Q.ANTUM TECHNOLOGY: LOW LEVELIZED COST OF ELECTRICITY
Higher yield per surface area, lower BOS costs, higher power classes, and an efficiency rate of up to 19.8%.

INNOVATIVE ALL-WEATHER TECHNOLOGY
Optimal yields, whatever the weather with excellent low-light and temperature behavior.

ENDURING HIGH PERFORMANCE
Long-term yield security with Anti LID and Anti PID Technology, Hot-Spot Protect and Traceable Quality Tra.Q™.

EXTREME WEATHER RATING
High-tech aluminum alloy frame, certified for high snow (5400 Pa) and wind loads (4000 Pa).

A RELIABLE INVESTMENT

STATE OF THE ART MODULE TECHNOLOGY
Q.ANTUM DUO combines cutting edge cell separation and innovative 12-busbar design with Q.ANTUM Technology.

THE IDEAL SOLUTION FOR:
Rooftop arrays on residential buildings

Engineered in Germany
MECHANICAL SPECIFICATION

Format  68.5 x 40.6 x 1.26 in (including frame)  
(1740 x 1030 x 32 mm)

Weight  43.9 lbs (19.9 kg)

Front Cover  0.13 in (3.2 mm) thermally pre-stressed glass  
with anti-reflection technology

Back Cover  Composite film

Frame  Black anodized aluminum

Cell  6 x 20 monocrystalline Q.ANTUM solar half cells

Junction Box  2.09-3.98 x 1.26-2.36 x 0.59-0.71 in (53-101 x 32-60 x  
16-18 mm), Protection class IP67, with bypass diodes

Cable  4 mm² Solar cable; (+) ≥ 45.3 in (1150 mm), (−) ≥ 45.3 in (1150 mm)

Connector  Stäubli MC4; IP68

ELECTRICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Power Class</th>
<th>335</th>
<th>340</th>
<th>345</th>
<th>350</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power at MPP</td>
<td>P_{	ext{MPP}} [W]</td>
<td>335</td>
<td>340</td>
<td>345</td>
</tr>
<tr>
<td>Short Circuit Current</td>
<td>I_{	ext{SC}} [A]</td>
<td>10.34</td>
<td>10.40</td>
<td>10.46</td>
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<tr>
<td>Open Circuit Voltage</td>
<td>V_{	ext{OC}} [V]</td>
<td>40.44</td>
<td>40.70</td>
<td>40.96</td>
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<tr>
<td>Current at MPP</td>
<td>I_{	ext{MPP}} [A]</td>
<td>9.85</td>
<td>9.90</td>
<td>9.96</td>
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<tr>
<td>Voltage at MPP</td>
<td>V_{	ext{MPP}} [V]</td>
<td>34.01</td>
<td>34.34</td>
<td>34.66</td>
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<tr>
<td>Efficiency</td>
<td>\eta [%]</td>
<td>≥18.7</td>
<td>≥19.0</td>
<td>≥19.3</td>
</tr>
</tbody>
</table>

MINIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT

| Power at MPP | P_{	ext{MPP}} [W] | 250.9 | 254.6 | 258.4 | 262.1 |
| Short Circuit Current | I_{	ext{SC}} [A] | 8.33 | 8.38 | 8.42 | 8.47 |
| Open Circuit Voltage | V_{	ext{OC}} [V] | 38.13 | 38.38 | 38.62 | 38.86 |
| Current at MPP | I_{	ext{MPP}} [A] | 7.75 | 7.79 | 7.84 | 7.88 |
| Voltage at MPP | V_{	ext{MPP}} [V] | 32.36 | 32.67 | 32.97 | 33.27 |

Q CELLS PERFORMANCE WARRANTY

At least 96% of nominal power during first year. Thereafter max. 0.54%  
degradation per year. At least 93.1% of nominal power up to 10 years. At  
least 85% of nominal power up to 25 years.

All data within measurement tolerances: Full warranties in accordance  
with the warranty terms of the Q CELLS sales organization of your  
respective country.

TEMPERATURE COEFFICIENTS

| Temperature Coefficient of I_{\text{SC}} | \alpha [%/K] | +0.04 |
| Temperature Coefficient of V_{\text{OC}} | \beta [%/K] | −0.27 |
| Temperature Coefficient of P_{\text{MPP}} | \gamma [%/K] | −0.35 |

Nominal Module Operating Temperature  NMOT [°F] 109 ± 5.4 (43 ± 3 °C)

PROPERTIES FOR SYSTEM DESIGN

Maximum System Voltage  V_{\text{MPP}} [V]  1000 (IEC)/1000 (UL)  
PV module classification  Class II

Maximum Series Fuse Rating | [A DC] | 20 | Fire Rating based on ANSI / UL 61730 |

Max. Design Load, Push / Pull | [lbs/ft²] | 75 (3600 Pa)/55 (2667 Pa) |

Max. Test Load, Push / Pull | [lbs/ft²] | 113 (5400 Pa)/84 (4000 Pa) |

QUALIFICATIONS AND CERTIFICATES

PACKAGING AND TRANSPORT INFORMATION

Hanwha Q CELLS America Inc.
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Note: Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product. Q CELLS supplies solar modules in two different stacking methods, depending on the location of manufacture (modules are packed horizontally or vertically). You can find more detailed information in the document “Packaging and Transport Information”, available from Q CELLS.

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