

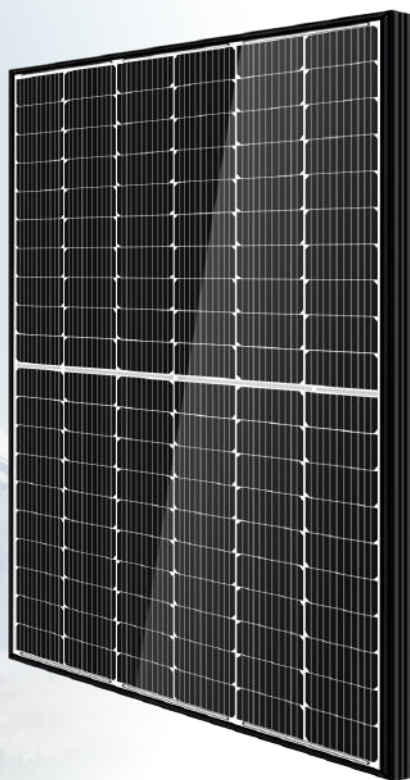


Monocrystalline

Polycrystalline

LP182*182-M-60-MH

Rated Power 440-460W



MBB Cell

New circuit design, lower internal current, lower internal resistance loss.



Low Light Features

Higher performance under low light environment.



Higher Output Power

Module adopts 120 pcs of 182*182mm half cells, the maximum power can reach 460W.



PID Protection

Ensure the attenuation probability caused by PID phenomenon is minimized.



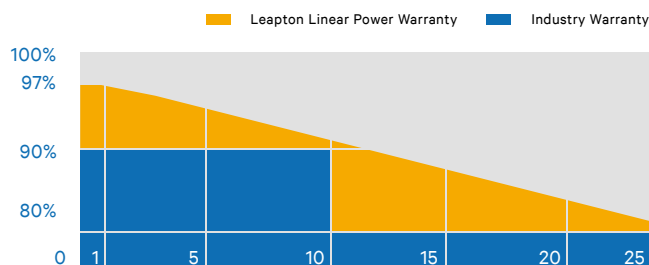
Harsh Environmental Adaptability

Strict salt spray and ammonia corrosion test by TUV Nord.



Load Capacity

Mechanical load tests including wind load 2400 Pa and snow load 5400 Pa done by TUV Nord.



*J-PEC Product



IEC 61215-2: 2016
IEC 61730-2: 2016

Headquarter : Leapton Energy Co., Ltd.

Tosei Bldg. 6F, 1-2-1 Aioi-cho, Chuo-ku Kobe-shi, Hyogo, 650-0025, Japan

Manufacturer : Leapton Solar (Changshu) Co., Ltd.

No.9, Sunshine Avenue, Changshu City, Jiangsu, China

+81-78-382-3182

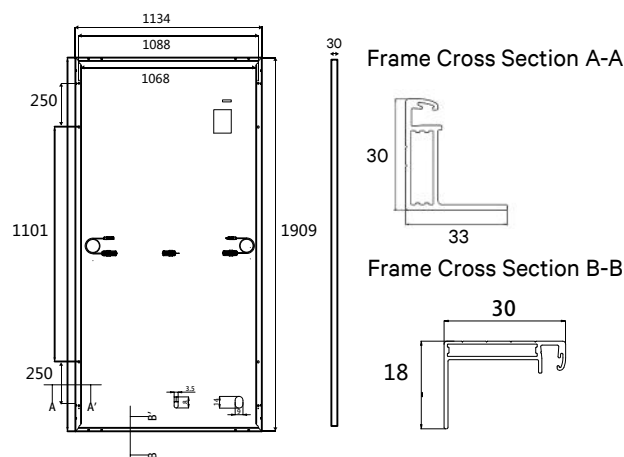
www.leaptonenergy.jp

+86-512-88800068

info@leaptonenergy.com

www.leaptonpv.com

MECHANICAL DIAGRAMS



SPECIFICATIONS

Weight	23.5kg
Dimensions	1909mm*1134mm*30mm
Cell Dimensions	182*182mm
Cell Amount	60*2 pcs
Maximum System Voltage	1500V
Junction Box	IP68
Frame	Aluminum Alloy / Black
Cable	4mm ² , Landscape: N 1200mm/P 1200mm Portrait: N 200mm/P 300mm
Connector	MC4 compatible
Application Level	Class A

ELECTRICAL PARAMETERS AT STC

Power	440W	445W	450W	455W	460W
Open Circuit Voltage	41.00V	41.20V	41.40V	41.60V	41.80V
Short Circuit Current	13.58A	13.63A	13.68A	13.73A	13.78A
Maximum Power Voltage	34.20V	34.50V	34.70V	34.90V	35.20V
Maximum Power Current	12.84A	12.90A	12.96A	13.02A	13.08A
Module Efficiency	20.33%	20.56%	20.79%	21.02%	21.25%

* Under Standard Test Conditions (STC) of irradiance of 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C.

ELECTRICAL PARAMETERS AT NMOT

Power	324W	328W	331W	335W	339W
Open Circuit Voltage	38.28V	38.48V	36.68V	38.88V	39.08V
Short Circuit Current	10.68A	10.73A	10.78A	10.83A	10.88A
Maximum Power Voltage	31.94V	32.14V	32.34V	32.54V	32.74V
Maximum Power Current	10.14A	10.21A	10.24A	10.30A	10.35A
Module Efficiency	14.97%	15.15%	15.29%	15.47%	15.66%

* Under Nominal Module Operating Temperature (NMOT), irradiance of 800 W/m², spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

TEMPERATURE CHARACTERISTICS

NMOT	41±3°C	Temp Coefficient of ISC	+0.05%/°C
Temp Coefficient of VOC	-0.28%/°C	Temp Coefficient of Pmax	-0.36%/°C

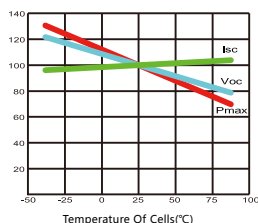
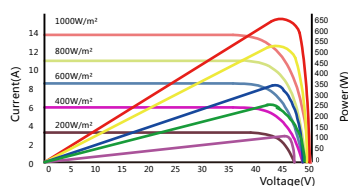
PACKING CONFIGURATION

Modules/Pallet	36 Pieces	Modules/40'Container	864 Pieces
Packing Description	24 Pallets, Total=(36+36)x12=864 Pieces		

CHARACTERISTICS

LP182*182-M-60-MH-440W

LP182*182-M-60-MH-440W



MAXIMUM RATING

Output Tolerance	0~+5W
Operating Temperature	-40°C~+85°C
Wind Load/Snow Load	2400pa/5400pa
Fuse Current	25A

15 YEARS
Quality
Warranty

25 YEARS
Power
Warranty

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Hi-MO 5m

LR5-54HPH 400~420M

- Suitable for distributed projects
- Advanced module technology delivers superior module efficiency
 - M10 Gallium-doped Wafer
 - Integrated segmented ribbons
 - 9-busbar Half-cut Cell
- Excellent outdoor power generation performance
- High module quality ensures long-term reliability



12-year Warranty for
Materials and Processing



25-year Warranty for Extra
Linear Power Output

Complete System and Product Certifications

IEC 61215, IEC 61730, UL 61730

ISO9001:2015: ISO Quality Management System

ISO14001: 2015: ISO Environment Management System

ISO45001: 2018: Occupational Health and Safety

TS62941: Guideline for module design qualification and type approval

LONGi



21.5%
MAX MODULE
EFFICIENCY

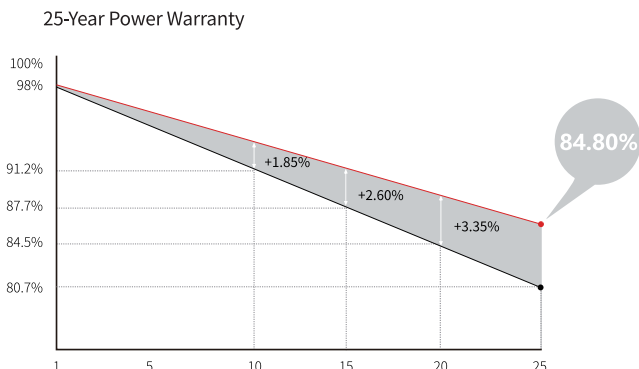
0~3%
POWER
TOLERANCE

<2%
FIRST YEAR
POWER DEGRADATION

0.55%
YEAR 2-25
POWER DEGRADATION

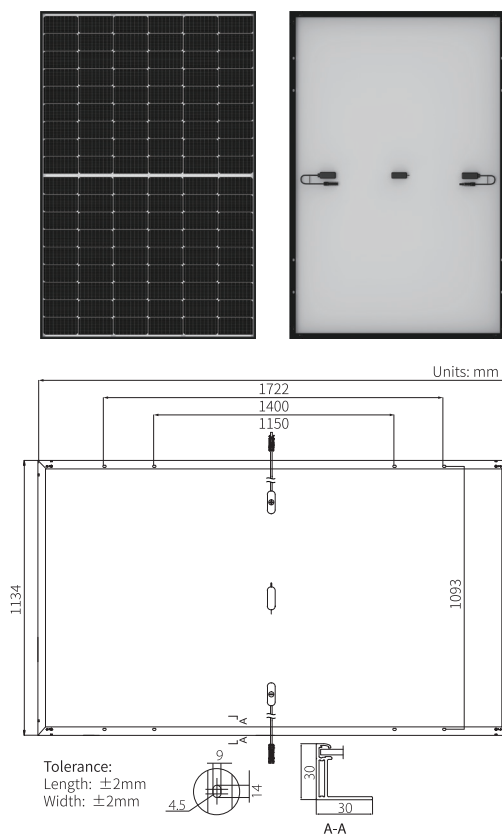
HALF-CELL
Lower operating temperature

Additional Value



Mechanical Parameters

Cell Orientation	108 (6×18)
Junction Box	IP68, three diodes
Output Cable	4mm ² , 1200mm length can be customized
Glass	Single glass, 3.2mm coated tempered glass
Frame	Anodized aluminum alloy frame
Weight	21.5kg
Dimension	1722×1134×30mm
Packaging	36pcs per pallet / 216pcs per 20' GP / 936pcs per 40' HC



Electrical Characteristics

STC : AM1.5 1000W/m² 25°C

NOCT : AM1.5 800W/m² 20°C 1m/s

Test uncertainty for Pmax: ±3%

Module Type	LR5-54HPH-400M		LR5-54HPH-405M		LR5-54HPH-410M		LR5-54HPH-415M		LR5-54HPH-420M	
Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax/W)	400	299.0	405	302.7	410	306.5	415	310.2	420	313.9
Open Circuit Voltage (Voc/V)	36.75	34.55	37.00	34.79	37.25	35.02	37.50	35.26	37.75	35.49
Short Circuit Current (Isc/A)	13.76	11.13	13.83	11.18	13.88	11.22	13.94	11.27	14.01	11.32
Voltage at Maximum Power (Vmp/V)	30.75	28.56	31.00	28.80	31.25	29.03	31.49	29.25	31.73	29.47
Current at Maximum Power (Imp/A)	13.01	10.47	13.07	10.52	13.12	10.56	13.18	10.60	13.24	10.65
Module Efficiency(%)	20.5		20.7		21.0		21.3		21.5	

Operating Parameters

Operational Temperature	-40°C ~ +85°C
Power Output Tolerance	0 ~ 3%
Voc and Isc Tolerance	±3%
Maximum System Voltage	DC1500V (IEC/UL)
Maximum Series Fuse Rating	25A
Nominal Operating Cell Temperature	45±2°C
Protection Class	Class II
Fire Rating	UL type 1 or 2 IEC Class C

Mechanical Loading

Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Hailstone Test	25mm Hailstone at the speed of 23m/s

Temperature Ratings (STC)

Temperature Coefficient of Isc	+0.050%/°C
Temperature Coefficient of Voc	-0.265%/°C
Temperature Coefficient of Pmax	-0.340%/°C