182 N-TOPCon Dual-glass Bifacial Module (54)

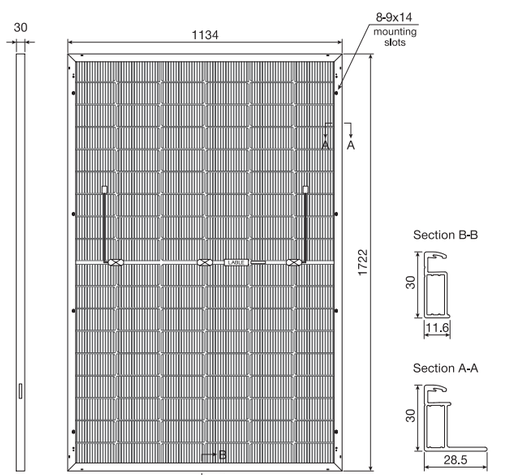
Power Range
430W ~ 450W

Maximum Efficiency
23.04%

(Unit: mm)

Structure Performance

Solar Cell Type	182mm N-TOPCon Mono Cell (Half Cell)
Solar Cell Arrangement	108pcs(6×18)
Module Dimension	1722×1134×30mm
Weight	23.1kg
Front Glass	2.0mm, highly transparent tempered glass with anti-reflective coating
Frame	Anodized Aluminum Alloy
Junction Box	IP68 rated
Cable	4mm², portrait $^{400mm\,(+)}_{200mm\,(-)}$, landscape $^{1400mm\,(+)}_{1400mm\,(-)}$ Length can be customized
Diode Quantity	3 pcs
Front side / Rear side	5400pa / 2400pa
Connector	MC4 Compatible
Per Pallet	36pcs
Per Container(40'HQ)	936pcs

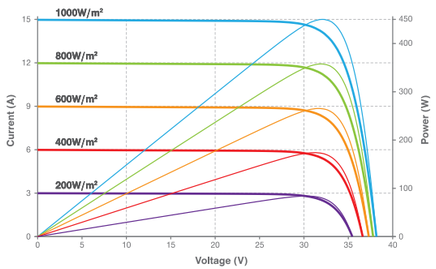


Electrical Performance Parameters

Model Type		430C(HBD)54(182)	435C(HBD)54(182)	440C(HBD)54(182)	445C(HBD)54(182)	450C(HBD)54(182)
Nominal Max. Power	P_{MAX} (W)	430	435	440	445	450
Max. Power Voltage	V_{MP} (V)	31.88	32.11	32.34	32.57	32.80
Max. Power Current	I_{MP} (A)	13.49	13.55	13.61	13.67	13.73
Open Circuit Voltage	V_{OC} (V)	37.37	37.57	37.77	37.97	38.17
Short Circuit Current	I_{SC} (A)	14.73	14.79	14.85	14.91	14.97
Module Efficiency	(%)	22.02	22.28	22.53	22.79	23.04

* STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5; Power measurement tolerance ±3%.

Current-Voltage & Power-Voltage Curve (450W)



Bifacial Output-rearside Power Gain

5%	**Maximum Power**	P_{MAX} (W)	452	457	462	467	473
	Module Efficiency	(%)	23.12	23.39	23.66	23.93	24.20
10%	**Maximum Power**	P_{MAX} (W)	473	479	484	490	495
	Module Efficiency	(%)	24.22	24.50	24.79	25.07	25.35
25%	**Maximum Power**	P_{MAX} (W)	538	544	550	556	563
	Module Efficiency	(%)	27.53	27.85	28.17	28.49	28.81

Temperature Characteristics

Nominal Module Operating Temperature	44±2℃	**Temperature Coefficient (V_{OC})**	-0.25%
Temperature Coefficient (I_{SC})	+0.043%	**Temperature Coefficient (P_{MAX})**	-0.30%

Maximum Parameters

Working Temperature	-40~+85℃
Maximum System Voltage	1500V DC
Nominal Maximum Fuse Current	30A

182 N-TOPCon Pure-black Dual-glass Bifacial Module (54)

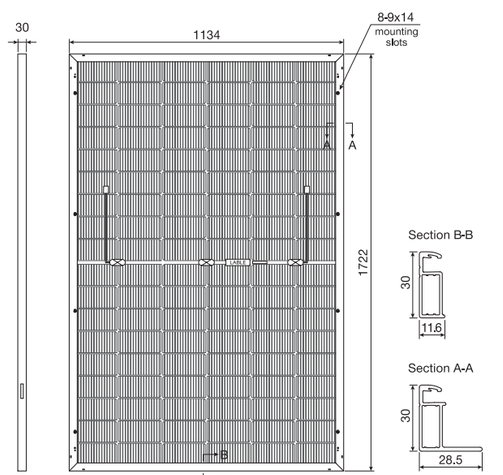
Power Range
430W ~ 450W

Maximum Efficiency
23.04%

(Unit: mm)

Structure Performance

Solar Cell Type	182mm N-TOPCon Mono Cell (Half Cell)
Solar Cell Arrangement	108pcs(6×18)
Module Dimension	1722×1134×30mm
Weight	23.1kg
Front Glass	2.0mm, highly transparent tempered glass with anti-reflective coating
Frame	Anodized Aluminum Alloy (Black)
Junction Box	IP68 rated
Cable	4mm², portrait $^{400mm\,(+)}_{200mm\,(-)}$, landscape $^{1400mm\,(+)}_{1400mm\,(-)}$ Length can be customized
Diode Quantity	3 pcs
Front side / Rear side	5400pa / 2400pa
Connector	MC4 Compatible
Per Pallet	36pcs
Per Container(40'HQ)	936pcs

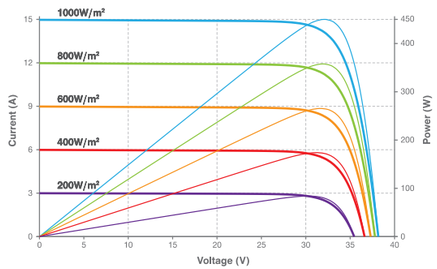


Electrical Performance Parameters

Model Type		430C(BBD)54(182)	435C(BBD)54(182)	440C(BBD)54(182)	445C(BBD)54(182)	450C(BBD)54(182)
Nominal Max. Power	P_{MAX} (W)	430	435	440	445	450
Max. Power Voltage	V_{MP} (V)	31.69	31.92	32.15	32.38	32.61
Max. Power Current	I_{MP} (A)	13.57	13.63	13.69	13.75	13.81
Open Circuit Voltage	V_{OC} (V)	37.15	37.35	37.55	37.75	37.95
Short Circuit Current	I_{SC} (A)	14.82	14.88	14.94	15.00	15.06
Module Efficiency	(%)	22.02	22.28	22.53	22.79	23.04

* STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5; Power measurement tolerance ±3%.

Current-Voltage & Power-Voltage Curve (450W)



Bifacial Output-rearside Power Gain

5%	**Maximum Power**	P_{MAX} (W)	452	457	462	467	473
	Module Efficiency	(%)	23.12	23.39	23.66	23.93	24.20
10%	**Maximum Power**	P_{MAX} (W)	473	479	484	490	495
	Module Efficiency	(%)	24.22	24.50	24.79	25.07	25.35
25%	**Maximum Power**	P_{MAX} (W)	538	544	550	556	563
	Module Efficiency	(%)	27.53	27.85	28.17	28.49	28.81

Temperature Characteristics

Nominal Module Operating Temperature	44±2℃	**Temperature Coefficient (V_{OC})**	-0.25%
Temperature Coefficient (I_{SC})	+0.043%	**Temperature Coefficient (P_{MAX})**	-0.30%

Maximum Parameters

Working Temperature	-40~+85℃
Maximum System Voltage	1500V DC
Nominal Maximum Fuse Current	30A

182 N-TOPCon Dual-glass Bifacial Module (72)

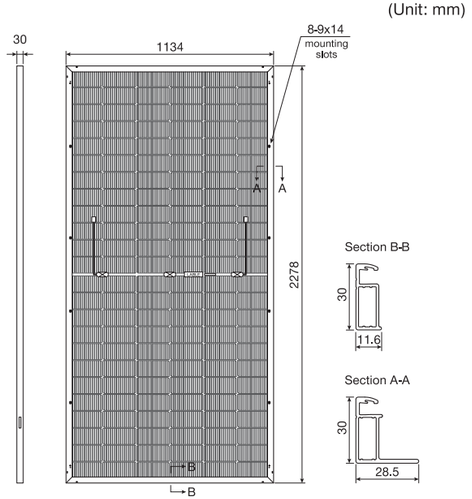
Power Range
580W ~ 600W

Maximum Efficiency
23.23%

(Unit: mm)

Structure Performance

Solar Cell Type	182mm N-TOPCon Mono Cell (Half Cell)
Solar Cell Arrangement	144pcs(6×24)
Module Dimension	2278×1134×30mm
Weight	31.2kg
Front Glass	2.0mm, highly transparent tempered glass with anti-reflective coating
Frame	Anodized Aluminum Alloy
Junction Box	IP68 rated
Cable	4mm², portrait $^{400mm\ (+)}_{200mm\ (-)}$, landscape $^{1400mm\ (+)}_{1400mm\ (-)}$ Length can be customized
Diode Quantity	3 pcs
Front side / Rear side	5400pa / 2400pa
Connector	MC4 Compatible
Per Pallet	37pcs
Per Container(40'HQ)	740pcs

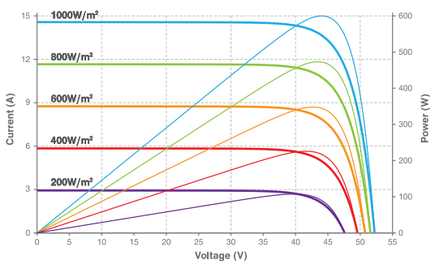


Electrical Performance Parameters

Model Type		580C(HBD)72(182)	585C(HBD)72(182)	590C(HBD)72(182)	595C(HBD)72(182)	600C(HBD)72(182)
Nominal Max. Power	P_{MAX} (W)	580	585	590	595	600
Max. Power Voltage	V_{MP} (V)	42.75	42.89	43.04	43.18	43.33
Max. Power Current	I_{MP} (A)	13.57	13.64	13.71	13.78	13.85
Open Circuit Voltage	V_{OC} (V)	51.43	51.63	51.83	52.03	52.23
Short Circuit Current	I_{SC} (A)	14.33	14.39	14.45	14.51	14.57
Module Efficiency	(%)	22.45	22.65	22.84	23.03	23.23

* STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5; Power measurement tolerance ±3%.

Current-Voltage & Power-Voltage Curve (600W)



Bifacial Output-rearside Power Gain

5%	**Maximum Power**	P_{MAX} (W)	609	614	620	625	630
	Module Efficiency	(%)	23.57	23.78	23.98	24.18	24.39
10%	**Maximum Power**	P_{MAX} (W)	638	644	649	655	660
	Module Efficiency	(%)	24.70	24.91	25.12	25.34	25.55
25%	**Maximum Power**	P_{MAX} (W)	725	731	738	744	750
	Module Efficiency	(%)	28.07	28.31	28.55	28.79	29.03

Temperature Characteristics

Nominal Module Operating Temperature	44±2℃	**Temperature Coefficient (V_{OC})**	-0.25%
Temperature Coefficient (I_{SC})	+0.043%	**Temperature Coefficient (P_{MAX})**	-0.30%

Maximum Parameters

Working Temperature	-40~+85℃
Maximum System Voltage	1500V DC
Nominal Maximum Fuse Current	30A

182 N-TOPCon Dual-glass Bifacial Module (78)

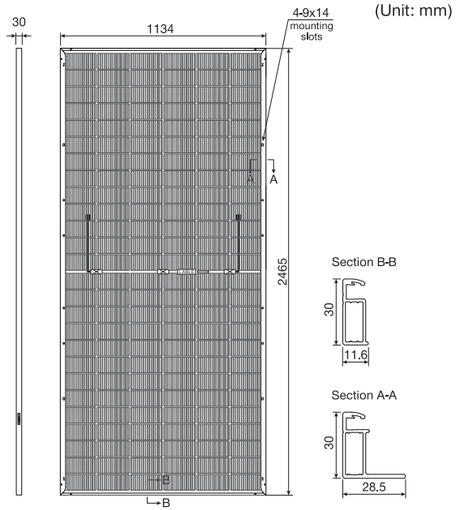
Power Range
630W ~ 650W

Maximum Efficiency
23.25%

(Unit: mm)

Structure Performance

Solar Cell Type	182mm N-TOPCon Mono Cell (Half Cell)
Solar Cell Arrangement	156pcs(6x26)
Module Dimension	2465×1134×30mm
Weight	33.5kg
Front Glass	2.0mm, highly transparent tempered glass with anti-reflective coating
Frame	Anodized Aluminum Alloy
Junction Box	IP68 rated
Cable	4mm², portrait $^{400mm\ (+)}_{200mm\ (-)}$, landscape $^{1400mm\ (+)}_{1400mm\ (-)}$ Length can be customized
Diode Quantity	3 pcs
Front side / Rear side	5400pa / 2400pa
Connector	MC4 Compatible
Per Pallet	36pcs
Per Container(40'HQ)	576pcs

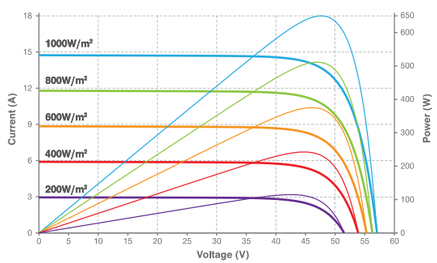


Electrical Performance Parameters

Model Type		630C(HBD)78(182)	635C(HBD)78(182)	640C(HBD)78(182)	645C(HBD)78(182)	650C(HBD)78(182)
Nominal Max. Power	P_{MAX} (W)	630	635	640	645	650
Max. Power Voltage	V_{MP} (V)	46.37	46.50	46.63	46.76	46.89
Max. Power Current	I_{MP} (A)	13.59	13.66	13.73	13.80	13.87
Open Circuit Voltage	V_{OC} (V)	56.46	56.61	56.76	56.91	57.06
Short Circuit Current	I_{SC} (A)	14.42	14.50	14.58	14.66	14.74
Module Efficiency	(%)	22.54	22.72	22.90	23.07	23.25

* STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5; Power measurement tolerance ±3%.

Current-Voltage & Power-Voltage Curve (650W)



Bifacial Output-rearside Power Gain

5%	**Maximum Power**	P_{MAX} (W)	662	667	672	677	683
	Module Efficiency	(%)	23.66	23.85	24.04	24.23	24.42
10%	**Maximum Power**	P_{MAX} (W)	693	699	704	710	715
	Module Efficiency	(%)	24.79	24.99	25.19	25.38	25.58
25%	**Maximum Power**	P_{MAX} (W)	788	794	800	806	813
	Module Efficiency	(%)	28.17	28.40	28.62	28.84	29.07

Temperature Characteristics

Nominal Module Operating Temperature	44±2℃	**Temperature Coefficient (V_{OC})**	-0.25%
Temperature Coefficient (I_{SC})	+0.043%	**Temperature Coefficient (P_{MAX})**	-0.30%

Maximum Parameters

Working Temperature	-40~+85℃
Maximum System Voltage	1500V DC
Nominal Maximum Fuse Current	30A

210 N-TOPCon Dual-glass Bifacial Module (48)

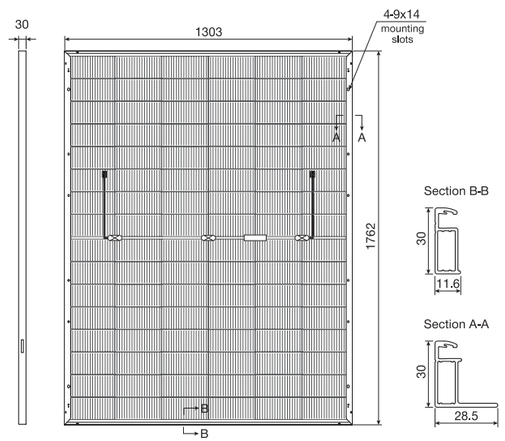
Power Range
510W ~ 530W

Maximum Efficiency
23.08%

(Unit: mm)

Structure Performance

Solar Cell Type	210mm N-TOPCon Mono Cell (Half Cell)
Solar Cell Arrangement	96pcs(6x16)
Module Dimension	1762×1303×30mm
Weight	28.8kg
Front Glass	2.0mm, highly transparent tempered glass with anti-reflective coating
Frame	Anodized Aluminum Alloy
Junction Box	IP68 rated
Cable	4mm², portrait 400mm (+) / 200mm (–), landscape 1400mm (+) / 1400mm (–) Length can be customized
Diode Quantity	3 pcs
Front side / Rear side	5400pa / 2400pa
Connector	MC4 Compatible
Per Pallet	36pcs
Per Container(40'HQ)	648pcs

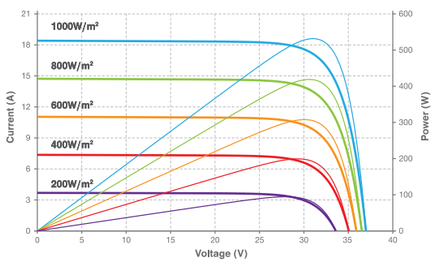


Electrical Performance Parameters

Model Type		510C(HBD)48(210)	515C(HBD)48(210)	520C(HBD)48(210)	525C(HBD)48(210)	530C(HBD)48(210)
Nominal Max. Power	P_{MAX} (W)	510	515	520	525	530
Max. Power Voltage	V_{MP} (V)	29.18	29.35	29.52	29.69	29.85
Max. Power Current	I_{MP} (A)	17.48	17.55	17.62	17.69	17.76
Open Circuit Voltage	V_{OC} (V)	36.83	37.00	37.18	37.35	37.52
Short Circuit Current	I_{SC} (A)	18.20	18.24	18.28	18.32	18.36
Module Efficiency	(%)	22.21	22.43	22.65	22.87	23.08

* STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5; Power measurement tolerance ±3%.

Current-Voltage & Power-Voltage Curve (530W)



Bifacial Output-rearside Power Gain

5%	**Maximum Power**	P_{MAX} (W)	536	541	546	551	557
	Module Efficiency	(%)	23.32	23.55	23.78	24.01	24.24
10%	**Maximum Power**	P_{MAX} (W)	561	567	572	578	583
	Module Efficiency	(%)	24.44	24.67	24.91	25.15	25.39
25%	**Maximum Power**	P_{MAX} (W)	638	644	650	656	663
	Module Efficiency	(%)	27.77	28.04	28.31	28.58	28.86

Temperature Characteristics

Nominal Module Operating Temperature	44±2℃	**Temperature Coefficient (V_{OC})**	-0.25%
Temperature Coefficient (I_{SC})	+0.043%	**Temperature Coefficient (P_{MAX})**	-0.30%

Maximum Parameters

Working Temperature	-40~+85℃
Maximum System Voltage	1500V DC
Nominal Maximum Fuse Current	35A

210 N-TOPCon Dual-glass Bifacial Module (66)

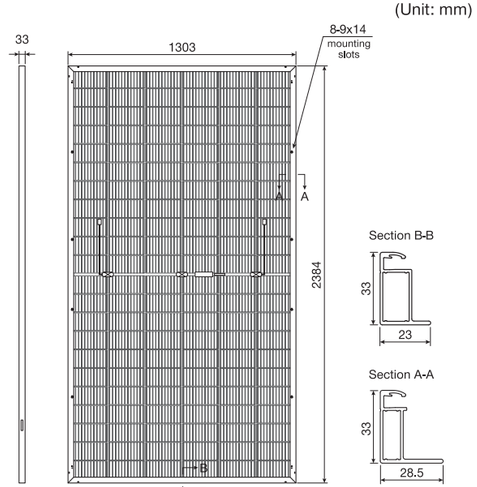
Power Range
710W ~ 730W

Maximum Efficiency
23.50%

(Unit: mm)

Structure Performance

Solar Cell Type	210mm N-TOPCon Mono Cell (Half Cell)
Solar Cell Arrangement	132pcs(6x22)
Module Dimension	2384×1303×33mm
Weight	37.8kg
Front Glass	2.0mm, highly transparent tempered glass with anti-reflective coating
Frame	Anodized Aluminum Alloy
Junction Box	IP68 rated
Cable	4mm², portrait 400mm (+) / 200mm (–), landscape 1400mm (+) / 1400mm (–) Length can be customized
Diode Quantity	3 pcs
Front side / Rear side	5400pa / 2400pa
Connector	MC4 Compatible
Per Pallet	33pcs
Per Container(40'HQ)	594pcs

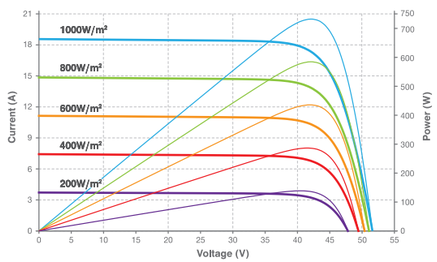


Electrical Performance Parameters

Model Type		710C(HBD)66(210)	715C(HBD)66(210)	720C(HBD)66(210)	725C(HBD)66(210)	730C(HBD)66(210)
Nominal Max. Power	P_{MAX} (W)	710	715	720	725	730
Max. Power Voltage	V_{MP} (V)	40.51	40.72	40.94	41.16	41.37
Max. Power Current	I_{MP} (A)	17.53	17.56	17.59	17.62	17.65
Open Circuit Voltage	V_{OC} (V)	50.76	50.97	51.18	51.39	51.60
Short Circuit Current	I_{SC} (A)	18.45	18.49	18.53	18.57	18.61
Module Efficiency	(%)	22.86	23.02	23.18	23.34	23.50

* STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5; Power measurement tolerance ±3%.

Current-Voltage & Power-Voltage Curve (730W)



Bifacial Output-rearside Power Gain

5%	**Maximum Power**	P_{MAX} (W)	746	751	756	761	767
	Module Efficiency	(%)	24.00	24.17	24.34	24.51	24.68
10%	**Maximum Power**	P_{MAX} (W)	781	787	792	798	803
	Module Efficiency	(%)	25.14	25.32	25.50	25.67	25.85
25%	**Maximum Power**	P_{MAX} (W)	888	894	900	906	913
	Module Efficiency	(%)	28.57	28.77	28.97	29.17	29.38

Temperature Characteristics

Nominal Module Operating Temperature	44±2℃	**Temperature Coefficient (V_{OC})**	-0.25%
Temperature Coefficient (I_{SC})	+0.043%	**Temperature Coefficient (P_{MAX})**	-0.30%

Maximum Parameters

Working Temperature	-40~+85℃
Maximum System Voltage	1500V DC
Nominal Maximum Fuse Current	35A

210R N-TOPCon Dual-glass Bifacial Module (48)

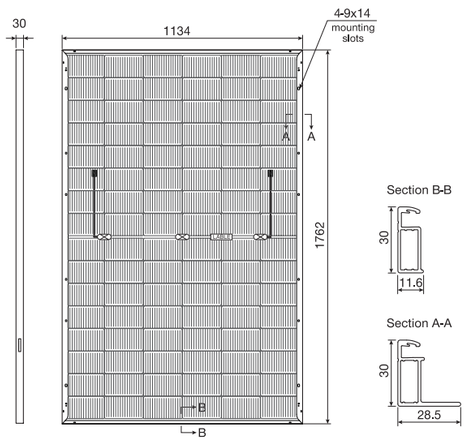
Power Range
445W ~ 465W

Maximum Efficiency
23.27%

(Unit: mm)

Structure Performance

Solar Cell Type	210R N-TOPCon Mono Cell (Half Cell)
Solar Cell Arrangement	96pcs(6x16)
Module Dimension	1762×1134×30mm
Weight	24.7kg
Front Glass	2.0mm, highly transparent tempered glass with anti-reflective coating
Frame	Anodized Aluminum Alloy
Junction Box	IP68 rated
Cable	4mm², portrait $^{400mm\ (+)}_{200mm\ (-)}$, landscape $^{1400mm\ (+)}_{1400mm\ (-)}$ Length can be customized
Diode Quantity	3 pcs
Front side / Rear side	5400pa / 2400pa
Connector	MC4 Compatible
Per Pallet	36pcs
Per Container(40'HQ)	936pcs

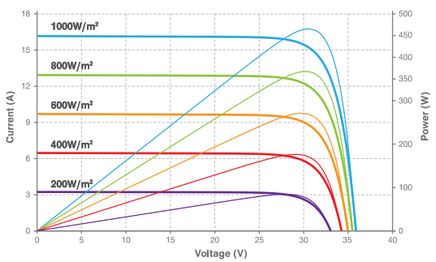


Electrical Performance Parameters

Model Type		445C(HBD)48(210R)	450C(HBD)48(210R)	455C(HBD)48(210R)	460C(HBD)48(210R)	465C(HBD)48(210R)
Nominal Max. Power	P_{MAX} (W)	445	450	455	460	465
Max. Power Voltage	V_{MP} (V)	30.05	30.19	30.34	30.48	30.63
Max. Power Current	I_{MP} (A)	14.81	14.91	15.00	15.09	15.19
Open Circuit Voltage	V_{OC} (V)	35.20	35.35	35.50	35.65	35.80
Short Circuit Current	I_{SC} (A)	15.83	15.92	16.00	16.08	16.16
Module Efficiency	(%)	22.27	22.52	22.77	23.02	23.27

* STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5; Power measurement tolerance ±3%.

Current-Voltage & Power-Voltage Curve (465W)



Bifacial Output-rearside Power Gain

5%	**Maximum Power**	P_{MAX} (W)	467	473	478	483	488
	Module Efficiency	(%)	23.38	23.65	23.91	24.17	24.44
10%	**Maximum Power**	P_{MAX} (W)	490	495	501	506	512
	Module Efficiency	(%)	24.50	24.77	25.05	25.32	25.60
25%	**Maximum Power**	P_{MAX} (W)	556	563	569	575	581
	Module Efficiency	(%)	27.84	28.15	28.46	28.78	29.09

Temperature Characteristics

Nominal Module Operating Temperature	44±2℃	**Temperature Coefficient (V_{OC})**	-0.25%
Temperature Coefficient (I_{SC})	+0.043%	**Temperature Coefficient (P_{MAX})**	-0.30%

Maximum Parameters

Working Temperature	-40~+85℃
Maximum System Voltage	1500V DC
Nominal Maximum Fuse Current	35A

210R N-TOPCon Dual-glass Bifacial Module (66)

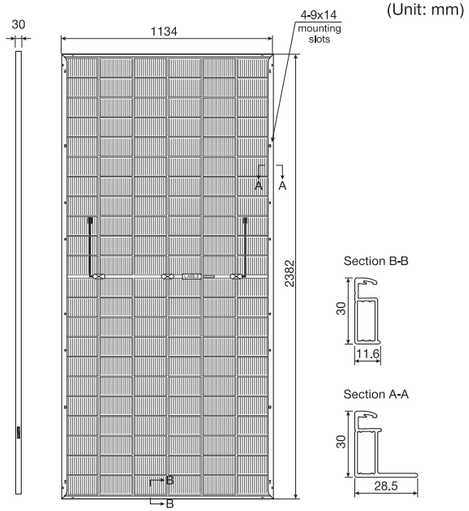
Power Range
615W ~ 635W

Maximum Efficiency
23.51%

(Unit: mm)

Structure Performance

Solar Cell Type	210R N-TOPCon Mono Cell (Half Cell)
Solar Cell Arrangement	132pcs(6x22)
Module Dimension	2382×1134×30mm
Weight	32.5kg
Front Glass	2.0mm, highly transparent tempered glass with anti-reflective coating
Frame	Anodized Aluminum Alloy
Junction Box	IP68 rated
Cable	4mm², portrait $^{400mm\ (+)}_{200mm\ (-)}$, landscape $^{1400mm\ (+)}_{1400mm\ (-)}$ Length can be customized
Diode Quantity	3 pcs
Front side / Rear side	5400pa / 2400pa
Connector	MC4 Compatible
Per Pallet	37pcs
Per Container(40'HQ)	740pcs

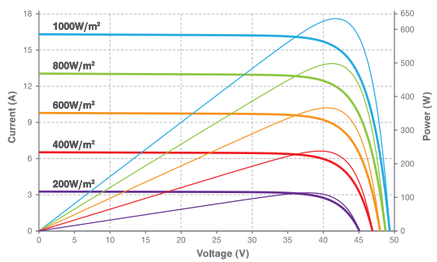


Electrical Performance Parameters

Model Type		615C(HBD)66(210R)	620C(HBD)66(210R)	625C(HBD)66(210R)	630C(HBD)66(210R)	635C(HBD)66(210R)
Nominal Max. Power	P_{MAX} (W)	615	620	625	630	635
Max. Power Voltage	V_{MP} (V)	40.76	40.88	40.99	41.12	41.24
Max. Power Current	I_{MP} (A)	15.09	15.17	15.25	15.33	15.40
Open Circuit Voltage	V_{OC} (V)	48.82	48.95	49.08	49.21	49.34
Short Circuit Current	I_{SC} (A)	15.98	16.06	16.15	16.23	16.31
Module Efficiency	(%)	22.77	22.95	23.14	23.32	23.51

* STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5; Power measurement tolerance ±3%.

Current-Voltage & Power-Voltage Curve (635W)



Bifacial Output-rearside Power Gain

5%	**Maximum Power**	P_{MAX} (W)	646	651	656	662	667
	Module Efficiency	(%)	23.91	24.10	24.29	24.49	24.68
10%	**Maximum Power**	P_{MAX} (W)	677	682	688	693	699
	Module Efficiency	(%)	25.04	25.25	25.45	25.66	25.86
25%	**Maximum Power**	P_{MAX} (W)	769	775	781	788	794
	Module Efficiency	(%)	28.46	28.69	28.92	29.15	29.39

Temperature Characteristics

Nominal Module Operating Temperature	44±2℃	**Temperature Coefficient (V_{OC})**	-0.25%
Temperature Coefficient (I_{SC})	+0.043%	**Temperature Coefficient (P_{MAX})**	-0.30%

Maximum Parameters

Working Temperature	-40~+85℃
Maximum System Voltage	1500V DC
Nominal Maximum Fuse Current	35A