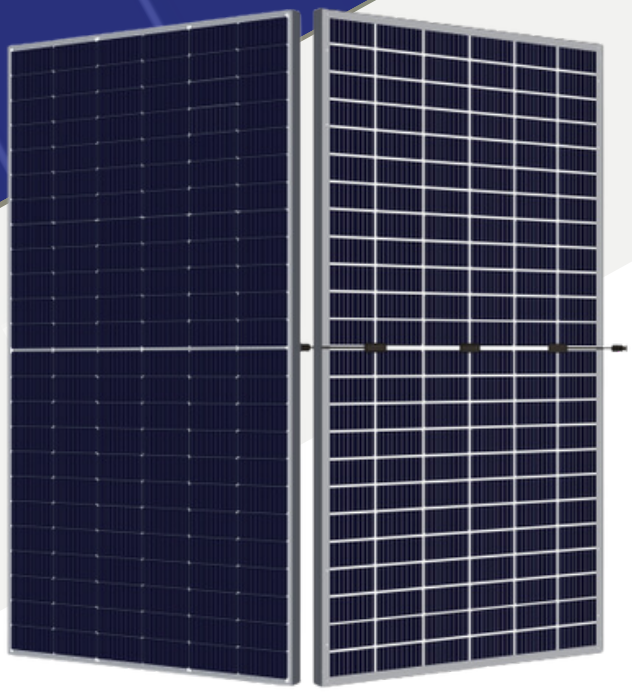
PERCMAX

BISOL

HIGH PERFOMANCE BIFACIAL MONOCRYSTALLINE P.E.R.C MODULE

DOUBLE GLASS



TM - 650/670M-132BI

132 CELL
Mono PERC Module

650 - 670Wp
Power Output Range

1500VDC
Maximum System Voltage

21.6%
Maximum Efficiency

KEY SALIENT FEATURES

- Industry leading lowest thermal co-efficient of power
- Industry leading 25 years product warranty
- Excellent low irradiance performance
- Excellent PID resistance
- Positive power tolerance of 0~+3%
- Fully automated production at all stages
- Fully Reduced power loss by minimizing the effect of shadow shading (9 - 18 Busbar)
- European Warranty & After - Sales Service

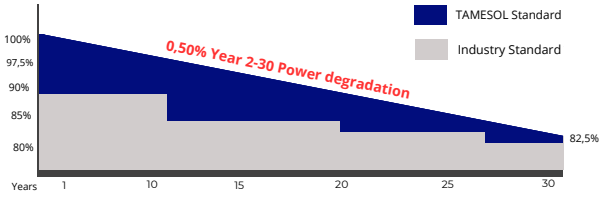
TAMESOL BUILDING A GREEN FUTURE S.L

TAMESOL is a global provider of high-efficiency PV panels with a 10GW annual production capacity and a 100% automated production line, innovating state-of-the-art products for over 15 years. Our panels have been installed in more than 50 countries, with over 20 million panels already connected to the grid.

Tel : **+34 872 222 388**
E - mail: **info@tamesol.com** Website: **www.tamesol.com**

LINEAR PERFORMANCE WARRANTY

25 year Product Warranty / 30-Year Linear Power Warranty



TAMESOL
be bright, go solar

Since 2007, building a green future

PERCMAX
BISOL

TM-650/670M-132BI

21,6%	0 - 3%	2,0%	0,50%	PERC CELL
MAX MODULE EFFICIENCY	POWER TOLERANCE	FIRST YEAR POWER DEGRADATION	YEAR 2-30 POWER DEGRADATION	Lower operating temperature

ELECTRICAL CHARACTERISTICS

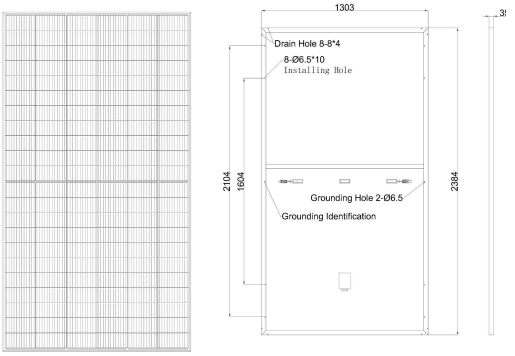
STC: AM1.5 1.000W/m2 NOTC: AM1.5 800W/m2 20º 1 m/s Test uncertainty for Pmax +-3%

Module type	TM - 650M-132BI		TM - 655M-132BI		TM - 660M-132BI		TM - 665M-132BI		TM - 670M-132BI	
Testing condition	STC	NOTC	STC	NOTC	STC	NOTC	STC	NOTC	STC	NOTC
Maximum Power (Pmax/w)	650	484	655	487	660	491	665	495	670	498
Open Circuit Voltage (Voc/V)	45.0	42,6	45,2	42,8	45,4	43,0	45,6	43,1	45,8	43,3
Short Circuit Current (Isc/A)	18,39	14,41	18,43	14,43	18,47	14,48	18,51	14,57	18,55	14,58
Voltage at Maximum Power (Vmp/V)	37,60	35,7	37,8	35,9	38	36,05	38,2	36,1	38,4	36,3
Current at maximum Power (Imp/A)	17,29	13,56	17,33	13,57	17,37	13,62	17,41	13,71	17,45	13,72
Module Efficiency (%)	20,90%	15,58%	21,10%	15,68%	21,30%	15,81%	21,40%	15,94%	21,60%	16,03%

MECHANICAL PARAMETERS

Cell Orientation	single crystal PERC 210x105mm (132 pieces)
Junction Box	IP68, three diodes
Output Cable	4.0mm² 300mm(+) / 300mm(-) or customized
Glass	2.0mm tempered coated glass, low iron
Frame	Anodized aluminum alloy frame
Weight	37 kg
Dimensión	2384*1303*35mm
Packaging	31 pcs*pallet / 124pcs*20GP / 558pcs*40HC

PHYSICAL CHARACTERISTICS



OPERATING PARAMETERS

Operational Temperature	-40ºC - +85ºC
Power Output Tolerance	(0, +3%)
Voc and Isc Tolerance	±3%
Maximum System Voltage	1500V DC
Maximum Series Fuse Rating	30 A
Nominal Operating Cell Temperature	45±2ºC
Protection Glass	Class Ⅱ
Fire Rating	Class C
Bifacial- Factor	70%±10%

MECHANICAL LOADING

Front Side Maximum Static Loading	5400 PA
Rear Side Maximum Static Loading	2400 PA
Hailstone Test	Diameter 25mm, impact speed 23m/s

TEMPERATURA RATINGS (STC)

Temperature Coefficient of Isc	+0.05%/℃
Temperature Coefficient of Voc	-0.27%/℃
Temperature Coefficient of Pmax	-0.35%/℃

PACKING MANNER

Container	40ft(HQ)
Number of modules per container	558
Number of modules per pallet	31
Number of pallets per container	18

TAMESOL Authorized Solar Dealer

Note: The specifications are obtained under the Standard Test Conditions (STCs): 1000 W/m2 solar irradiance, 1.5 Air Mass, and cell temperature of 25°C. The NOCT is obtained under the Test Conditions: 800 W/m2, 20°C ambient temperature, 1m/s wind speed, AM 1.5 spectrum.
Please contact **info@tamesol.com** for technical support. The actual transactions will be subject to the contracts. This parameter is for reference only and it is not a part of the contracts. The specifications are subject to change without prior notice.