



Polycrystalline 280 Watt PV Solar Panels

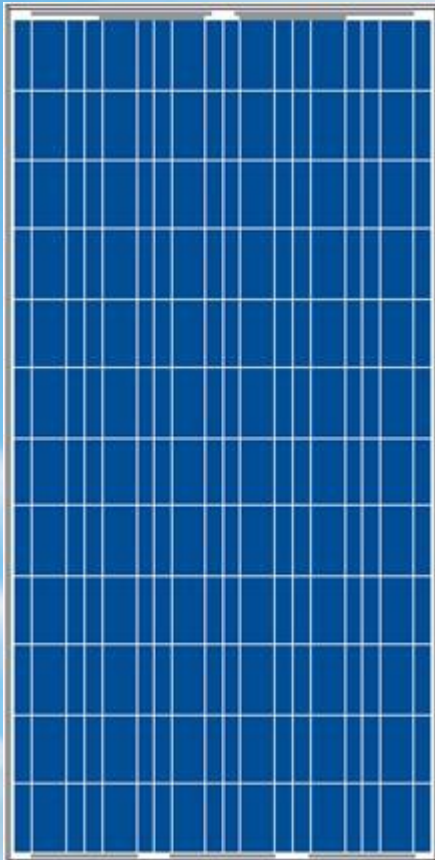
High Efficiency Polycrystalline Photovoltaic Module

Data Specifications, Model: CS-P-280-DJ

Engineering and Manufacturing for the Renewable World



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Overview

- ▶ High cell efficiency with quality silicon material for long term output stability and reliability
- ▶ Rigorous quality control to meet the highest international standards
- ▶ High transmittance, low iron tempered glass with enhanced stiffness and impact resistance
- ▶ Unique frame design with high mechanical strength for easy installation
- ▶ Advanced encapsulation material with multilayer sheet lamination to provide long-life and enhanced cell performance
- ▶ Outstanding electrical performance under high temperature and low irradiance conditions
- ▶ 72 polycrystalline high-efficiency solar cells (approx. 16.5%)

Applications

- ▶ Any large or small on-grid /off-grid solar power stations
- ▶ Commercial/industrial building roof-top systems
- ▶ Residential roof-top systems
- ▶ Any commercial/industrial ground mount systems
- ▶ Other industrial and commercial applications

Warranty

- ▶ 10 year limited product warranty on materials and workmanship
- ▶ 25 year limited power warranty on power output
- ▶ $\geq 90\%$ power output assurance for 10 years and $\geq 80\%$ power output assurance for 25 years
- ▶ Refer to warranty document for detailed warranty information

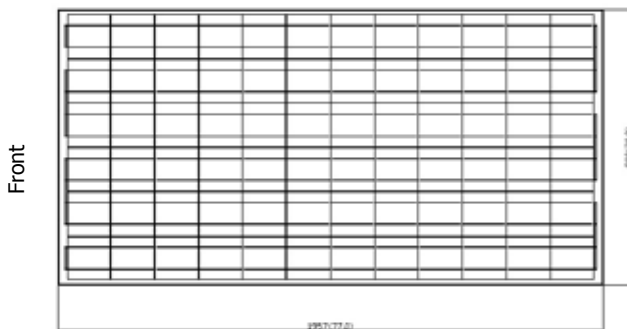
Certifications

- ▶ UL1703 ISO 9000:2000
- ▶ CE TUV IEC61215 IEC61730

Mechanical Specifications

| Characteristic | Details |
|------------------------------|--|
| Cell Size | 156mm x 156mm (6.14" x 6.14") |
| Module Dimension (L x W x T) | 1957mm x 990mm x 50mm (77" x 39" x 1.97") |
| No. of Cells | 6 x 12 = 72 |
| Weight | 25.0 kg (55.6 lbs) |
| Cable Length | 1100mm (43.31") for positive (+) and negative (-) |
| Type of Connector | MC IV |
| Junction Box | Tonglin TL-BOX005B (E181720) |
| No. of Holes in Frame | 4 draining holes, 8 installation holes, 2 grounding holes, 16 air outlet holes |

Physical Specifications mm (inch)

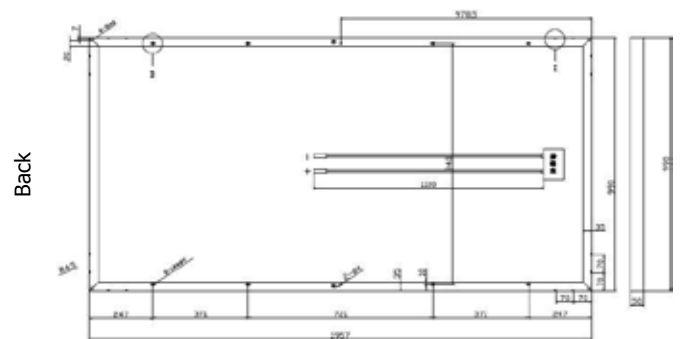


Electrical Specifications

(STC* = 25 °C, 1000W/m² irradiance and AM=1.5)

| Model | CS-P-270-DJ |
|---|---|
| Max System Voltage | 600 V |
| Maximum Power P _{max} | 280 W (0%, +3%) |
| CEC Listed PTC Power | 248 W |
| Voltage at Maximum Power Point V _{mpp} | 35.3 V |
| Current at Maximum Power Point I _{mpp} | 7.93 A |
| Open Circuit Voltage V _{oc} | 43.77 V |
| Short Circuit Current I _{sc} | 8.76 A |
| Module Efficiency (%) | 14.5% |
| Temperature Coefficient of V _{oc} | -0.153 V / °C (-0.35% / °C) |
| Temperature Coefficient of I _{sc} | 4.38x10 ⁻³ A/°C (0.05% / °C) |
| Temperature Coefficient of Pmax | -1.26 W/°C (-0.45% / °C) |

*Standard Test Conditions



Other Performance Data

| Power Tolerance | Operating Temperature | Max Series Fuse Rating | NOCT* |
|-----------------|-----------------------|------------------------|--------------|
| ± 3% | -40 °C to +85 °C | 15 A | 48 °C ± 2 °C |

*Normal Operating Cell Temperature

Patriot Solar Group is dedicated to providing the highest quality units using only the best materials for solar and lighting products for home and commercial use that support renewable energy. Our products are environmentally safe, efficient, and affordable while offering the peace of mind of high durability able to withstand the ravages of wind, ice, and water. Our manufacturing processes are based on automotive quality standards to ensure high quality and reliability the first time.

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