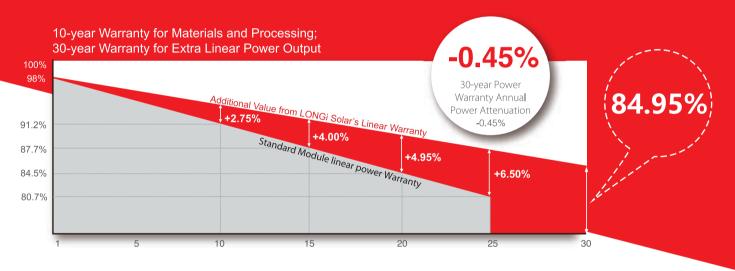


LR4-60HBD **345~365M**



High Efficiency Low LID Bifacial PERC with Half-cut Technology



Complete System and Product Certifications

IEC 61215, IEC61730, UL1703

ISO 9001:2008: ISO Quality Management System

ISO 14001: 2004: ISO Environment Management System

TS62941: Guideline for module design qualification and type approval OHSAS 18001: 2007 Occupational Health and Safety







 Specifications subject to technical changes and tests. LONGi Solar reserves the right of interpretation.

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 such modification at anytime without further notice; Demanding part lawful documentation duly signed by both parties.

tBelnöcht dij belskrift vam tom be vallei
Omlgevingsdienist latest
De Vallei
Kenmerk: 2019W2746
Datum: 12-03-2020

of modification accordingly. LONGi Solar have the sole right to make such as contract need, and make it a consisting and binding part of

R4-60HBD **345~365M**

Design (mm)

Units: mm(inch) Tolerance

Mechanical Parameters

Cell Orientation: 120 (6×20)

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: 24.0kg

Dimension: 1791×1052×30mm Packaging: 35pcs per pallet

> 210pcs per 20'GP 840pcs per 40'HC

Operating Parameters

Operational Temperature: -40 $^{\circ}$ C $^{\sim}$ +85 $^{\circ}$ C Power Output Tolerance: 0 ~ +5 W Voc and Isc Tolerance: ±3%

Maximum System Voltage: DC1500V (IEC/UL)

Maximum Series Fuse Rating: 20A

Nominal Operating Cell Temperature: 45±2 $^{\circ}$ C

Safety Class: Class II Fire Rating: UL type 3 Bifaciality: Glazing≥70%

| | 040pcs pc1 40 TiC | | | | | | | | | | |
|--|-------------------|----------------|-------|----------------|-------|----------------|-------|----------------|----------------|----------------|--|
| Electrical Characteristics | | | | | | | | Test unc | ertainty for F | max: ±3% | |
| Model Number | LR4-60H | LR4-60HBD-345M | | LR4-60HBD-350M | | LR4-60HBD-355M | | LR4-60HBD-360M | | LR4-60HBD-365M | |
| Testing Condition | STC | NOCT | STC | NOCT | STC | NOCT | STC | NOCT | STC | NOCT | |
| Maximum Power (Pmax/W) | 345 | 256.5 | 350 | 260.3 | 355 | 264.0 | 360 | 267.7 | 365 | 271.4 | |
| Open Circuit Voltage (Voc/V) | 40.7 | 37.9 | 40.9 | 38.1 | 41.1 | 38.3 | 41.3 | 38.5 | 41.5 | 38.7 | |
| Short Circuit Current (Isc/A) | 10.88 | 8.81 | 10.96 | 8.87 | 11.04 | 8.94 | 11.11 | 8.99 | 11.18 | 9.05 | |
| Voltage at Maximum Power (Vmp/V) | 33.7 | 31.3 | 33.9 | 31.5 | 34.1 | 31.7 | 34.3 | 31.8 | 34.5 | 32.0 | |
| Current at Maximum Power (Imp/A) | 10.24 | 8.20 | 10.33 | 8.27 | 10.42 | 8.35 | 10.50 | 8.41 | 10.58 | 8.47 | |
| Module Efficiency(%) | 18 | 18.3 | | 18.6 | | 18.8 | | 19.1 | | 19.4 | |
| STC (Standard Testing Conditions): Irradiance 1000W/m², Cell Temperature 25 °C, Spectra at AM1.5 | | | | | | | | | | | |

NOCT (Nominal Operating Cell Temperature): Irradiance $800W/m^2$, Ambient Temperature $20\,\mathrm{C}$, Spectra at AM1.5, Wind at 1m/S

Electrical characteristics with different rear side power gain (reference to 355W front)

| Pmax /W | Voc/V | Isc /A | Vmp/V | Imp /A | Pmax gain |
|---------|-------|--------|-------|--------|-----------|
| 373 | 41.1 | 11.59 | 34.1 | 10.94 | 5% |
| 391 | 41.1 | 12.14 | 34.1 | 11.46 | 10% |
| 408 | 41.2 | 12.70 | 34.2 | 11.98 | 15% |
| 426 | 41.2 | 13.25 | 34.2 | 12.50 | 20% |
| 444 | 41.2 | 13.80 | 34.2 | 13.03 | 25% |

Temperature Ratings (STC)

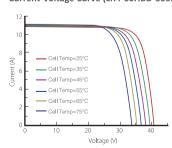
Mechanical Loading

Temperature Coefficient of Isc Front Side Maximum Static Loading 5400Pa +0.060%/°C Temperature Coefficient of Voc -0.300%/°C **Rear Side Maximum Static Loading** 2400Pa

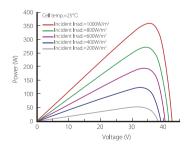
Hailstone Test 25mm Hailstone at the speed of 23m/s -0.370%/°C Temperature Coefficient of Pmax

I-V Curve

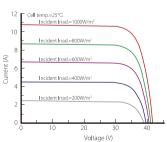
Current-Voltage Curve (LR4-60HBD-355M)



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



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





Room 801, Tower 3, Lujiazui Financial Plaza, No.826 Century Avenue, Pudong Shanghai, 200120, China Tel: +86-21-80162606 E-mail: module@longi-silicon.com Facebook: www.facebook.com/LONGi Solar

Note: Due to continuous technical innovation, R&D and improvement technical innovation, R&D and improvement technical innovation, R&D and improvement technical innovation in the second such modification at anytime without further notice; Demanding par lawful documentation duly signed by both parties.

Onlgevingsdiense latest De Vallei Kenmerk: 2019W2746 Datum: 12-03-2020

of modification accordingly. LONGi Solar have the sole right to make such as contract need, and make it a consisting and binding part of