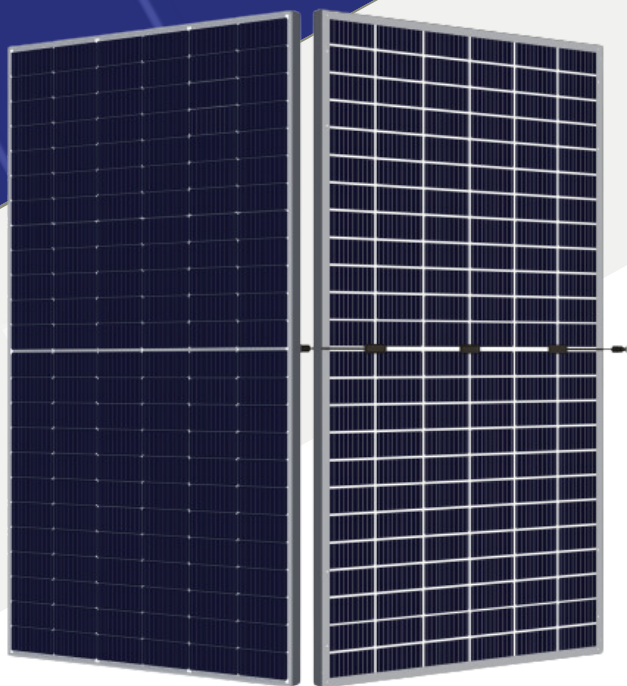


TOPSUN

BISOL

HIGH PERFORMANCE
MONOCRYSTALLINE
N- TYPE TECHNOLOGY
DOUBLE GLASS



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

TAMESOL
— be bright, go solar —

144

TOP - 620/640M-144BI

144 CELL
Mono N - Type Module

620 - 640Wp
Power Output Range

1500VDC
Maximum System Voltage

22.9%
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



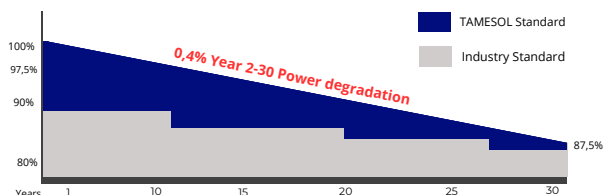
Fully Reduced power loss by minimizing the effect of shadow shading (9 - 18 Busbar)



European Warranty & After - Sales Service

LINEAR PERFORMANCE WARRANTY

25 year Product Warranty / 30-Year Linear Power Warranty



Since 2007, building a green future

22,9%

 MAX MODULE
EFFICIENCY

0 - 3%

 POWER
TOLERANCE

1,0%

 FIRST YEAR POWER
DEGRADATION

0,40%

 YEAR 2-30
POWER DEGRADATION

N-TYPE CELL

Lower operating temperature

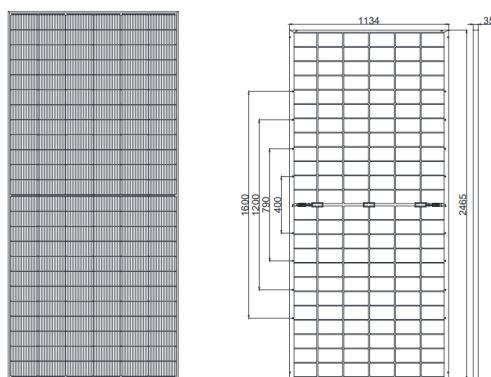
ELECTRICAL CHARACTERISTICS

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

Module type	TOP - 620M-144BI		TOP - 625M-144BI		TOP - 630M-144BI		TOP - 635M-144BI		TOP - 640M-144BI	
Testing condition	STC	NOTC	STC	NOTC	STC	NOTC	STC	NOTC	STC	NOTC
Maximum Power (Pmax/w)	620	466	625	470	630	474	635	478	640	481
Open Circuit Voltage (Voc/V)	52,07	49.47	52,27	49.66	52,47	49,85	52,67	50,04	52,87	50,23
Short Circuit Current (Isc/A)	15,11	11.95	15,16	12	15,21	12,04	15,26	12,09	15,31	12,28
Voltage at Maximum Power (Vmp/V)	43,51	41.34	43,71	41.53	43,90	41,71	44,10	41,90	44,29	42,09
Current at maximum Power (Imp/A)	14,25	11.27	14,30	11,32	14,35	11,36	14,40	11,41	14,45	11,43
Module Efficiency (%)	22,2%	16.67%	22,4%	16,81%	22,5%	16,96%	22,7%	17,10%	22,9%	17,21%

MECHANICAL PARAMETERS

Cell Orientation	single crystal N-Topcon 182x99.5mm (144 pieces)
Junction Box	IP68, three diodes
Output Cable	4.0mm² 300mm(+) / 300mm(-) or customized
Glass	2.0mm / 2.0mm
Frame	Anodized aluminum alloy frame
Weight	34,6 kg
Dimensión	2465*1134*35mm
Packaging	31 pcs*pallet / 496pcs*40HC

PHYSICAL CHARACTERISTICS

OPERATING PARAMETERS

Operational Temperature	-40°C - +85°C
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±2°C
Protection Glass	Class II
Fire Rating	Class C
Bifacial - Factor	80% ± 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	+0.046%/°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Pmax	-0.30%/°C

PACKING MANNER

Container	40ft(HQ)
Number of modules per container	496
Number of modules per pallet	31
Number of pallets per container	16

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.