



Mono

465W MBB Bifacial Mono PERC Half-cell Double Glass Module

M72D20 440-465/MB Series

Introduction

Assembled with MBB bifacial PERCIUM cells and half-cell configuration, these double glass modules have the capability of converting the incident light from the rear side together with the front side into electricity, providing higher output power, lower temperature coefficient, less shading loss, as well as enhanced tolerance for mechanical loading.



Higher output power



More reliable, more stable power generation



Less shading effect

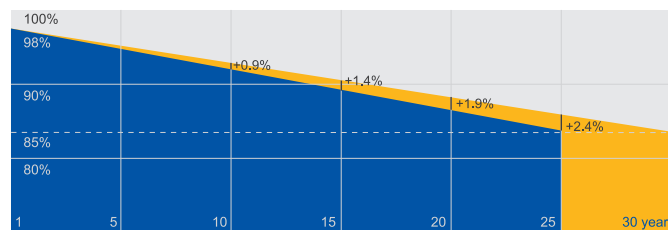


Lower temperature coefficient

Superior Warranty

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

0.45% Annual Degradation Over 30 years



■ Lingtech solar warranty

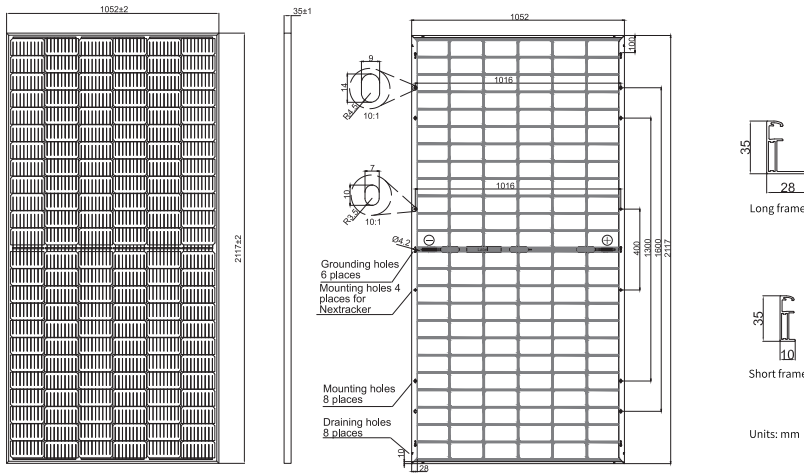
■ Lingtech solar warranty

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	27.3kg±3%
Dimensions	2117±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 4.10-35
Cable Length (Including Connector)	Portrait:300mm(+)/400mm(-); Landscape:1200mm(+)/1200mm(-)
Front Glass/Back Glass	2.0mm/2.0mm
Packaging Configuration	30pcs/pallet, 600pcs/40ft Container

ELECTRICAL PARAMETERS AT STC

TYPE	M72D20 -440/MB	M72D20 -445/MB	M72D20 -450/MB	M72D20 -455/MB	M72D20 -460/MB	M72D20 -465/MB
Rated Maximum Power(Pmax) [W]	440	445	450	455	460	465
Open Circuit Voltage(Voc) [V]	49.30	49.45	49.61	49.75	49.91	50.05
Maximum Power Voltage(Vmp) [V]	40.60	40.91	41.21	41.52	41.79	42.09
Short Circuit Current(Isc) [A]	11.33	11.38	11.42	11.46	11.50	11.55
Maximum Power Current(Imp) [A]	10.84	10.88	10.92	10.96	11.01	11.05
Module Efficiency [%]	19.8	20.0	20.2	20.4	20.7	20.9
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})	-0.354%/°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.

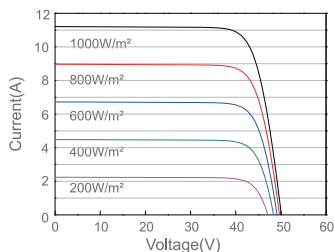
ELECTRICAL CHARACTERISTICS WITH 10% SOLAR IRRADIATION RATIO

OPERATING CONDITIONS

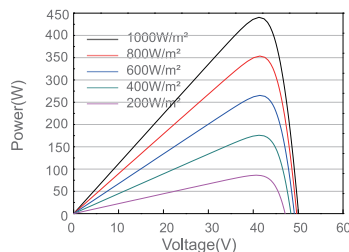
TYPE	M72D20 -440/MB	M72D20 -445/MB	M72D20 -450/MB	M72D20 -455/MB	M72D20 -460/MB	M72D20 -465/MB	Operating Conditions
Rated Max Power(Pmax) [W]	471	476	482	487	492	498	Maximum System Voltage: 1500V DC
Open Circuit Voltage(Voc) [V]	49.40	49.55	49.71	49.85	50.01	50.15	Operating Temperature: -40°C~+85°C
Max Power Voltage(Vmp) [V]	40.59	40.90	41.21	41.51	41.78	42.08	Maximum Series Fuse: 25A
Short Circuit Current(Isc) [A]	12.12	12.18	12.22	12.26	12.31	12.36	Maximum Static Load,Front*: 5400Pa(112 lb/ft ²) Maximum Static Load,Back*: 2400Pa(50 lb/ft ²)
Max Power Current(Imp) [A]	11.60	11.64	11.68	11.73	11.78	11.82	NOCT: 45±2°C
Irradiation Ratio (rear/front)	10%						Bifaciality**: 70%±10%
*For NexTracker installations static loading performance: front load measure 2400Pa, while back load measures 2400Pa. **Bifaciality=Pmax,rear/RATED Pmax,front							Fire Performance: UL Type 29

CHARACTERISTICS

Current-Voltage Curve M72D20-440/MB



Power-Voltage Curve M72D20-440/MB



Current-Voltage Curve M72D20-440/MB

