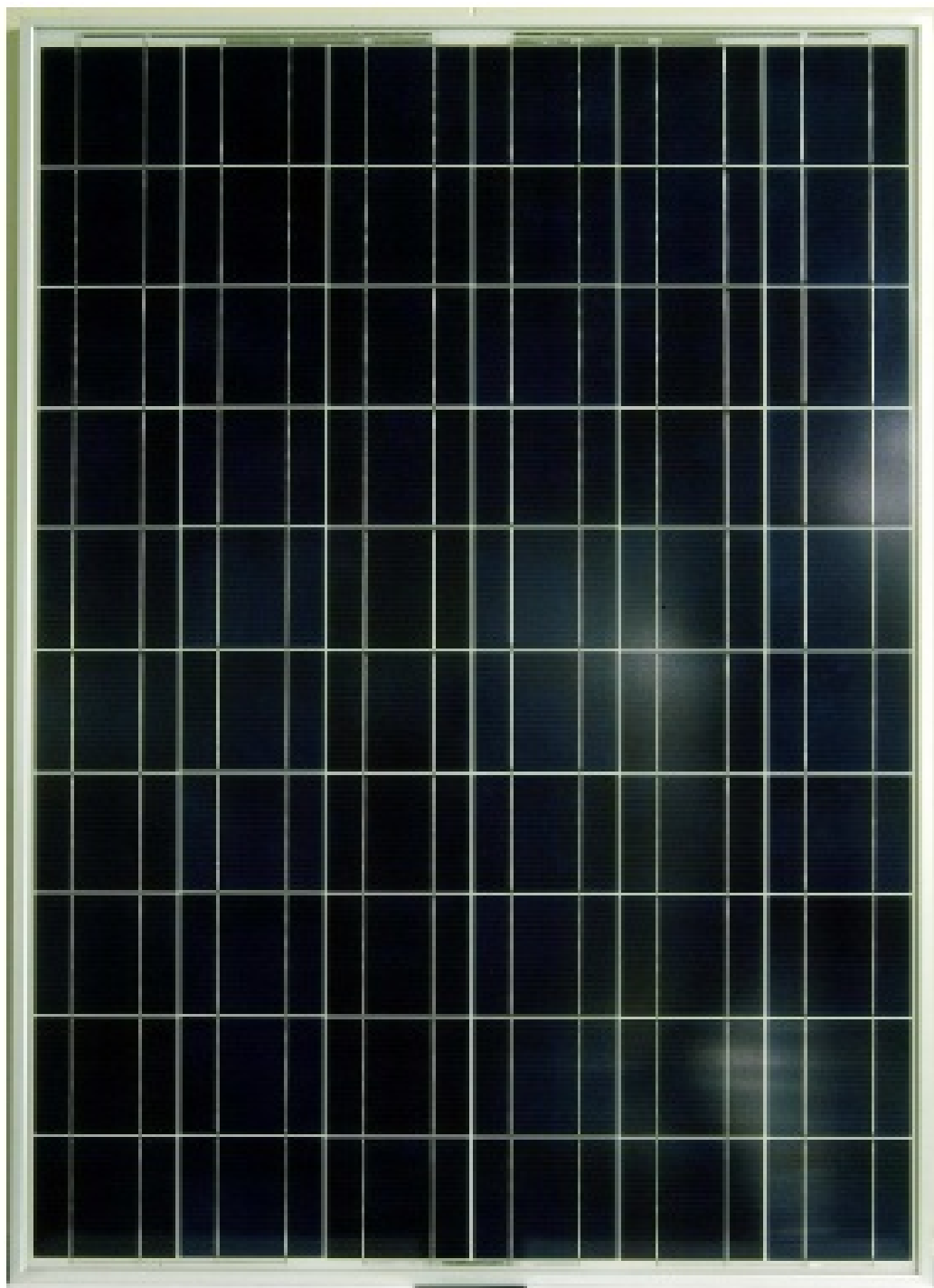
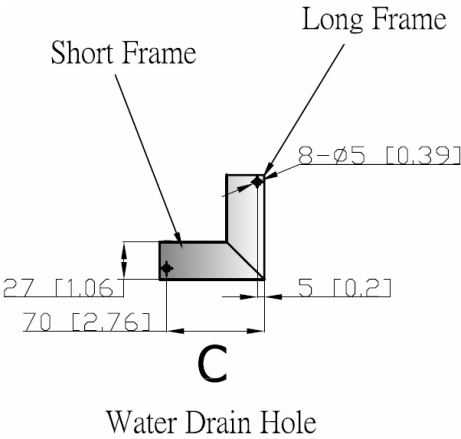
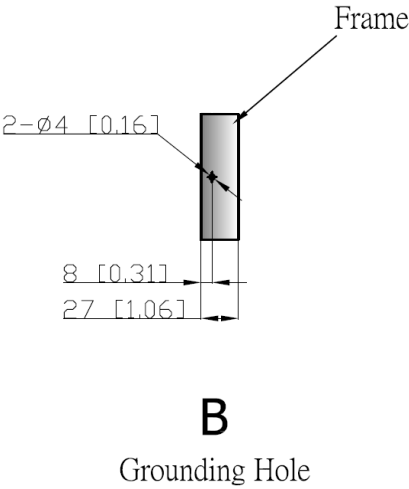
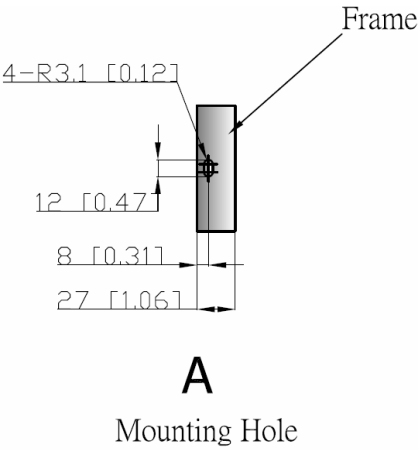
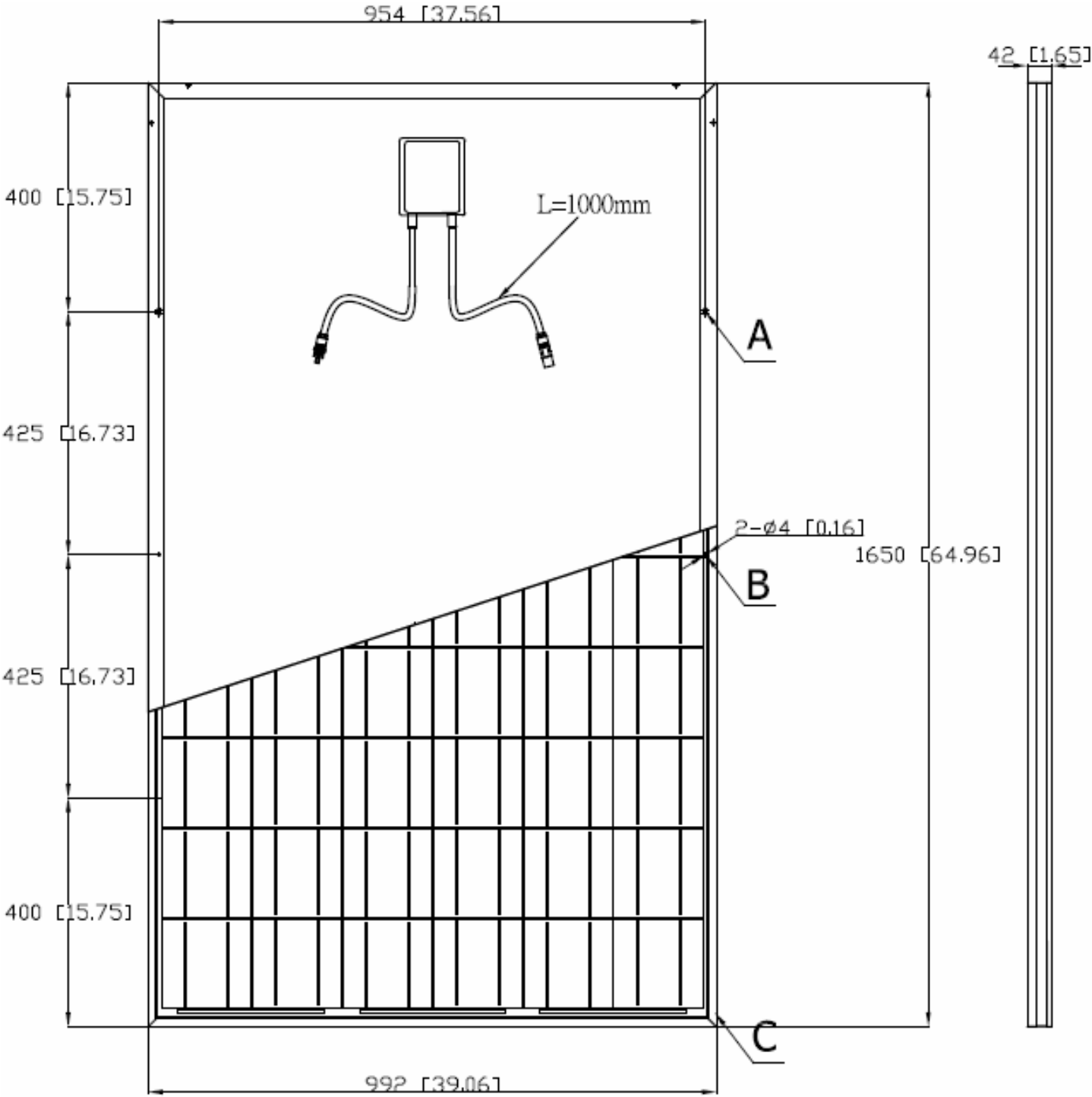


PV Module: PM230 Series

PM210/PM215/PM220/PM225/PM230/PM235/PM240/PM245 (6" Polycrystalline Solar Cell, 6x10pcs)





Product Characteristics

Physical Specifications

Dimension [L x W x H]	1650 x 992 x 42 mm (64.96 x 39.06 x 1.65 in)
Module Area	1.64 m ² (17.62 sq. ft)
Weight	19.8 Kg (43.7 lb)

Packing Specifications

Modules Per Carton	12pcs/Carton
Modules Per Pallet	24pcs/Pallet (=2 Cartons/Pallet)
Pallet Dimension [L x W x H]	1685 x 1134 x 1114 mm (66.3 x 44.7 x 43.9 in)
Pallet Weight	517 Kg (1140 lb)
20ft Container Capacity (pcs)	288
40ft Container Capacity (pcs)	672
53ft Container Capacity (pcs)	864

Electrical Characteristics: Performance at STC*1

Model Type	PM210	PM215	PM220	PM225
Peak Power Rating, Pmax	210W	215W	220W	225W
Power Tolerance	± 3%	± 3%	± 3%	± 3%
Peak Power Voltage, Vpm	27.98 V	28.21 V	28.38 V	28.66 V
Peak Power Current, Ipm	7.54 A	7.70 A	7.76 A	7.86 A
Open Circuit Voltage, Voc	36.03 V	36.21 V	36.33 V	36.69 V
Short Circuit Current, Isc	8.10 A	8.25 A	8.31 A	8.43 A
Power Density [W / ft ²]	11.92	12.20	12.49	12.77
Power Density [W / m ²]	128.30	131.35	134.41	137.46
Module Efficiency	12.83%	13.14%	13.44%	13.75%
CEC	Listed	Listed	Listed	Listed
CEC PTC** Rating [W]	186.3	190.9	195.4	200.0

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

**PTC: PVUSA Test Condition, 1000W/m², 20°C, Wind speed 1 m/s at 10 meters above ground level. For details, please refer to the following URL:
<http://www.gosolarcalifornia.org/equipment/>, http://www.gosolarcalifornia.org/equipment/pv_modules.php

Electrical Characteristics: Performance at STC*1

Model Type	PM230	PM235	PM240	PM245
Peak Power Rating, Pmax	230W	235W	240W	245W
Power Tolerance	± 3%	± 3%	± 3%	± 3%
Peak Power Voltage, Vpm	29.00 V	29.29 V	29.29 V	29.63 V
Peak Power Current, Ipm	7.98 A	8.07 A	8.23 A	8.31 A
Open Circuit Voltage, Voc	36.99 V	37.28 V	37.16 V	37.22 V
Short Circuit Current, Isc	8.53 A	8.61 A	8.79 A	8.85 A
Power Density [W / ft ²]	13.05	13.34	13.62	13.91
Power Density [W / m ²]	140.52	143.57	146.63	149.68
Module Efficiency	14.05%	14.36%	14.66%	14.97%
CEC	Listed	---	---	---
CEC PTC** Rating [W]	204.6	---	---	---

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

**PTC: PVUSA Test Condition, 1000W/m², 20°C, Wind speed 1 m/s at 10 meters above ground level. For details, please refer to the following URL:
<http://www.gosolarcalifornia.org/equipment/>, http://www.gosolarcalifornia.org/equipment/pv_modules.php

System Integration Parameter & Safety Rating

Maximum System Voltage (U.S. & Canada)	600VDC
Maximum System Voltage (Area Not in the U.S. & Canada)	1000VDC (According to Norms in Each Area)
Series Fuse Rating	15A
Fire Safety Class	Class C
Application Class	Class A (Safety Class II)
Environmental Operating Temperature (°F, °C)	-40 to 85°C, -40 to 185°F

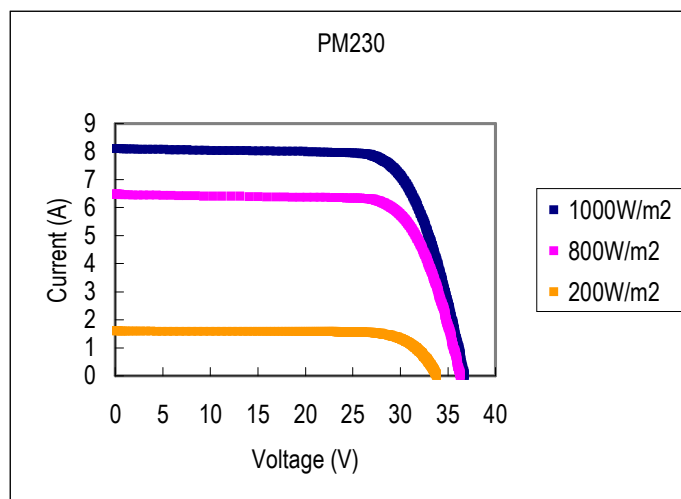
Thermal Characteristics

NOCT (Nominal Operating Cell Temperature) °F, °C	49.1°C, 120.38°F
Temperature Coefficient TK Isc (Short Circuit Current) α	+0.123%/°C
Temperature Coefficient TK Voc (Open Circuit Voltage) β	-0.296%/°C
Temperature Coefficient TK Pmax (Peak Power) γ	-0.376%/°C

Component materials

Cell Qty per Module	60pcs
Cell Type	Polycrystalline Silicon
Cell Dimensions	156 x 156 mm (6 x 6 in)
Laminate Construction	Front: Tempered Glass Encapsulation: Solar Cells Embedded in EVA (Ethylene-Vinyl-Acetate) Rear: Tedlar Color of back sheet: White
Glass	Low-Iron Tempered Glass Standard thickness: 3.2 mm (=0.126 in) (>3.2 mm (=0.126 in), ex. 4 mm (=0.157 in) or above, custom-made possible.)
Junction Box	IP65, Kit with Solar Cables & Connectors, TÜV Certified & UL Listed
Bypass Diodes	3pcs, TÜV Certified & UL Listed
Cable	Solar Cable x2 (Kit with Junction Box & Connector) Cable Length: 39.37 / 39.37 in. (1000 / 1000 mm) Wire Size: AWG #12, 4.0 mm², TÜV Certified & UL Listed
Connector	Tyco Connectors; MC4 Compatible Connectors; or MC4 Connectors (Optional) Qty: x2 (Male Coupler x1 + Female Coupler x1) TÜV Certified & UL Listed
Frame	Anodized Aluminum Frame. Color: Silver or Black

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



Certification, Norm Passed, & Incentive

ISO 9001:2000 Quality Management	SGS Certified
IEC 61215:2005	TÜV Certified
IEC 61215:2005 10.16	Passed & Complied with Mechanical Load Test for Heavy Snow Load at 5400PA
EN 61730-1 & EN 61730-2:2007	TÜV Certified
UL1703 Ed:3 Rev:2004	Intertek Certified According to Safety Standard in the U.S.
ULC/ORD-C1703-01 Second Edition	Intertek Certified According to Safety Standard in Canada
IEC 61701 First Edition 1995.3	Passed & Complied with Salt Mist Corrosion Test Standard
CEC Listing	http://www.gosolarcalifornia.org/equipment/ http://www.gosolarcalifornia.org/equipment/pv_modules.php

Limited Warranty***

Product	5Years
90% Output Power	10Years
80% Output Power	25Years

***For details, please read our warranty letter.

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. Made in Taiwan.

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