

upto **23.2%** EFFICIENCY  
**15** YEAR PRODUCT WARRANTY  
**30** YEAR LINEAR POWER OUTPUT WARRANTY

570 ~ 600W POWER RANGE  
0 ~ + 5W POWER TOLERANCE  
≤ 1.0% FIRST YEAR POWER DEGRADATION  
≤ 0.4% YEAR 2-30 POWER DEGRADATION

TOPCon N-Type



### The Ultimate Power Performance | Durability | Reliability

#### Temperature Coefficient

Even on hot days, Spark Solar modules produce reliable yields and lose less efficiency than standard solar modules.

#### Higher Performance

Half-cell technology offer more power per square meter, resulting in higher yields at lower BOS cost.

#### Low-light Behaviour

High yields with low radiation intensity

#### Remarkable Performance

Remarkable performance in shaded condition

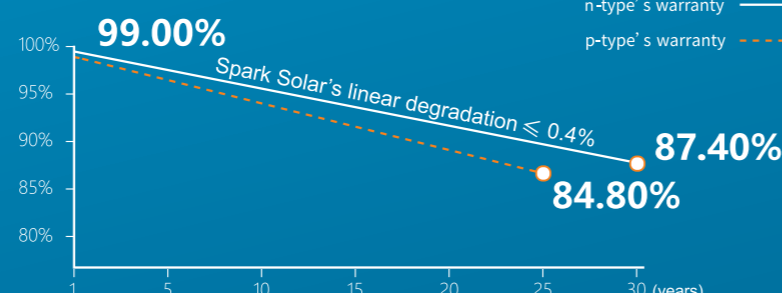
570 ~ 600W

- TOPCon / Multi-busbar / Half-cut
- Non-destructive cutting
- PID resistance
- Lower BOS cost & LCOE

#### HOW IT WORKS

Spark Rapid 144 TOPCon M10 module Produces energy even if part of the module is shaded. Whereas if standard module is partially shaded minimum one string will completely stop producing power, this accounts to one third reduction in power generation. Moreover, it can even completely stop generating power if shaded across its breadth. Rapid 144 TOPCon M10 Series module is split into two parts. Each section of 72 half-cut cells generates power on standalone basis but combines again before current exits the module. This structure results in power generation in non-shaded area of the module even if one of the section is partially or completely shaded, resulting in higher overall energy yield as compared to standard module.

**15** Year Product Warranty  
**30** Year Linear Power Warranty



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#### TEMPERATURE RATINGS\*

Nominal Module Operating Temperature : 41.0°C (±2°C)  
Temperature coefficient of  $P_{MPP}$  (Y) : -0.30 %/°C  
Temperature coefficient of  $V_{OC}$  (β) : -0.24 %/°C  
Temperature coefficient of  $I_{SC}$  (α) : 0.04 %/°C

\*The temperature coefficients stated are linear values

#### GENERAL DATA

Cell type : N-type TOPCon monocrystalline MBB cells  
Cell matrix : 144 [ 2 X (12 X 6)]  
Junction box : 3-part, 3 bypass diodes, IP 68 rated  
Cable : 4mm<sup>2</sup> solar cable, Portrait : N (-) 300 mm, P (+) 300 mm Landscape : ≥ 1300 mm / Customized  
Frame : Silver anodized aluminum alloy  
Glass : 3.2 mm low iron solar glass with anti-reflection technology  
Connectors : UTX / Multi-Contact MC4 (4 mm<sup>2</sup>)

#### MAXIMUM RATINGS

Operating temperature : -40 upto +85°C (Permitted Module Temperature on Continuous Duty)  
Maximum system voltage : 1500  $V_{DC}(IEC/UL)$   
Max series fuse rating : 30A  
Max reverse current : 30A  
Maximum test load (front) : 5400 Pa (550 kg/m<sup>2</sup>)\*  
Maximum test load (rear) : 2400 Pa (244 kg/m<sup>2</sup>)\*  
Application classification : Class A  
Safety Class : II  
Fire Rating : C

\* See installation manual for mounting instructions. Design load = Test load /1.5 (safety factor)

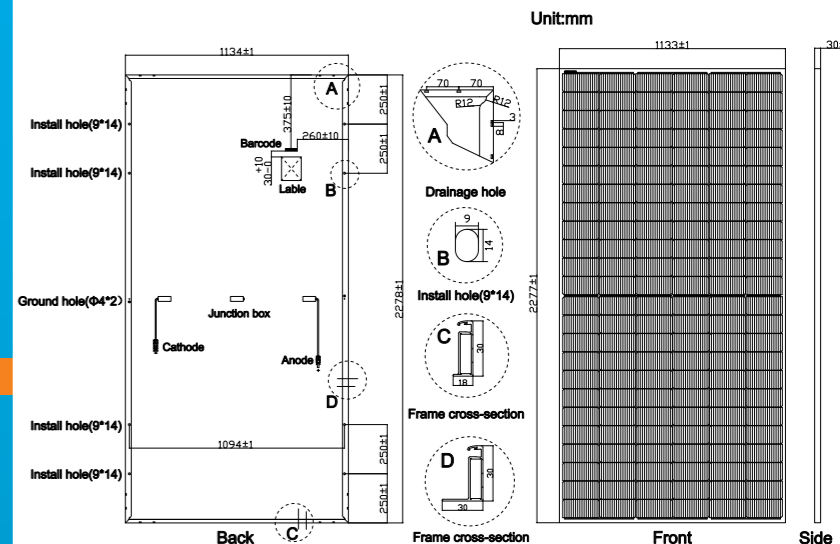
#### MECHANICAL SPECIFICATION

Dimensions : 2277 x 1133 x 30 mm  
Area : 2.58 m<sup>2</sup>  
Weight : 28 kg (61.73 lbs)

#### PACKAGING INFORMATION

Container Size : 20' 40'HC  
Pallets/Container : 5 20  
Quantity/Container : 185 740

\*Due to continuous innovation, research and product improvement the specifications in this product information sheet are subject to change without prior notice. Installation instructions must be followed. See the installation manual or contact technical service department for further information on approved installation. Atleast 99.00% of nominal power during first year. Thereafter max. depression in performance of 0.4% p.a. See warranty conditions for further details.



#### ELECTRICAL DATA@STC

Module code\* : SSXXX144 TOPCon N-Type

	570	575	580	585	590	595	600
Nominal Power - $P_{MPP}$ (Wp)	570	575	580	585	590	595	600
Power Tolerance - (W)	0/+5	0/+5	0/+5	0/+5	0/+5	0/+5	0/+5
Maximum Power Voltage - $V_{MPP}$ (V)	42.07	42.22	42.37	42.52	42.67	42.82	42.97
Maximum Power Current - $I_{MPP}$ (A)	13.55	13.62	13.69	13.76	13.83	13.90	13.97
Open Circuit Voltage - $V_{OC}$ (V)	50.74	50.88	51.02	51.16	51.30	51.44	51.58
Short Circuit Current - $I_{SC}$ (A)	14.31	14.39	14.47	14.55	14.63	14.71	14.79
Module Efficiency - (%)	22.07	22.26	22.45	22.64	22.83	23.02	23.21

Values at standard test conditions STC (airmass AM 1.5, irradiance 1000 W/m<sup>2</sup>, cell temperature 25°C). \*Where xxx indicates the nominal power class ( $P_{MPP}$ ) at STC indicated above.

#### ELECTRICAL DATA@NMOT

	429	433	437	441	445	449	453
Nominal Power - $P_{MPP}$ (Wp)	429	433	437	441	445	449	453
Power Tolerance - (W)	0/+5	0/+5	0/+5	0/+5	0/+5	0/+5	0/+5
Maximum Power Voltage - $V_{MPP}$ (V)	39.51	39.64	39.77	39.90	40.03	40.16	40.29
Maximum Power Current - $I_{MPP}$ (A)	10.85	10.91	10.97	11.03	11.09	11.15	11.21
Open Circuit Voltage - $V_{OC}$ (V)	48.20	48.32	48.44	48.56	48.68	48.80	48.92
Short Circuit Current - $I_{SC}$ (A)	11.55	11.61	11.68	11.75	11.82	11.89	11.96

Nominal Module Operating Temperature NMOT (800 W/m<sup>2</sup>, AM 1.5, windspeed 1 m/s, ambient temperature 20°C). Typical values, actual values may differ. \*Where xxx indicates the nominal power class ( $P_{MPP}$ ) at STC indicated above.

#### ELECTRICAL DATA@BNPI (Bifacial Name Plate Irradiance)

	632	637	643	649	655	661	667
Nominal Power - $P_{MPP}$ (Wp)	632	637	643	649	655	661	667
Power Tolerance - (W)	0/+5	0/+5	0/+5	0/+5	0/+5	0/+5	0/+5
Maximum Power Voltage - $V_{MPP}$ (V)	42.07	42.22	42.37	42.52	42.67	42.82	42.97
Maximum Power Current - $I_{MPP}$ (A)	15.01	15.09	15.18	15.27	15.36	15.45	15.54
Open Circuit Voltage - $V_{OC}$ (V)	50.74	50.88	51.02	51.16	51.30	51.44	51.58
Short Circuit Current - $I_{SC}$ (A)	15.86	15.94	16.03	16.12	16.21	16.30	16.39

#### Electrical Performance & Temperature Dependence

