

Mono

470W MBB Half-Cell Module M72S20 445-470/MR Series

Introduction

Assembled with multi-busbar PERC cells, the half-cell configuration of the modules offers the advantages of higher power output, better temperature-dependent performance, reduced shading effect on the energy generation, lower risk of hot spot, as well as enhanced tolerance for mechanical loading.



Higher output power



Lower LCOE



Less shading and lower resistive loss

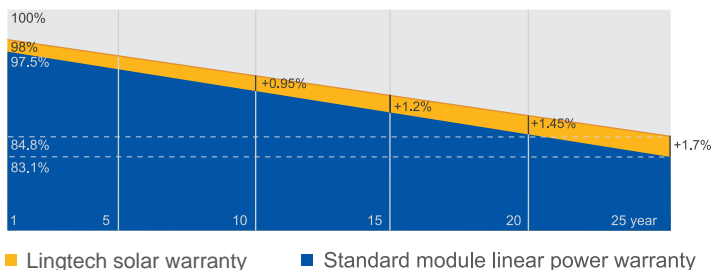


Better mechanical loading tolerance

Superior Warranty

- 12-year product warranty
- 25-year linear power output warranty

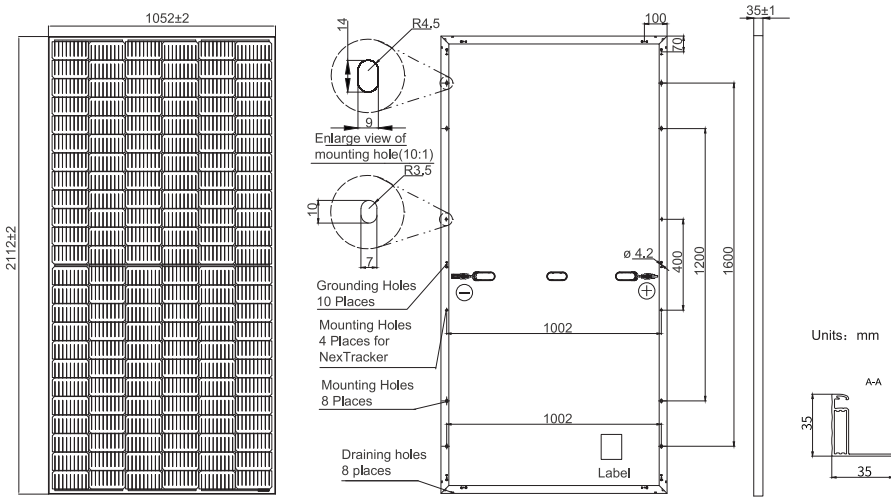
0.55% Annual Degradation Over 25 years



Comprehensive Certificates

- IEC 61215, IEC 61730, UL 61215, UL 61730
- ISO 9001: 2015 Quality management systems
- ISO 14001: 2015 Environmental management systems
- ISO 45001:2018 Occupational health and safety management systems
- IEC TS 62941: 2016 Terrestrial photovoltaic (PV) modules – Guidelines for increased confidence in PV module design qualification and type approval



MECHANICAL DIAGRAMS


Remark: customized frame color and cable length available upon request

SPECIFICATIONS

Cell	Mono
Weight	24.7kg±3%
Dimensions	2112±2mm×1052±2mm×35±1mm
Cable Cross Section Size	4mm ² (IEC) , 12 AWG(UL)
No. of cells	144 (6×24)
Junction Box	IP68, 3 diodes
Connector	QC 4.10(1000V) QC 4.10-35(1500V)
Cable Length (Including Connector)	Portrait: 300mm(+)/400mm(-); Landscape: 1200mm(+)/1200mm(-)
Packaging Configuration	31pcs/pallet 682pcs/40ft Container

ELECTRICAL PARAMETERS AT STC

TYPE	M72S20 -445/MR	M72S20 -450/MR	M72S20 -455/MR	M72S20 -460/MR	M72S20 -465/MR	M72S20 -470/MR
Rated Maximum Power(Pmax) [W]	445	450	455	460	465	470
Open Circuit Voltage(Voc) [V]	49.56	49.70	49.85	50.01	50.15	50.31
Maximum Power Voltage(Vmp) [V]	41.21	41.52	41.82	42.13	42.43	42.69
Short Circuit Current(Isc) [A]	11.32	11.36	11.41	11.45	11.49	11.53
Maximum Power Current(Imp) [A]	10.80	10.84	10.88	10.92	10.96	11.01
Module Efficiency [%]	20.0	20.3	20.5	20.7	20.9	21.2
Power Tolerance	0~+5W					
Temperature Coefficient of Isc(α_{Isc})	+0.044%/°C					
Temperature Coefficient of Voc(β_{Voc})	-0.272%/°C					
Temperature Coefficient of Pmax(γ_{Pmp})	-0.350%/°C					
STC	Irradiance 1000W/m ² , cell temperature 25°C, AM1.5G					

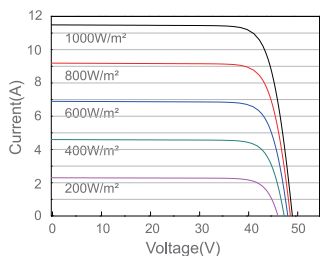
Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer.They only serve for comparison among different module types.

ELECTRICAL PARAMETERS AT NOCT

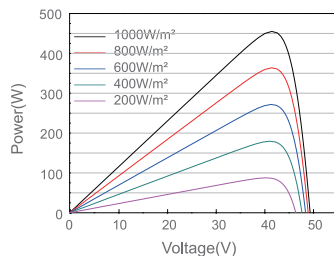
TYPE	M72S20 -445/MR	M72S20 -450/MR	M72S20 -455/MR	M72S20 -460/MR	M72S20 -465/MR	M72S20 -470/MR	OPERATING CONDITIONS	
Rated Max Power(Pmax) [W]	336	340	344	348	352	355	Maximum System Voltage	1000V/1500V DC
Open Circuit Voltage(Voc) [V]	46.65	46.90	47.15	47.38	47.61	47.84	Operating Temperature	-40°C~+85°C
Max Power Voltage(Vmp) [V]	38.95	39.19	39.44	39.68	39.90	40.10	Maximum Series Fuse Rating	20A
Short Circuit Current(Isc) [A]	9.20	9.25	9.29	9.33	9.38	9.42	Maximum Static Load,Front* Maximum Static Load,Back*	5400Pa(112 lb/ft ²) 2400Pa(50 lb/ft ²)
Max Power Current(Imp) [A]	8.64	8.68	8.72	8.76	8.81	8.86	NOCT	45±2°C
NOCT	Irradiance 800W/m ² , ambient temperature 20°C,wind speed 1m/s, AM1.5G						Safety Class	Class II
*For NexTracker installations ,Maximum Static Load, Front is 1800Pa while Maximum Static Load, Back is 1800Pa.							Fire Performance	UL Type 1

CHARACTERISTICS

Current-Voltage Curve M72S20-455/MR



Power-Voltage Curve M72S20-455/MR



Current-Voltage Curve M72S20-455/MR

