



CDZ-S132/M12H-xxx 650-670W

210mm Cells Half-Cut Technology



Quality Guarantee

12-Year Warranty for Materials and Processing
25-Year Warranty for Extra Linear Power Output



High customer value

Lower LCOE (Levelized Cost Of Energy), reduced BOS (Balance Of System) cost, shorter payback time
Lower guaranteed first year and annual degradation
Designed for compatibility with existing mainstream system components
Higher return on Investment



High power up to 670W

Large area cells based on 210mm silicon wafers and half-cut cell technology
Up to 21.6% module efficiency with high density interconnect technology
Multi-busbar technology for better light trapping effect, lower series resistance and improved current collection



High reliability

Minimized micro-cracks with innovative non-destructive cutting technology Ensured PID resistance through cell process and module material control Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity areas. Mechanical performance up to 5400 Pa positive load and 2400 Pa negative load



High energy yield

Excellent IAM (Incident Angle Modifier) and low irradiation performance, validated by 3rd party certifications
The unique design provides optimized energy production under inter-row shading conditions

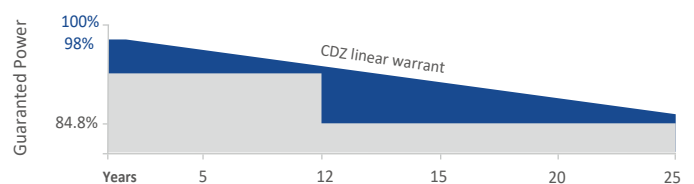
Complete System and Product Certifications

IEC 61215, IEC 61730

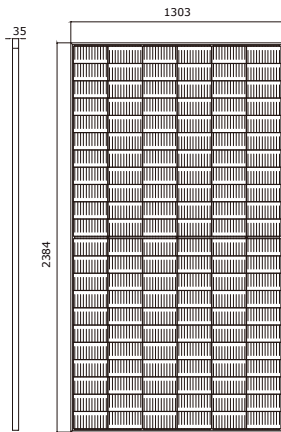
ISO 9001: 2015: ISO Quality Management System

ISO 14001: 2015: ISO Environment Management System

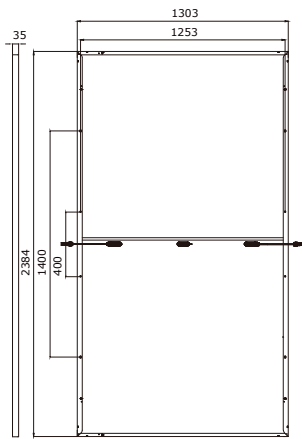
ISO 45001: 2018: Occupational Health and Safety



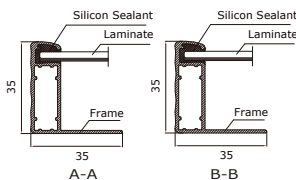
DIMENSIONS OF PV MODULE(mm)



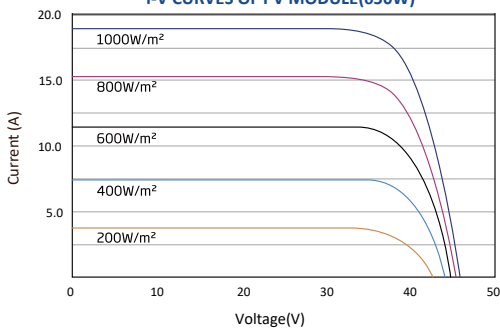
Front View



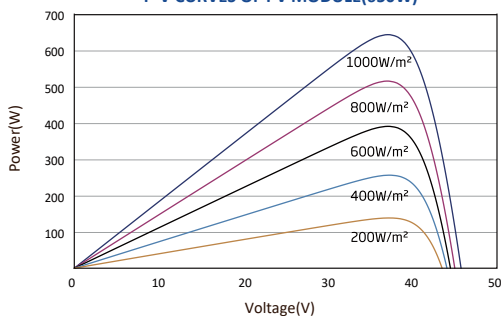
Back View



I-V CURVES OF PV MODULE(650W)



P-V CURVES OF PV MODULE(650W)



ELECTRICAL DATA (STC)

Peak Power Watts- $P_{MAX}(W_p)^*$	650	655	660	665	670
Maximum Power Voltage- $V_{MP}(V)$	37.6	37.8	38.0	38.2	38.4
Maximum Power Current- $I_{MP}(A)$	17.29	17.33	17.37	17.41	17.45
Open Circuit Voltage- $V_{OC}(V)$	44.9	45.1	45.3	45.5	45.7
Short Circuit Current- $I_{SC}(A)$	18.27	18.33	18.39	18.45	18.50
Module Efficiency η_m (%)	20.9	21.1	21.2	21.4	21.6
Power Tolerance(W)	0~+5				

STC:Irradiance 1000W/m²,module temperature 25°C,AM=1.5;*Measuring tolerance: ±3%

ELECTRICAL DATA (NMOT)

Maximum Power- $P_{MAX}(W_p)$	492	496	500	504	508
Maximum Power Voltage- $V_{MP}(V)$	34.9	35.1	35.3	35.4	35.6
Maximum Power Current- $I_{MP}(A)$	14.09	14.13	14.17	14.22	14.26
Open Circuit Voltage- $V_{OC}(V)$	42.7	42.9	43.0	43.2	43.4
Short Circuit Current- $I_{SC}(A)$	14.86	14.89	14.93	14.96	15.01

NMOT:Irradiance 800W/m²,ambient temperature 20°C,AM=1.5,wind speed 1m/s

MECHANICAL DATA

Solar Cells	Monocrystalline
No.of cells	210x105mm 132pcs
Module Dimensions	2384x1303x35mm
Weight	33.9 kg
Glass	3.2 mm, High Transmission, AR Coated Heat Strengthened Glass
Encapsulant Material	EVA
Backsheet	White
Frame	35 mm Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm ² Cable length 350mm or customized length
Connector	MC4 Compatible

TEMPERATURE RATINGS

NMOT(Nominal Module Operating Temperature)	43°C(±2°C)
Temperature Coefficient of P_{max}	-0.34%/°C
Temperature Coefficient of V_{oc}	-0.25%/°C
Temperature Coefficient of I_{sc}	0.04%/°C

(Do not connect Fuse in Combiner Box with two or more strings in parallel connection)

MAXIMUM RATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC)
Max Series Fuse Rating	30A

WARRANTY

12 year Product Workmanship Warranty
25 year Power Warranty
2% first year degradation
0.55% Annual Power Attenuation

(Please refer to product warranty for details)

PACKAGING CONFIGURATION

Modules per box: 31 pieces
Modules per 40' container:558 pieces