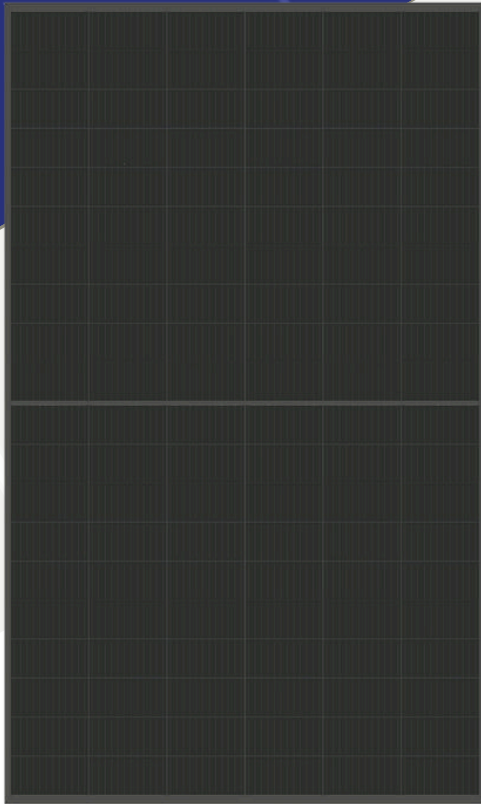


DARKSUN

HIGH PERFORMANCE
MONOCRYSTALLINE
P.E.R.C MODULE

144



TM - 430/450M-144AB

144 CELL
Mono PERC Module

430 - 450Wp
Power Output Range

1500VDC
Maximum System Voltage

20.9%
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 - 12 Busbar)



European Warranty & After - Sales Service



TAMESOL SOLAR GROUP 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

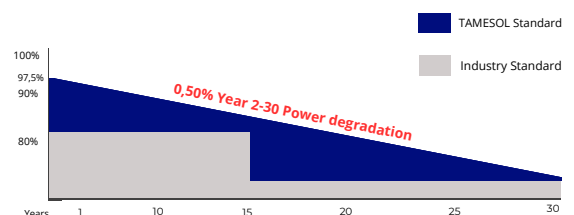
E - mail: info@tamesol.com Website: www.tamesol.com

TAMESOL
— be bright, go solar —

Since 2007, building a green future

LINEAR PERFORMANCE WARRANTY

25 year Product Warranty / 30-Year Linear Power Warranty



21,28%

MAX MODULE
EFFICIENCY

0 - 3%

POWER
TOLERANCE

2,5%

FIRST YEAR POWER
DEGRADATION

0,50%

YEAR 2-30
POWER DEGRADATION

PERC CELL

Lower operating temperature

ELECTRICAL CHARACTERISTICS

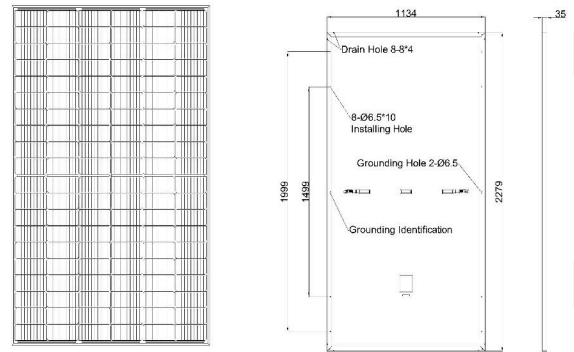
STC: AM1.5 1.000W/m2 NOTC: AM1.5 800W/m2 20° 1 m/s Test uncertainty for Pmax +-3%

Module type	TM - 530M-144HC		TM - 535M-144HC		TM - 540M-144HC		TM - 545M-144HC		TM - 550M-144HC	
	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)	530	394	535	398	540	402	545	405	550	409
Open Circuit Voltage (Voc/V)	49	46,3	49,2	46,5	49,4	46,7	49,6	46,9	49,8	47,1
Short Circuit Current (Isc/A)	13,76	10,78	13,81	10,85	13,84	10,90	13,94	10,95	13,99	11,00
Voltage at Maximum Power (Vmp/V)	41,48	39,19	41,65	39,36	41,82	39,53	41,99	39,70	42,15	39,86
Current at maximum Power (Imp/A)	12,78	10,06	12,85	10,12	12,92	10,17	12,98	10,21	13,05	10,26
Module Efficiency (%)	20,56%	15,25%	20,76%	15,40%	20,95%	15,56%	21,14%	15,67%	21,28%	15,83%

MECHANICAL PARAMETERS

Cell Orientation	single crystal PERC182x91mm (144 pieces)
Junction Box	IP68, three diodes
Output Cable	4.0mm ² 1200mm(+) / 1200mm(-) or customized
Glass	3.2mm tempered coated glass, low iron
Frame	Anodized aluminum alloy frame
Weight	26 kg
Dimensión	2279*1134*35mm
Packaging	31 pcs*pallet / 255cs*20GP / 620pcs*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	20 A
Nominal Operating Cell Temperature	45±2°C
Protection Glass	Class II
Fire Rating	Class C

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%/°C
Temperature Coefficient of Voc	-0.27%/°C
Temperature Coefficient of Pmax	-0.35%/°C

PACKING MANNER

Container	40ft(HQ)
Number of modules per container	620
Number of modules per pallet	31
Number of pallets per container	20
Box gross weight (kg)	950

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.