TM Series®

HALF CELL

144 Cells (72) - 166mm

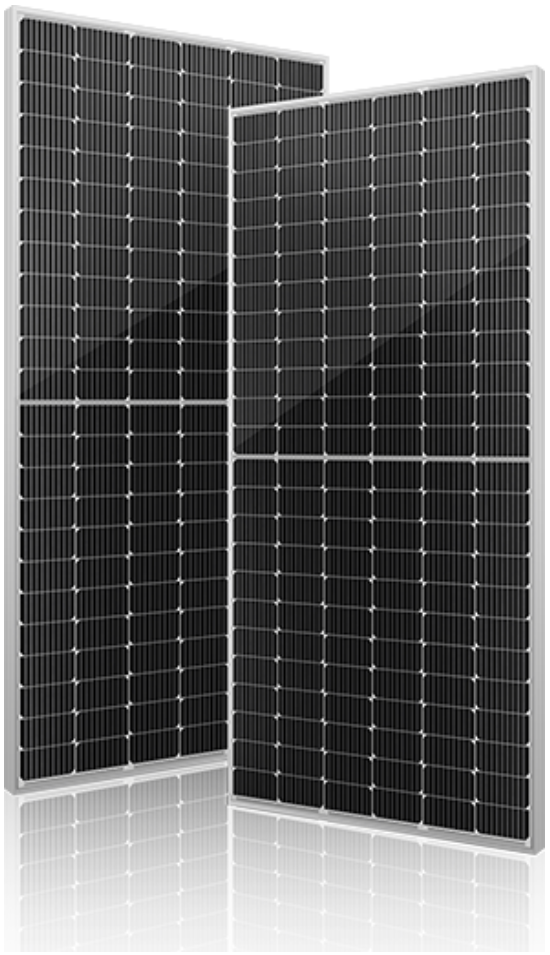
430 - 450 WP

- Mismatch loss reduction for máximum efficiency
- Reduced power loss by minimizing the effect of shadow shading (**9-12 BusBar**)
- **Positive** (0 - 3%) **tolerance** in all our TM Series® modules
- Proven reliability through PVEL´s weatherproofing tests
- **Fully automated production** at all stages

25-YEAR WARRANTY
MATERIALS & PROCESSING

30-YEAR WARRANTY
LINEAR POWER OUTPUT

EUROPEAN WARRANTY &
AFTER-SALES SERVICE



Product Certifications

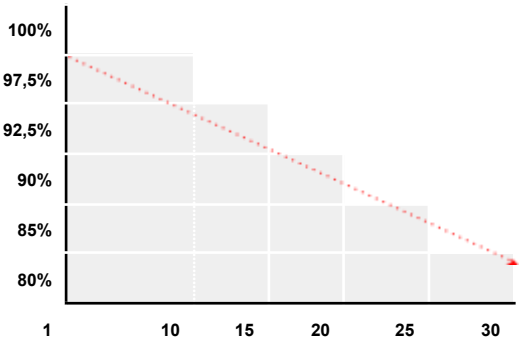
CE
EC 61215
IEC 61730
ISO 9001: Quality Management System
ISO 14001: Environmental Management System

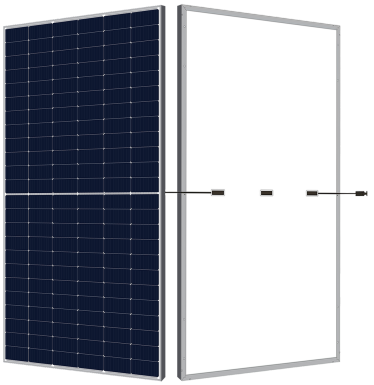
TM Series®

TM 430-450M-144HC

20,9%	0 - 3%	2,5%	0,50%	HALF CELL
MAX MODULE EFFICIENCY	POWER TOLERANCE	FIRST YEAR POWER DEGRADATION	YEAR 2-30 POWER DEGRADATION	Lower operating temperature

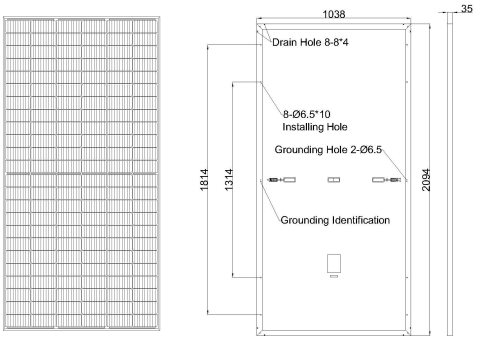
30-Year Linear Power Warranty





Mechanical parameters

Cell Orientation	single crystal PERC166x83mm (144 pieces)
Junction Box	IP68, three diodes
Output Cable	4.0mm² 1200mm(+) / 1200mm(-) or customized
Glass	3.2mm tempered coated glass, low iron
Frame	Anodized aluminum alloy frame
Weight	23,5 kg
Dimensión	2094*1038*35mm
Packaging	31 pcs*pallet / 255cs*20GP / 726pcs*40HC



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 - 430M-144HC		TM - 435M-144HC		TM - 440M-144HC		TM - 445M-144HC		TM - 450M-144HC	
Testing condition	STC	NOTC	STC	NOTC	STC	NOTC	STC	NOTC	STC	NOTC
Maximum Power (Pmax/w)	430	320	435	324	440	327	445	331	450	335
Open Circuit Voltage (Voc/V)	49,3	46,6	49,5	46,8	49,7	47,0	49,9	47,2	50,1	47,4
Short Circuit Current (Isc/A)	11,32	8,90	11,4	8,96	11,47	9,00	11,54	9,09	11,61	9,15
Voltage at Maximum Power (Vmp/V)	41,2	38,8	41,3	39,0	41,4	39,2	41,6	39,3	41,8	39,5
Current at maximum Power (Imp/A)	10,44	8,25	10,54	8,31	10,63	8,35	10,7	8,43	10,77	8,49
Module Efficiency (%)	19,78%	14,72%	20,01%	14,91%	20,24%	15,04%	20,47%	15,23%	20,70%	15,41%

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	20 A
Nominal Operating Cell Temperature	45±2℃
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%/℃
Temperature Coefficient of Voc	-0.27%/℃
Temperature Coefficient of Pmax	-0.35%/℃

TAMESOL 15 YEARS

Specifications included in this datasheet
are subject to change without any notice
TAMESOL reserves the right of final interpretation
(2023200223V1)