

TOPSUN

# BIFACIAL

HIGH PERFORMANCE  
MONOCRYSTALLINE  
N- TYPE TECHNOLOGY

144

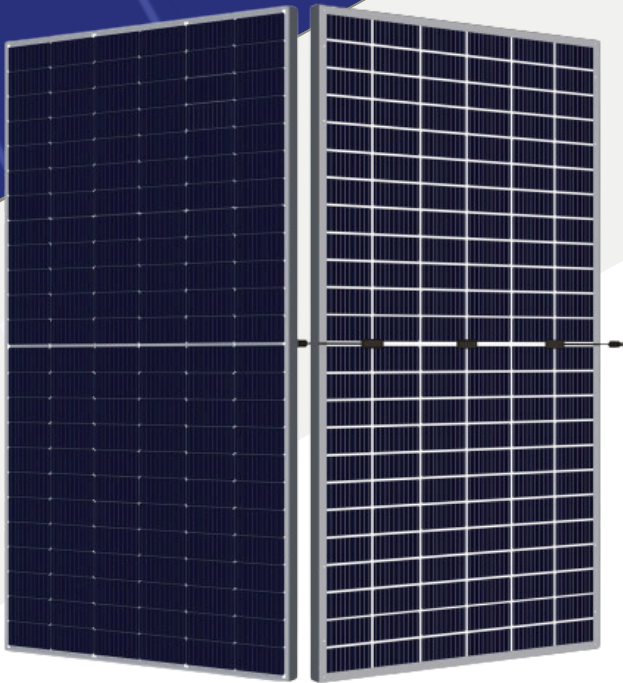
## TOP - 620/640M-144BI

**144 CELL**  
Mono N - Type Module









**620 - 640Wp**  
Power Output Range

**1500VDC**  
Maximum System Voltage

**22.90%**  
Maximum Efficiency



### KEY SALIENT FEATURES

-  Industry leading lowest thermal co-efficient of power
-  Industry leading 15 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



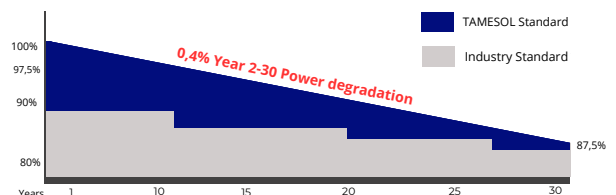
### TAMESOL BUILDING A GREEN FUTURE S.L

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.

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### LINEAR PERFORMANCE WARRANTY

15 year Product Warranty / 30-Year Linear Power Warranty



*Since 2007, building a green future*

<b>22,90%</b> MAX MODULE EFFICIENCY	<b>0 - 3%</b> POWER TOLERANCE	<b>1,0%</b> FIRST YEAR POWER DEGRADATION	<b>0,40%</b> YEAR 2-30 POWER DEGRADATION	<b>N-TYPE CELL</b> Lower operating temperature
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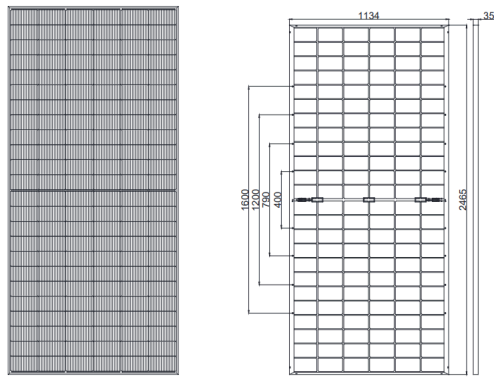
**ELECTRICAL CHARACTERISTICS** STC: AM1.5 1.000W/m2 NOTC: AM1.5 800W/m2 20° 1 m/s Test uncertainty for Pmax +3%

Module type	TOP - 620M-144BI		TOP - 625M-144BI		TOP - 630M-144BI		TOP - 635M-144BI		TOP - 640M-144BI	
	STC	NOTC	STC	NOTC	STC	NOTC	STC	NOTC	STC	NOTC
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%		22,4%		22,5%		22,7%		22,9%	

**MECHANICAL PARAMETERS**

Cell Orientation	single crystal N-Topcon 182x99.5mm (144 pieces)
Junction Box	IP68, three diodes
Output Cable	4.0mm <sup>2</sup> 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](mailto: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.