Heterojunction Intrinsic Thin-layer HJT Module

RSM144-6-415HDG-435HDG

144 CELL HJT MODULE

415-435Wp POWER OUTPUT RANGE

1500VDC MAXIMUM SYSTEM VOLTAGE

21.4% MAXIMUM EFFICIENCY

About Risen Energy

Risen Energy is a leading, global tier 1 manufacturer of high-performance solar photovoltaic products and provider of total business solutions for residential, commercial and utility-scale power generation. The company, founded in 1986, and publicly listed in 2010, compels value generation for its chosen global customers. Techno-commercial innovation, underpinned by consummate quality and support, encircle Risen Energy’s total Solar PV business solutions which are among the most powerful and cost-effective in the industry. With local market presence and strong financial bankability status, we are committed, and able, to building strategic, mutually beneficial collaborations with our partners, as together we capitalise on the rising value of green energy.

KEY SALIENT FEATURES

- Global, Tier 1 bankable brand, with independently certified state-of-the-art automated manufacturing
- Industry leading lowest thermal co-efficient of power
- Industry leading 12 years product warranty
- Excellent low irradiance performance
- Excellent PID resistance
- Positive tight power tolerance
- Dual stage 100% EL Inspection warranting defect-free product
- Module Imp binning radically reduces string mismatch losses
- Warranted reliability and stringent quality assurances well beyond certified requirements
- Certified to withstand severe environmental conditions
  - Anti-reflective & anti-soiling surface minimise power loss from dirt and dust
  - Severe salt mist, ammonia & blown sand resistance, for seaside, farm and desert environments
  - Excellent mechanical load 2400Pa & snow load 5400Pa resistance

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LINEAR PERFORMANCE WARRANTY

12 year Product Warranty / 30 year Linear Power Warranty

* Please check the valid version of Limited Product Warranty which is officially released by Risen Energy Co., Ltd.
**ELECTRICAL DATA (STC)**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>RSM144-6-419HDG</th>
<th>RSM144-6-422HDG</th>
<th>RSM144-6-425HDG</th>
<th>RSM144-6-430HDG</th>
<th>RSM144-6-435HDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rated Power in Watts-Pmax(Wp)</td>
<td>415</td>
<td>420</td>
<td>425</td>
<td>430</td>
<td>435</td>
</tr>
<tr>
<td>Open Circuit Voltage-Voc(V)</td>
<td>54.40</td>
<td>54.70</td>
<td>55.00</td>
<td>55.30</td>
<td>55.60</td>
</tr>
<tr>
<td>Short Circuit Current-Iscc(A)</td>
<td>9.70</td>
<td>9.75</td>
<td>9.80</td>
<td>9.85</td>
<td>9.90</td>
</tr>
<tr>
<td>Maximum Power Voltage-Vmmp(V)</td>
<td>45.65</td>
<td>45.95</td>
<td>46.25</td>
<td>46.55</td>
<td>46.85</td>
</tr>
<tr>
<td>Module Efficiency (%)</td>
<td><strong>20.4</strong></td>
<td><strong>20.6</strong></td>
<td><strong>20.9</strong></td>
<td><strong>21.1</strong></td>
<td><strong>21.4</strong></td>
</tr>
</tbody>
</table>

STC: Irradiation 1000 W/m², Cell Temperature 25°C, Air Mass 1.5 according to EN 60904-3.
* Module Efficiency (%): Round-off to the nearest number.

**ELECTRICAL DATA (NMOT)**

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</tr>
</thead>
<tbody>
<tr>
<td>Maximum Power-Pmax (Wp)</td>
<td>310.5</td>
<td>314.3</td>
<td>318.0</td>
<td>321.9</td>
<td>325.7</td>
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<tr>
<td>Open Circuit Voltage-Voc(V)</td>
<td>50.35</td>
<td>50.32</td>
<td>50.60</td>
<td>50.88</td>
<td>51.15</td>
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<tr>
<td>Short Circuit Current-Iscc(A)</td>
<td>7.95</td>
<td>8.00</td>
<td>8.04</td>
<td>8.08</td>
<td>8.12</td>
</tr>
<tr>
<td>Maximum Power Voltage-Vmmp(V)</td>
<td>41.82</td>
<td>42.08</td>
<td>42.37</td>
<td>42.64</td>
<td>42.91</td>
</tr>
<tr>
<td>Maximum Power Current-Immp(A)</td>
<td>7.43</td>
<td>7.47</td>
<td>7.51</td>
<td>7.55</td>
<td>7.59</td>
</tr>
</tbody>
</table>

NMOT: Irradiance at 800 W/m², Ambient Temperature 20°C, Wind Speed 1 m/s.

**MECHANICAL DATA**

- Solar cells: HJT cell, 9BB
- Cell configuration: 144 cells (6×12×6×12)
- Module dimensions: 2034×1000×30mm
- Weight: 25kg
- Superstrate: High Transmission, Low Iron, Tempered ARC Glass
- Substrate: Tempered Glass
- Frame: Anodized Aluminium Alloy type 6063TS, Silver Color
- J-Box: Potted, IP68, 1500VDC, 3 Schottky bypass diodes
- Cables: 4.0mm² (12AWG), Positive (+) 270mm, Negative (-) 270mm
- Connector: Risen Twinsel PV-SY02, IP68

**TEMPERATURE & MAXIMUM RATINGS**

- Nominal Module Operating Temperature (NMOT): 43°C±2°C
- Temperature Coefficient of Voc: -0.22%/°C
- Temperature Coefficient of Iscc: 0.047%/°C
- Temperature Coefficient of Pmax: -0.24%/°C
- Operational Temperature: -40°C~+85°C
- Maximum System Voltage: 1500VDC
- Max Series Fuse Rating: 20A
- Limiting Reverse Current: 20A

**PACKAGING CONFIGURATION**

- Number of modules per container: 40ft
- Number of modules per pallet: 770
- Number of pallets per container: 35
- Number of pallets per container: 22
- Packaging box dimensions (LxWxH) in mm: 2100×1130×1135
- Box gross weight[kg]: 930

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