: JW-HD96N-R2-xxx (xxx=430-480, in steps of 5)
	29) 108 cells: JW-HD108N-R2-xxxS (xxx=485-540, in steps of 5)
	30) 96 cells: JW-HD96N-R2-xxxS (xxx=430-480, in steps of 5)
	Double Glass PV Modules with 210*210 Half-cut Mono N-type Bifacial Solar Cell NG1218B
	31) 132 cells: JW-HD132N-xxx (xxx=685-740, in steps of 5)
	32) 120 cells: JW-HD120N-xxx (xxx=625-670, in steps of 5)
	33) 132 cells: JW-HD132N-xxxS (xxx=685-740, in steps of 5)
	34) 120 cells: JW-HD120N-xxxS (xxx=625-670, in steps of 5)
	Double Glass PV Modules with 182 Half-cut Mono P-type Bifacial Solar Cell PJ311BF46B2, PJ310BF47B2
	35) 156 cells: JW-HD156P-xxx (xxx=580-605, in steps of 5)
	36) 144 cells: JW-HD144P-xxx (xxx=525-555, in steps of 5)
	37) 108 cells: JW-HD108P-xxx (xxx=395-415, in steps of 5)
	38) 156 cells: JW-HD156P-xxxS (xxx=580-605, in steps of 5)
	39) 144 cells: JW-HD144P-xxxS (xxx=525-555, in steps of 5)
	40) 108 cells: JW-HD108P-xxxS (xxx=395-415, in steps of 5)
	Double Glass PV Modules with 182*199 Half-cut Mono N-type Bifacial Solar Cell N199R-16B
	41) 144 cells: JW-HD144N-R4-xxx (xxx=610-640, in steps of 5)
	42) 144 cells: JW-HD144N-R4-xxxS (xxx=610-640, in steps of 5)
	Double Glass PV Modules with 182.2*183.75 Half-cut Mono N-type Bifacial Solar Cell N183.75R20B
	45) 156 cells: JW-HD156J-R0-xxx (xxx=660-685, in steps of 5)
	46) 144 cells: JW-HD144J-R0-xxx (xxx=610-635, in steps of 5)
	47) 156 cells: JW-HD156J-R0-xxxS (xxx=660-685, in steps of 5)
	48) 144 cells: JW-HD144J-R0-xxxS (xxx=610-635, in steps of 5)
	Double Glass PV Modules with 182.3*210 Half-cut Mono N-type Bifacial Solar Cell N210R20B
	49) 132 cells: JW-HD132J-R2-xxx (xxx=640-665, in steps of 5)
	50) 108 cells: JW-HD108J-R2-xxx (xxx=520-545, in steps of 5)
	51) 96 cells: JW-HD96J-R2-xxx (xxx=460-485, in steps of 5)
	52) 132 cells: JW-HD132J-R2-xxxS (xxx=640-665, in steps of 5)
	53) 108 cells: JW-HD108J-R2-xxxS (xxx=520-545, in steps of 5)
	54) 96 cells: JW-HD96J-R2-xxxS (xxx=460-485, in steps of 5)

	Double Glass PV Modules with 182.2*187.5 Half-cut Mono N-type Bifacial Solar Cell N187.5R20B
	55) 108 cells: JW-HD108J-R3-xxx (xxx=460-485, in steps of 5)
	56) 108 cells: JW-HD108J-R3-xxxS (xxx=460-485, in steps of 5)
	Double Glass PV Modules with 182.3*213.5 1/4-cut Mono N-type Bifacial Solar Cell N213.5R16B
	57) 264 cells: JW-MD66N-R2-xxx (xxx=630-670, in steps of 5)
	58) 216 cells: JW-MD54N-R2-xxx (xxx=515-550, in steps of 5)
	59) 192 cells: JW-MD48N-R2-xxx (xxx=455-490, in steps of 5)
	60) 264 cells: JW-MD66N-R2-xxxS (xxx=630-670, in steps of 5)
	61) 216 cells: JW-MD54N-R2-xxxS (xxx=515-550, in steps of 5)
	62) 192 cells: JW-MD48N-R2-xxxS (xxx=455-490, in steps of 5)
	Double Glass PV Modules with 182.3*210 Half-cut Mono N-type Bifacial Solar Cell N210R16B2
	63) 132 cells: JW-HD132N2-R2-xxx (xxx=595-660, in steps of 5)
	64) 108 cells: JW-HD108N2-R2-xxx (xxx=485-540, in steps of 5)
	65) 96 cells: JW-HD96N2-R2-xxx (xxx=430-480, in steps of 5)
	66) 132 cells: JW-HD132N2-R2-xxxS (xxx=595-660, in steps of 5)
	67) 108 cells: JW-HD108N2-R2-xxxS (xxx=485-540, in steps of 5)
	68) 96 cells: JW-HD96N2-R2-xxxS (xxx=430-480, in steps of 5)
	Double Glass PV Modules with 182.5*212.5 Half-cut Mono N-type Bifacial Solar Cell N210R16B2
	64) 108 cells: JW-HD108N2-R2-xxx (xxx=485-540, in steps of 5)
	65) 96 cells: JW-HD96N2-R2-xxx (xxx=430-480, in steps of 5)
	67) 108 cells: JW-HD108N2-R2-xxxS (xxx=485-540, in steps of 5)
	68) 96 cells: JW-HD96N2-R2-xxxS (xxx=430-480, in steps of 5)
	Double Glass PV Modules with 210*210 Half-cut Mono N-type Bifacial Solar Cell NG1218B2
	69) 132 cells: JW-HD132N2-xxx (xxx=685-740, in steps of 5)
	70) 120 cells: JW-HD120N2-xxx (xxx=625-670, in steps of 5)
	71) 132 cells: JW-HD132N2-xxxS (xxx=685-740, in steps of 5)
	72) 120 cells: JW-HD120N2-xxxS (xxx=625-670, in steps of 5)
	Double Glass PV Modules with 182.3*213.5 1/4-cut Mono N-type Bifacial Solar Cell N213.5R16B2
	73) 264 cells: JW-MD66N2-R2-xxx (xxx=630-670, in steps of 5)
	74) 216 cells: JW-MD54N2-R2-xxx (xxx=515-550, in steps of 5)
	75) 192 cells: JW-MD48N2-R2-xxx (xxx=455-490, in steps of 5)
	76) 264 cells: JW-MD66N2-R2-xxxS (xxx=630-670, in steps of 5)

	77) 216 cells: JW-MD54N2-R2-xxxS (xxx=515-550, in steps of 5) 78) 192 cells: JW-MD48N2-R2-xxxS (xxx=455-490, in steps of 5) xxx stands for rated output power at STC
Device type .....:	Mono-crystalline Silicon Photovoltaic (PV) Module

Ratings.....:	See below electrical parameter table
Overvoltage category .....:	☐ I / ☐ II / ☒ III / ☐ IV / ☐ N/A
Pollution degree .....:	☒ 1 / ☐ 2 / ☐ 3 / ☐ 4 / ☐ N/A
Class of protection .....:	☐ Class I (PE connected) ☒ Class II (isolated) ☐ Class III ☐ Others: ☐ N/A
Product with functional earthing .....:	☐ Yes ☒ N/A
Environmental conditions / Maximum ambient temperature (°C).....:	-40~+40
Equipment mobility / Classification of installation and use .....:	☐ transportable / ☐ portable / ☐ stationary / ☐ mobile / ☐ fixed / ☒ permanently installed / ☐ hand-held / ☐ body-worn / ☐ building-in / ☒ Others: ≤2000 m above sea level
Overall size of equipment (mm) .....:	1),7) 2465x1134x30/35mm (with full frame) 2),8) 2278x1134x35/30mm (with full frame) 3),9) 1722x1134x35/30mm (with full frame) 4),10) 2465x1134x29/30mm (with full frame) 5),11) 2278x1134x29/30mm (with full frame) 6),12) 1722x1134x29/30mm (with full frame) 13),15) 1950x1134x29/30/35mm (with full frame) 14),16) 1762x1134x29/30/35mm (with full frame) 17),20),23),27),63),66) 2382x1134x29/30/35mm (with full frame) 18),21) 1994x1134x29/30/35mm (with full frame) 19),22) 1800x1134x29/30/35mm (with full frame) 24),28) 2172x1134x29/30/35mm (with full frame)

	25),29),64),67) 1960x1134x29/30/35mm or 1978x1134x29/30/35mm (with full frame) 26),30),65),68) 1762x1134x29/30/35mm (with full frame) 31),33),69),71) 2384x1303x29/30/33/35mm (with full frame) 32),34),70),72) 2172x1303x29/30/33/35mm (with full frame) 35),38) 2465x1134x29/30/35mm (with full frame) 36),39) 2278x1134x29/30/35mm (with full frame) 37),40) 1722x1134x29/30/35mm (with full frame) 41),42) 2465x1134x29/30/35mm (with full frame) 43) 2465x1303x30/33/35mm (with full frame) 44) 2465x1303x29/30mm (with full frame) 45),47) 2465x1134x30/29/33/35mm (with full frame) 46),48) 2278x1134x30/29/33/35mm (with full frame) 49),52) 2382x1134x30/29/33/35mm (with full frame) 50),53) 1960x1134x30/29/33/35mm (with full frame) 51),54) 1762x1134x30/29/33/35mm (with full frame) 55),56) 1762x1134x30/29/33/35mm (with full frame) 57),60),73),76) 2382x1134x30/29/33/35mm (with full frame) 58),61),74),77) 1960x1134x30/29/33/35mm (with full frame) 59),62),75),78) 1762x1134x30/29/33/35mm (with full frame)
Mass of equipment (kg).....:	1) 34.5kg or 36.5kg (approx) 2) 31.5kg or 32.5kg or 34.5kg (approx) 3) 20.8kg or 24.5kg or 27.0kg (approx) 4) 36.5kg (approx) 5) 34.5kg (approx) 6) 27.0kg (approx) 7) 34.5kg or 36.5kg (approx) 8) 32kg or 33kg or 35kg (approx) 9) 20.8kg or 24.6kg or 27.0kg (approx) 10) 36.5kg (approx) 11) 34.6kg (approx) 12) 27.0kg (approx) 13) 23.3kg or 27.6kg (approx) 14) 21.2kg or 25.0kg (approx) 15) 30kg (approx) 16) 27.3kg (approx)

	17) 33.3kg (approx) 18) 28.2kg (approx) 19) 21.6kg or 25.6kg (approx) 20) 36.0kg (approx) 21) 30.5kg (approx) 22) 27.8kg (approx) 23) ,63) 32.7kg (approx) 24) 30.5kg (approx) 25) ,64) 27.3kg or 27.5kg (approx) 26) ,65) 21.2kg or 24.6kg (approx) 27) ,66) 34.8kg or 35.2kg (approx) 28) 33.0kg (approx) 29) ,67) 30.0kg or 29.2kg (approx) 30) ,68) 27.2kg or 26.2kg (approx) 31) ,69) 37.5kg (approx) 32) ,70) 34.9kg or 35.5kg (approx) 33) ,71) 39.6kg or 40.5kg (approx) 34) ,72) 37.1kg (approx) 35) 34.5kg or 36.5kg (approx) 36) 31.5kg or 32.5kg or 34.5kg (approx) 37) 20.8kg or 24.5kg or 27.0kg (approx) 38) 37.2kg (approx) 39) 34.6kg (approx) 40) 26.8kg (approx) 41) 33.5kg (approx) 42) 35.2kg (approx) 43) 39.0kg (approx) 44) 40.8kg (approx) 45) 34.5kg (approx) 46) 31.5kg (approx) 47) 36.0kg (approx) 48) 33.4kg (approx) 49) 33.3kg (approx) 50) 27.3kg (approx) 51) 21.2kg or 24.6kg (approx) 52) 34.8kg (approx)

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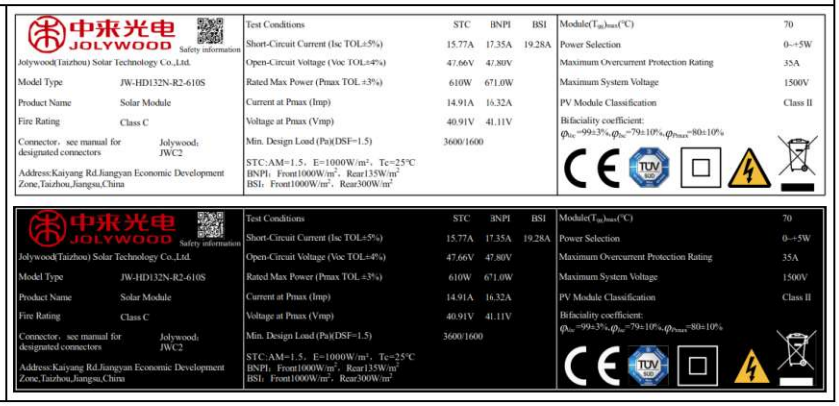
	53) 29.0kg (approx) 54) 26.7kg (approx) 55) 21.2kg (approx) 56) 26.7kg (approx) 57) ,73) 32.7kg (approx) 58) ,74) 27.3kg (approx) 59) ,75) 23.6kg or 24.6kg (approx) 60) ,76) 34.8kg (approx) 61) ,77) 29.2kg (approx) 62) ,78) 26.2kg (approx)
Data communication ports: ☒ N/A	
Wired ports.....:	☒N/A ☐USB ☐LAN ☐DALI ☐other:
Wireless ports .....:	☒N/A ☐Wifi ☐Bluetooth ☐NFC ☐4G/LTE ☐ 5G ☐Other:
Data Storage/ Processing.....:	☐N/A ☒Local ☒Cloud

Additional IEC 60601-1 / EN 60601-1 / ANSI/AAMI ES60601-1 / CAN/CSA-C22.2 No. 60601-1: ☒ N/A	
Applied part type .....:	☐B ☐BF ☐CF ☐Defibrillation-Proof ☒No AP
Software Version.....:	N/A

General product information and other remarks:	
Main label / Warning Markings:	

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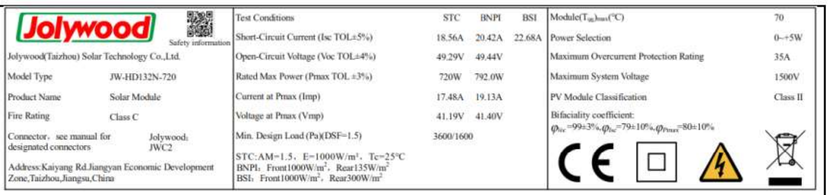
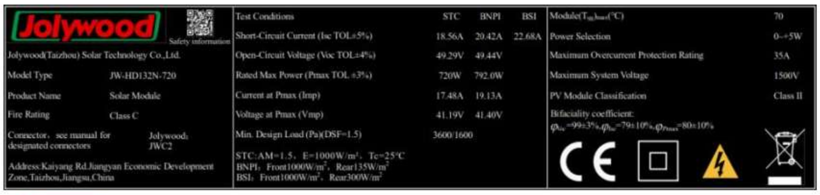
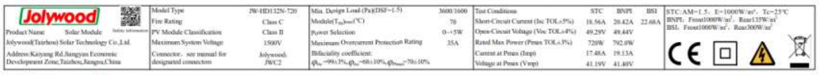
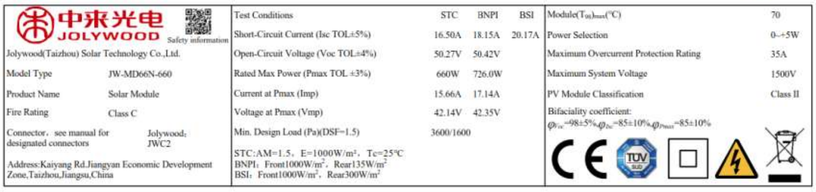
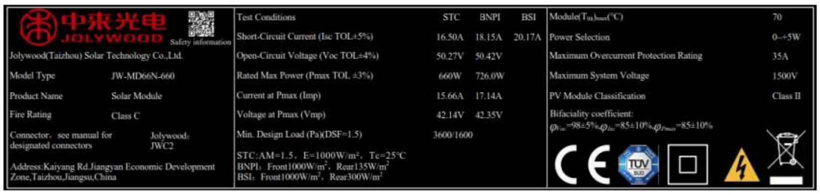
Product Service

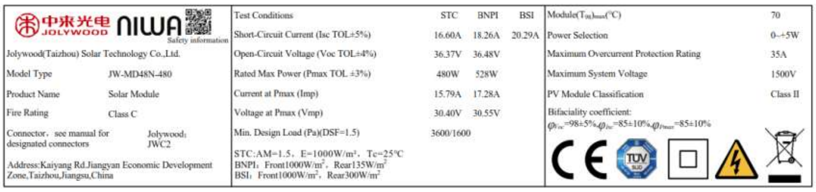


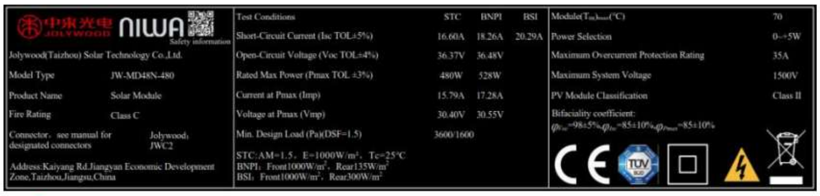


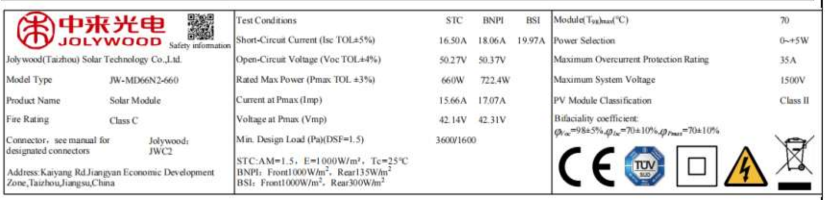












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Description of model differences:	See the corresponding test report
General information / Intended use:	See the corresponding test report
Equipotential Bonding:	 Grounding hole&Equipotential bonding symbol
Drawing(s) / Picture(s):	See the corresponding test report

Additional information:

Types of terminations:

Type A: wire of flying lead	☐
Type B: tags, threaded stubs, screws, etc.	☐
Type C: connector	☒
Junction box	☒

Protection devices:

By-pass Diode	☒
Fuse	☐
Other	☐

Fire safety class according to UL790:

Class A (only tested on Xinyi glass)	☒
Class B	☐

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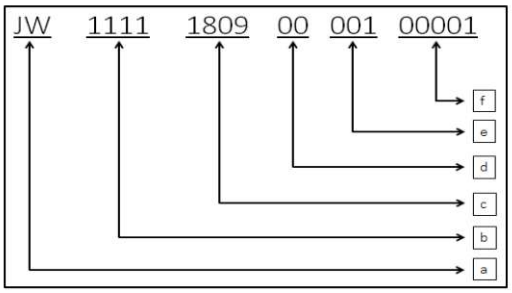
	Class C	☒
Frame:	Framed	☒
	Frameless	☐
Designed mechanical load and safety factor:	Positive: 3600 Pa,1.5 Negative: 1600 Pa,1.5	

Serial No.bar code:

Serial No. code bar Ver 1:



a) Company Code：

b) Module type: for example, 11 for 60 N type cells modules ,33 for 144 N type cells modules, 34 for 144 P type cells modules;
Backsheet(third):1 for Transparent Backsheet, 2 for white backsheet,3 for blacksheet, 4 for glass with inside white ceramic glaze coating.
Cell type(forth):1 for156.75 chamfer, 2 for157.35chamfer, 3for158.75chamfer,4 for158.75 right-angle, 5 for 166.0 chamfer, 6 for 182.0 chamfer.

c) Date:example：1810

d) Factory Code: 00,01,02 for 98081, 75 for 131647, 92 for 078439, 65 for 115225, 70 for 135673.

e) Order No.: last three number.

f) Porducted No: including date, factory, order from 00001;
For essxample: JW011111161100105306
Explanation, this is Jolywood company porducted, used Transparent backsheet and composed by 60 pieces N type 156.75 chamfer mono cells module, the first order the 00001st produced in Sep, 2018.

Serial No. code bar Ver 2:

a) Company Code：

b) Date No:example：1810.

c) Order No.: after date No three number.

d) Porducted No: order from 00001；

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For example: JW2201 001 00001
Explanation, this is Jolywood company porducted, the first order the 00001st produced in Jan, 2022

Limited materials combinations:

Encapsulation & None Jolywood Cell	
Encapsulation	None Jolywood Cell
JW-EVA01/JW-EPE01	PJ310BF47B2 PJ311BF46B2
JW-EPE01/JW-EVA01 TF4/F406PS	M210R16BTP10
JW-EPE01/JW-EVA01 TF4/F406PS JW-POE01/JW-EVA01	G12R-A-16BB

Encapsulation & LRF	
LRF	Encapsulation
JW-125S JW-125W JW-125B	TF4/F406PS
	JW-EPE01/JW-EVA01
	JW-POE01/JW-EVA01
JW-125S	TF4/TF4

Encapsulation & Insulation material for string connectors	
Insulation material	Encapsulation
JW-150T	TF4/TF4
	JW-EPE01/JW-EVA01
	TF4/F406PS

Encapsulation (Rear side & Edge of rear side)	
Rear side	Edge of rear side
F406PS	JW-EVA09B
JW-EVA01	

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Form

Data form for critical components and material information

Product Service

Fire test Class A according to UL790 has been evaluated on the following materials:

Kind of component	Type	Manufacturer
Superstrate (Front sheet)	Heat strengthened glass with external AR coating. Thickness = 2.5 or 2.0mm	Xinyi PV Products (Anhui) Holdings Ltd.
Encapsulation	JW-EPE01 (Front side) JW-EVA01 (Rear side)	Jolywood (Jiangsu) Sunwatt Co., Ltd.
Substrate (Backsheet)	Heat strengthened glass Heat strengthened glass with inside white ceramic glaze coating. Thickness =2.0mm	Xinyi PV Products (Anhui) Holdings Ltd.

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