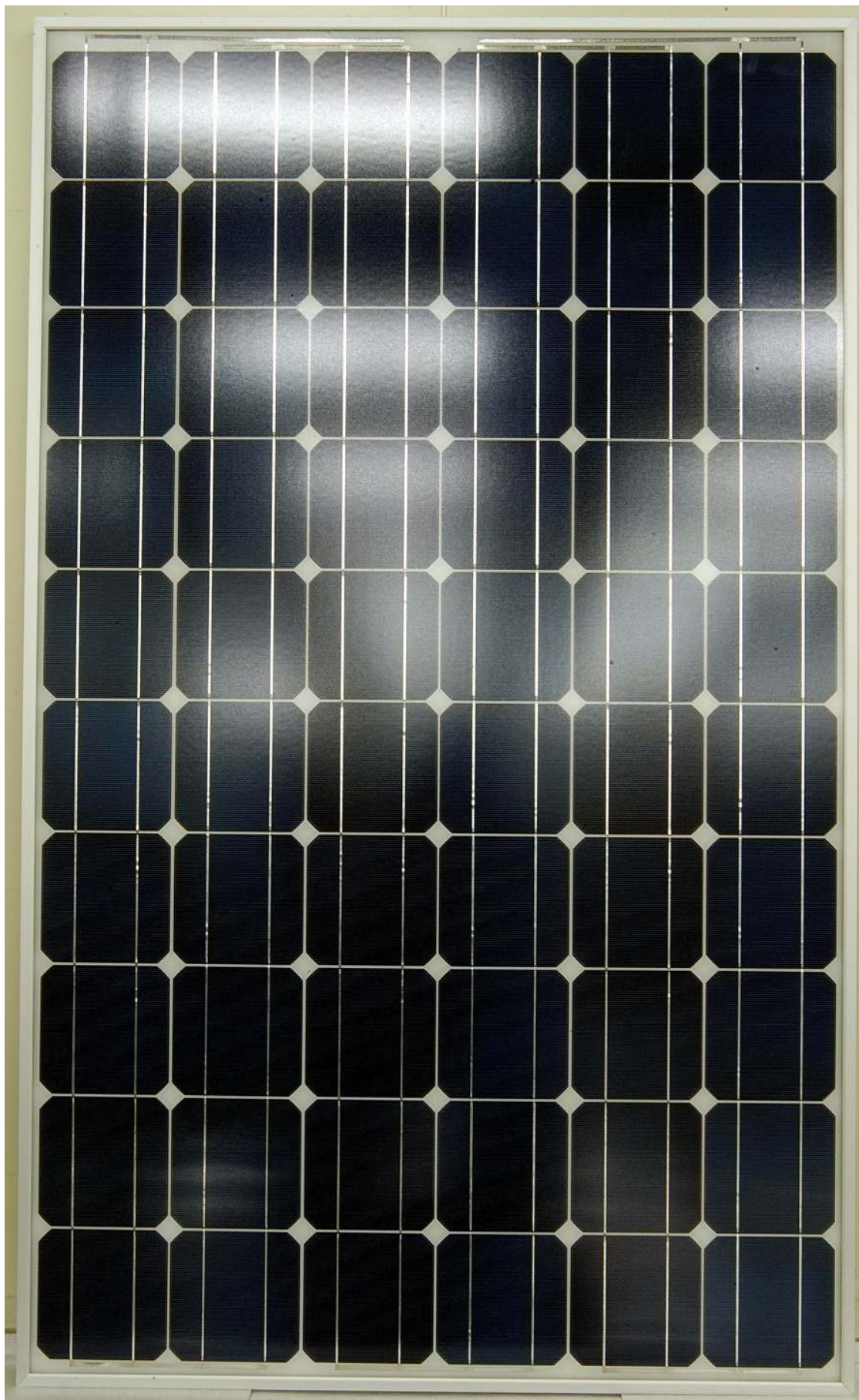


Solar Module:MM230 Series

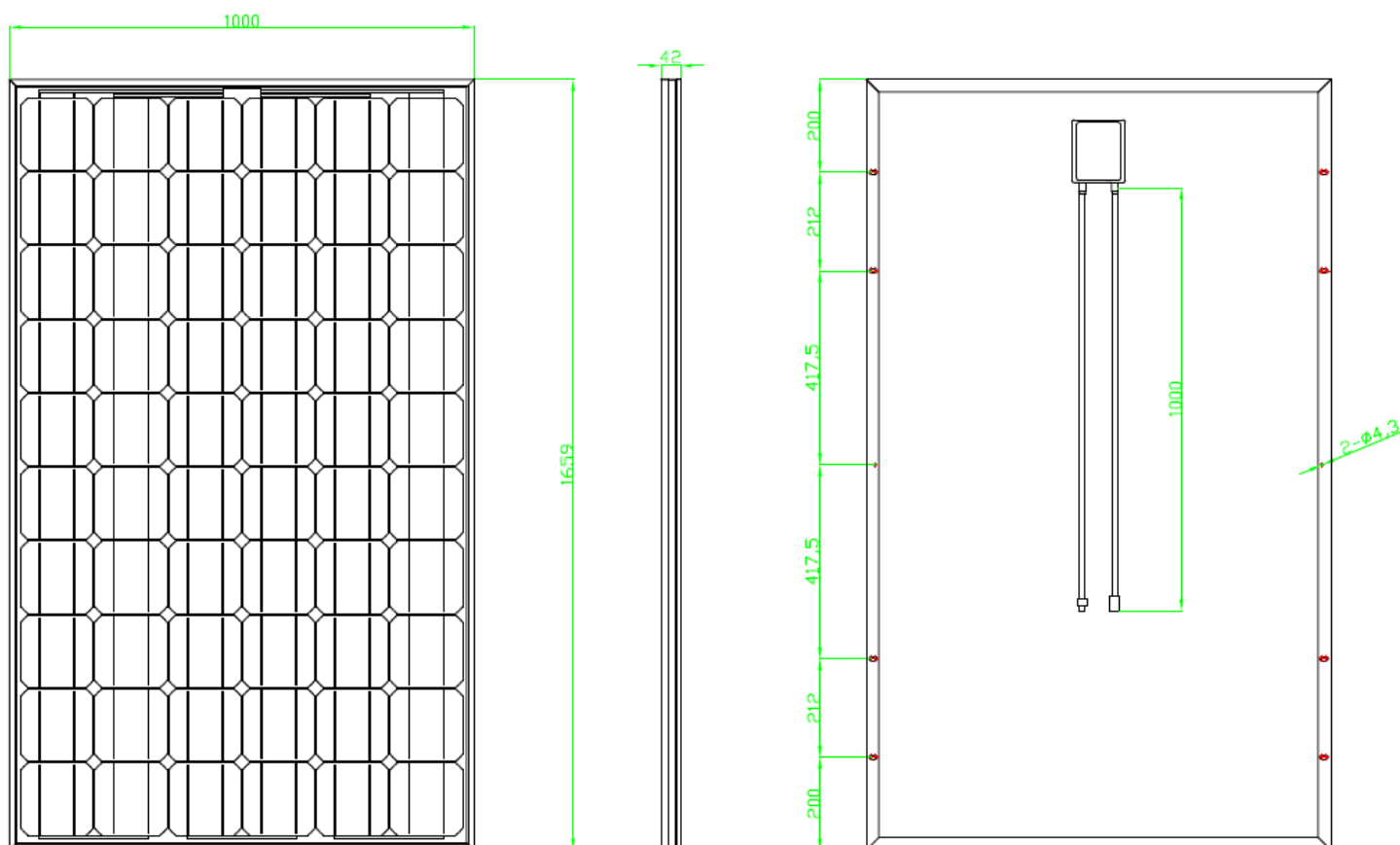
MM205/MM210/MM215/MM220/MM225/MM230/MM235/MM240/MM245/MM250 (6" Mono-crystalline Solar Cell, 6x10pcs)

Front View



For the sake of our planet earth,
please think again before you print.
Ver.1-2 03/2010

Technical Drawing



Product Characteristics

Physical Specifications

Dimension [L x W x H]	1659 x 1000 x 42 mm (65.32 x 39.37 x 1.65 in)
Weight (Kg)	21 Kg (46.30 lb)

Component materials

Cell Qty per Module	60pcs
Cell Type	Mono-crystalline Silicon
Cell Dimensions	156 x 156 mm (Pseudo-Square, Round Chamfers at Diagonal)
Laminate Construction	Front: Tempered Glass Encapsulation: Solar Cells Embedded in EVA (Ethylene-Vinyl-Acetate) Rear: Tedlar
Glass	Low-Iron Tempered Glass, 3.2mm (>3.2mm, ex. 4mm or above, custom-made possible)
Junction Box	IP65, TÜV Certified & UL Listed
Bypass Diodes	3pcs, TÜV Certified & UL Listed
Cable	TÜV Certified & UL Listed
Connector	TÜV Certified & UL Listed
Frame	Anodized Aluminum Frame. Color: Silver

Thermal Characteristics

NOCT (Nominal Operating Cell Temperature)	46.5°C
Temperature Coefficient TK Pmax (Peak Power)	-0.403%/°C
Temperature Coefficient TK Voc (Open Circuit Voltage)	-0.288%/°C
Temperature Coefficient TK Isc (Short Circuit Current)	+0.086%/°C

Electrical Characteristics: Performance at STC*1

Model Type	MM205	MM210	MM215	MM220 (CEC Listed)
Nominal Peak Power, Pmax	205W ± 5%	210W ± 5%	215W ± 5%	220W ± 5%
Peak Power Voltage, Vpm	28.06 V	28.26 V	28.48 V	28.71 V
Peak Power Current, Ipm	7.35 A	7.40 A	7.55 A	7.61 A
Open Circuit Voltage, Voc	36.10 V	36.35 V	36.77 V	37.12 V
Short Circuit Current, Isc	8.01 A	8.06 A	8.20 A	8.25 A
Module Efficiency	12.36%	12.66%	12.96%	13.26%

*STC: Standard Test Condition, 1000W/m², AM 1.5, 25°C

Electrical Characteristics: Performance at STC*1

Model Type	MM225 (CEC Listed)	MM230 (CEC Listed)	MM235 (CEC Listed)	MM240 (CEC Listed)
Nominal Peak Power, Pmax	225W ± 5%	230W ± 5%	235W ± 5%	240W ± 5%
Peak Power Voltage, Vpm	28.82 V	29.26 V	29.09 V	29.15 V
Peak Power Current, Ipm	7.74 A	7.83 A	8.13 A	8.20 A
Open Circuit Voltage, Voc	37.24 V	37.54 V	37.36 V	37.30 V
Short Circuit Current, Isc	8.37 A	8.50 A	8.89 A	9.01 A
Module Efficiency	13.56%	13.86%	14.17%	14.47%

*STC: Standard Test Condition, 1000W/m², AM 1.5, 25°C

Electrical Characteristics: Performance at STC*1

Model Type	MM245	MM250		
Nominal Peak Power, Pmax	245W ± 5%	250W ± 5%		
Peak Power Voltage, Vpm	29.21 V	29.58 V		
Peak Power Current, Ipm	8.31 A	8.42 A		
Open Circuit Voltage, Voc	37.48 V	37.68 V		
Short Circuit Current, Isc	9.06 A	9.17 A		
Module Efficiency	14.77%	15.07%		

*STC: Standard Test Condition, 1000W/m², AM 1.5, 25°C

Current-Voltage Characteristics (I-V Curve) at various irradiance levels

(Data in preparation)

System Integration Parameter

Maximum System Voltage	1000VDC (600VDC in US)
Series Fuse Rating	16A
Operating Temperature	-40 to 85°C

Performance Warranty

90% Output	10Years
80% Output	25Years

Packing Specifications

Modules Per Carton	12pcs/carton
Module Per Pallet	24pcs/pallet
20ft Container Capacity	312
40ft Container Capacity	672

Certification, Norm Passed, & Incentive

ISO 9001:2000 Quality Management	Certified
IEC 61215:2005	TÜV Certified
IEC 61215:2005 10.16	Passed & Complied with Mechanical Load Test for Heavy Snow Load
EN 61730-1 & EN 61730-2:2007	TÜV Certified
UL1703 Ed:3 Rev:2004	Certified according to UL Safety Standard
ULC/ORD-C1703-01 Second Edition	Certified according to Canadian Safety Standard
CEC Listing	http://www.gosolarcalifornia.ca.gov/equipment/pvmodule.html
IEC 61701 First Edition 1995.3	Passed & Complied with Salt Mist Corrosion Test Standard

Quality Assurance

1. Electrical Insulation Test	2. Outdoor Exposure Test
3. Hot-Spot Endurance Test	4. UV-exposure
5. Thermal Cycling Test	6. Humidity Freeze Test
7. Damp Heat Test	8. Robustness of Terminations Test
9. Wet Leakage Current Test	10. Mechanical Load Test
11. Hail Impact Test	12. Bypass Diode Thermal Test

Features:

The most reliable quality

Good conversion efficiency of solar module (*efficiency to be affected by glass thickness & the color of back sheet)

Effectively minimize the power drop by the shade

High-level protection for severe environment

High quality glass provides for less reflection of incoming sunrays

Warranty of minimal power output 80% at STC for 25 years

Color of the back sheet: White & Black (custom-made possible)

Though the technical information has been carefully verified and corrected, error data could still be misplaced within. Above data will be subject to change without prior notice due to actual manufacturing condition and design.