LR4-60HBD
345~365M

High Efficiency
Low LID Bifacial PERC with
Half-cut Technology

10-year Warranty for Materials and Processing;
30-year Warranty for Extra Linear Power Output

-0.45%
30-year Power
Warranty Annual
Power Attenuation
-0.45%

84.95%

Complete System and Product Certifications
IEC 61215, IEC61730, UL1703
ISO 14001:2004: ISO Environment Management System
TS62941: Guideline for module design qualification and type approval
OHSAS 18001: 2007 Occupational Health and Safety

Front side performance equivalent to conventional low LID mono PERC:
- High module conversion efficiency (up to 19.4%)
- Better energy yield with excellent low irradiance performance and temperature coefficient
- First year power degradation <2%

Bifacial technology enables additional energy harvesting from rear side (up to 25%)

Glass/glass lamination ensures 30 year product lifetime, with annual power degradation < 0.45%, 1500V compatible to reduce BOS cost

30mm frame design enables easy installation and robust mechanical strength

Solid PID resistance ensured by solar cell process optimization and careful module BOM selection

Reduced resistive loss with lower operating current

Higher energy yield with lower operating temperature

Reduced hot spot risk with optimized electrical design and lower operating current

Note: Due to continuous technical innovation, R&D and improvement, technical data above mentioned may be of modification accordingly. LONGi Solar have the sole right to make such modification at anytime without further notice; Demanding party shall request for the latest datasheet for such as contract need, and make it a consisting and binding part of lawful documentation duly signed by both parties.

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20190509-Draft
LR4-60HBD 345~365M

**Design (mm)**

- Cell Orientation: 120 (6x20)
- Junction Box IP68, three diodes
- Output Cable: 4mm², 300mm in length, length can be customized
- Glass: Dual glass
  - 2.0mm tempered glass
- Frame: Anodized aluminum alloy frame
- Weight: 24.0g
- Dimension: 1790x1052x30mm
- Packaging: 35pcs per pallet
  - 210pcs per 20GP
  - 910pcs per 40FTHC

**Mechanical Parameters**

- Operational Temperature: -40°C to +85°C
- Power Output Tolerance: ±2% ±5W
- Voc and Isc Tolerance: ±3%
- Maximum System Voltage: DC1500V (8C/UL)
- Maximum Series Fuse Rating: 20A
- Nominal Operating Cell Temperature: 45±2°C
- Safety Glass: Class II
- Fire Rating: UL, type 6
- Bifacility: >25%

**Operating Parameters**

**Electrical Characteristics**

<table>
<thead>
<tr>
<th>Model Number</th>
<th>LR4-60HBD-345M</th>
<th>LR4-60HBD-350M</th>
<th>LR4-60HBD-355M</th>
<th>LR4-60HBD-360M</th>
<th>LR4-60HBD-365M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tested Condition</td>
<td>STC</td>
<td>NOCT</td>
<td>STC</td>
<td>NOCT</td>
<td>STC</td>
</tr>
<tr>
<td>Maximum Power (Pmax/W)</td>
<td>345</td>
<td>256.5</td>
<td>350</td>
<td>260.3</td>
<td>355</td>
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<tr>
<td>Open Circuit Voltage (Voc/V)</td>
<td>40.7</td>
<td>37.9</td>
<td>40.9</td>
<td>38.1</td>
<td>41.1</td>
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<tr>
<td>Short Circuit Current (Isc/A)</td>
<td>10.68</td>
<td>8.65</td>
<td>10.77</td>
<td>8.72</td>
<td>10.86</td>
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<tr>
<td>Voltage at Maximum Power (Vmp/V)</td>
<td>33.7</td>
<td>31.3</td>
<td>33.9</td>
<td>31.5</td>
<td>34.1</td>
</tr>
<tr>
<td>Current at Maximum Power (Imp/A)</td>
<td>10.24</td>
<td>8.20</td>
<td>10.33</td>
<td>8.27</td>
<td>10.42</td>
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<tr>
<td>Module Efficiency (%)</td>
<td>18.3</td>
<td>18.8</td>
<td>18.6</td>
<td>19.1</td>
<td>19.4</td>
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</tbody>
</table>

STC (Standard Testing Conditions): Irradiance 1000W/m², Cell Temperature 25°C, Spectra at AM1.5

NOCT (Nominal Operating Cell Temperature): Irradiance 800W/m², Ambient Temperature 20°C, Spectra at AM1.5, Wind at 1m/S

Electrical characteristics with different rear side power gain (reference to 310W front)

<table>
<thead>
<tr>
<th>Pmax /W</th>
<th>Voc/V</th>
<th>Isc/A</th>
<th>Vmp/V</th>
<th>Imp/A</th>
<th>Pmax gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>373</td>
<td>41.2</td>
<td>11.40</td>
<td>34.1</td>
<td>10.94</td>
<td>5%</td>
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<tr>
<td>391</td>
<td>41.3</td>
<td>11.95</td>
<td>34.1</td>
<td>11.46</td>
<td>10%</td>
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<tr>
<td>408</td>
<td>41.2</td>
<td>12.49</td>
<td>34.2</td>
<td>11.98</td>
<td>15%</td>
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<tr>
<td>426</td>
<td>41.2</td>
<td>13.03</td>
<td>34.2</td>
<td>12.50</td>
<td>20%</td>
</tr>
<tr>
<td>444</td>
<td>41.2</td>
<td>13.58</td>
<td>34.2</td>
<td>13.03</td>
<td>25%</td>
</tr>
</tbody>
</table>

**Temperature Ratings (STC)**

| Temperature Coefficient of Isc | +0.06%/°C | Front Side Maximum Static Loading | 5400Pa |
| Temperature Coefficient of Voc | -0.30%/°C | Rear Side Maximum Static Loading  | 2400Pa |
| Temperature Coefficient of Pmax| -0.37%/°C | Hallstone Test                     | 25mm Hallstone at the speed of 23m/s |

**Mechanical Loading**

**I-V Curve**

- **Current-Voltage Curve (LR4-60HBD-355M)**
- **Power-Voltage Curve (LR4-60HBD-355M)**
- **Current-Voltage Curve (LR4-60HBD-355M)**

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