



N-TYPE TOPCON

570W to 620W

CLEAR **VISION**
CLEAN **ENERGY**



High Efficiency

Excellent Module Conversion
Efficiency of up to 23.24%



Better Weak Light Performance

Delivers higher power output even
in low-light conditions such as
cloudy, rainy, or foggy days.



5%-10% Additional Power Generation

More than 5%-10% additional
power gain compared to the
regular modules.



High Saving

Lower LCOE, reduced BOS cost,
shorter payback time.



ZERO LID (Light Induced Degradation)

Excellent anti-LeTID. Low power
degradation, high energy yield.



PID Resistance

Excellent Anti-PID
Performance Guarantee.

CERTIFICATIONS

IEC-61701, IEC-61853-PART-1, IEC-61853-PART-2 IAM& LETID,

IS -16170 -PART-1, IEC-62716, IEC-62804, IEC 60905, IEC-61215, IEC-63342, IEC 61701, IEC 62716



12 Years Warranty For
Materials And Processing



30 Years Warranty For
Linear Power Output



BIS Certified



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N-TYPE TOPCON TECHNICAL DATA

ELECTRICAL PERFORMANCE [Note : Power tolerance: 0 ~ +4.99 W. Power measurement uncertainty < ±3%. Average value of NOCT: 45.08 ± 2 °C]

ELECTRICAL CHARACTERISTICS	MSE580144TGC		MSE585144TGC		MSE590144TGC		MSE595144TGC		MSE600144TGC	
	STC NOCT		STC NOCT		STC NOCT		STC NOCT		STC NOCT	
Nominal Maximum Power (Pmax)	580 W	435 W	585 W	439 W	590 W	443 W	595 W	439 W	600 W	450 W
Optimum Operating Voltage (Vmp)	44.75 V	42.02 V	44.94 V	42.20 V	45.12 V	42.38 V	45.31 V	42.2 V	45.50 V	42.72 V
Optimum Operating Current (Imp)	12.96 A	10.35 A	13.02 A	10.40 A	13.08 A	10.45 A	13.14 A	10.41 A	13.20 A	10.54 A
Open Circuit Voltage (Voc)	52.80 V	49.79 V	53.01 V	49.98 V	53.21 V	50.18 V	53.42 V	49.98 V	53.62 V	50.56 V
Short Circuit Current (Isc)	13.71 A	11.05 A	13.77 A	11.10 A	13.83 A	11.14 A	13.89 A	11.04 A	13.95 A	11.24 A
Module Efficiency	22.47 %		22.67 %		22.86 %		23.05 %		23.25 %	

BIFACIAL OUTPUT - BACKSIDE POWER GAIN @STC* | Bifaciality Factor: 80% ± 10%
[Note: The bifacial gain depends on the power plant design and site conditions. Electrical component ratings should be selected as per actual bifacial gain at the site (module currents indicated below).]

5%	Nominal Maximum Power (Pmax)	609 W	614 W	620 W	625 W	630 W
	Module Short Circuit Current / Efficiency	14.40 A / 23.60 %	14.46 A / 23.80 %	14.52 A / 24.00 %	14.58 A / 24.21 %	14.64 A / 24.41 %
10%	Nominal Maximum Power (Pmax)	638 W	644 W	649 W	655 W	660 W
	Module Short Circuit Current / Efficiency	15.08 A / 24.72 %	14.95 A / 24.93 %	15.21 A / 25.15 %	15.28 A / 25.36 %	15.34 A / 25.57 %
25%	Nominal Maximum Power (Pmax)	725 W	731 W	738 W	744 W	750 W
	Module Short Circuit Current / Efficiency	17.14 A / 28.09 %	17.21 A / 28.33 %	17.29 A / 28.57 %	17.36 A / 28.82 %	17.43 A / 29.06 %

MECHANICAL SPECIFICATIONS	
Dimensions	2278 mm (L) x 1134 mm (W) x 30 mm (H)
Weight(kg)	33
Cell type / No Of Cell	144 Half-Cut N-Type TOPcon Bifacial Solar Cells
Frame	Anodized Aluminum Alloy (6005, Temper T6, Silver color)
Front Cover	Low Iron Semi-Tempered AR Coated Glass (2 mm thick)
Encapsulate	PID resistant and UV resistant Polymeric Film
Back Cover	Low Iron Semi-Tempered Glass (2 mm thick)
Junction Box	30A Split Junction Box (3 nos. with individual Bypass Diode)- Weatherproof (IP68)
Bypass Diode	50 A, 45 V, 200 °C Max Junction Temperature
Cable	4 sq. mm, 300 mm length (Custom cable lengths available on request)
Connectors	MC4 compatible (Original MC4 available upon request)
Application Class Rating	Class A
Safety Class Rating	Class II
Mechanical Load Test	5400 Pa Snow Test; 2400 Pa Wind Test (according to IEC & UL)
Mounting Holes Pitch (Y)-mm	[A] 1400 , [B] 1100, [C] 400
Mounting Holes Pitch (X)-mm	(Holes at 400 mm Y-pitch for tracker can be provided upon customer request)
	1095

MAXIMUM OPERATING CONDITIONS	
Operating Temperature:	-40°C to +85°C
Maximum System Voltage:	1500 VDC
Maximum Series Fuse Rating:	30 A

TEMPERATURE COEFFICIENTS	
Current α (Isc) :	0.0265%/°C
Voltage β (Voc) :	-0.2261%/°C
Power γ (Pmax) :	-0.2909%/°C

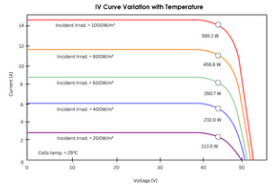
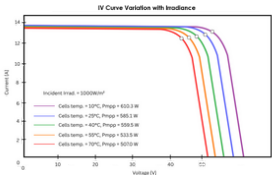
STACKING STANDARD	20FT	40FT
No. of Modules per Container:	270	594
No. of Pallets per Container:	10	22
No. of Modules per Pallet/Weight:	27 Nos/940 Kg	
Pallet Dimensions in mm:	2320(L) *1000(W)*1275(H)	

Caution: Please read the safety and installation instructions before using the product.

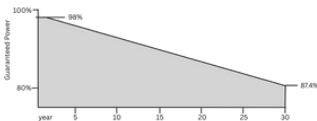
Warranty: Linear performance warranty for 30 years, with a degradation of up to 1% in the first year and 0.4% per year from year 2 to year 30. Please read the MACWIN'S warranty documents thoroughly.

Disclaimer: Specifications provided in this datasheet are subject to change without prior notice due to continuous innovation in product development and R&D activities.

REFERENCE IV CURVE DETAIL:



LINEAR PERFORMANCE WARRANTY:



DIMENSIONS:

FRONT VIEW SIDE VIEW

