ORION SERIES MODULE

The Orion Series provides exceptional performance. Utilizing 60 grade A solar cells, Orion Series solar modules are perfect for residential rooftop to megawatt size utility scale projects. The poly crystalline module is manufactured to provide excellent conversion efficiency and maximum kilowatt/hour production. All cells are individually flash tested and each assembled module is quality assured to exceed warranty performance and quality.

MODULE FEATURES

- High-efficiency solar cell construction
- Cell Conversion Efficiencies Up to 17.8%
- Nominal 24 V DC for standard output
- Non-leaded and tin coated ribbon and wash free soldering flux
- High transmissivity low-iron 1/8” tempered glass
- Light anodized aluminum frame to prevent the occurrence of water freezing and warping
- Cross-linking rated above 80%
- Fully automatic lamination technology
- 10 Years Performance Guarantee for 90% Performance Output
- 25 Years Performance Guarantee for 80% Performance Output
Specifications and Data

Panel Dimensions: 64.4” x 39.1” x 1.6” (1636mm x 994mm x 40mm)
Weight: 41.9 lb (19 kg)
Cells: Poly-Crystalline 6” x 6” (156mm x 156mm)
Glass: 1/8” (3.2mm) Tempered Glass
Frame: Anodized Aluminum Alloy; Color: Silver
Junction Box: IP65 Rated Junction Box with Bypass Diodes
Cable: 4 mm² solar cable (RHW AWG #12)
Connector: Multi-Contact (MC4) PV plug connectors
EVA: EVA
Backsheet: TPT / TPE

Temperature Coefficients

Nominal Operating Cell Temperature (NOCT): 115°F + 35°F (46°C + 2°C)
Temperature Coefficient of ISC (α): 0.0538% / °K
Temperature Coefficient of VOC (β): -0.332% / °K
Temperature Coefficient of Pmax: -0.477% / °K

Permissible Operating Conditions

Operating Temperature: -40°F to +185°F (-40°C to +85°C)
Maximum Hail Diameter @ 43Mph (80Km/h): up to 1” (25mm)
Wind Impact: ≤ 2400 Pa
Snow Impact: ≤ 5400 Pa

Electrical Data

<table>
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<tr>
<th>Model</th>
<th>Pmax (+3%)</th>
<th>Voc</th>
<th>Isc</th>
<th>Vmp</th>
<th>Imp</th>
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<td>230W</td>
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</table>

Values at Standard Test Conditions (STC) = Irradiance: 1000W/m², Air Mass: 1.5, Module Temperature 77°F (25°C)

ORION SERIES | 235 Watt  IV Curve | Various Irradiance

ORION SERIES | 235 Watt  IV Curve | Various Cell Temp.