

Preliminary

THE

DUOMAX twin

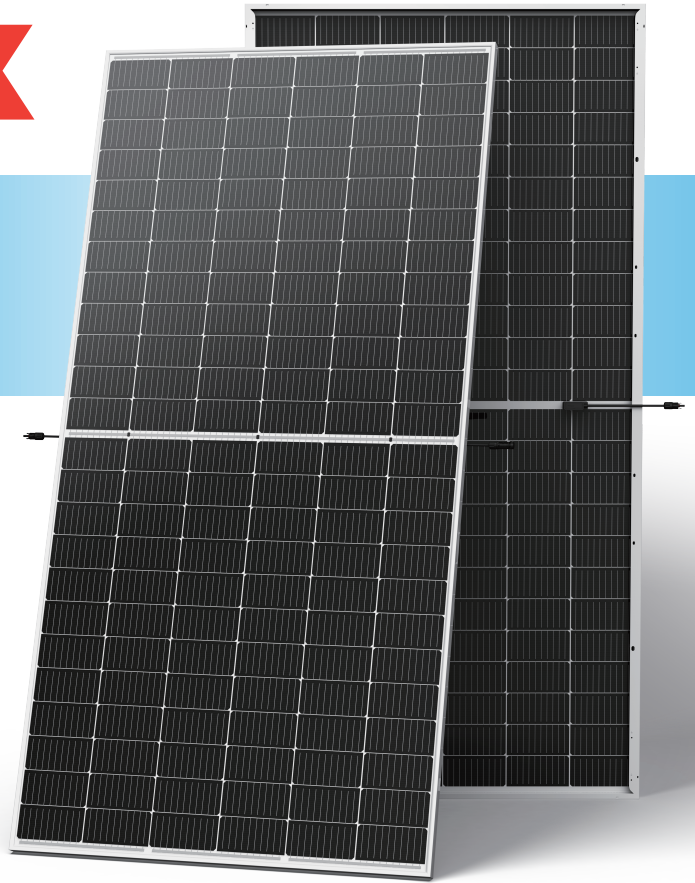
P-type PERC

Bifacial Dual Glass Monocrystalline Module

TSM-DEG18C.20 520-555W

555W / MAXIMUM POWER OUTPUT

21.5% / MAXIMUM EFFICIENCY



High power up to 555W

- Up to 21.5% module efficiency with high density interconnect technology
- Multi-busbar technology for better light trapping effect, lower series resistance and improved current collection



High reliability

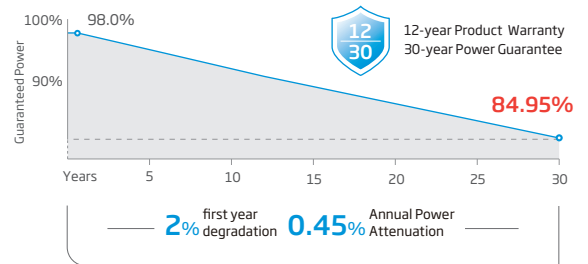
- Minimized micro-cracks with innovative non-destructive cutting technology
- Ensured PID resistance through cell process and module material control
- Resistant to harsh environments such as salt, ammonia, sand, high temperature and high humidity areas
- Mechanical performance up to 5400 Pa positive load and 2400 Pa negative load



High energy yield

- Excellent IAM (Incident Angle Modifier) and low irradiation performance, validated by 3rd party certifications
- The unique design provides optimized energy production under inter-row shading conditions
- Lower temperature coefficient (-0.34%/°C) and operating temperature
- Up to 25% additional power gain from back side depending on albedo

Performance Warranty



* Please refer to product warranty for details

Comprehensive Products and System Certificates

IEC61215/IEC61730/IEC61701/IEC62716

ISO 9001: Quality Management System

ISO 14001: Environmental Management System

ISO14064: Greenhouse Gases Emissions Verification

ISO45001: Occupational Health and Safety Management System



CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

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Version number: TSM_NA_EN_2025_PA1

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ELECTRICAL DATA (STC & NOCT & BNPI)

Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Peak Power Watts- $P_{MAX}(W_p)^*$	520	389	525	392.4	530	396.2	535	399.9	540	403.6	545	407.4	550	411.1	555	414.8
Power Selection (W)**	0 ~ +5															
Maximum Power Voltage- V_{MPP} (V)	41.09	38.30	41.24	38.48	41.39	38.62	41.54	38.76	41.69	38.90	41.84	39.04	41.99	39.18	42.14	39.32
Maximum Power Current- I_{MPP} (A)	12.66	10.14	12.74	10.21	12.81	10.26	12.88	10.32	12.96	10.38	13.03	10.44	13.10	10.49	13.18	10.56
Open Circuit Voltage- V_{oc} (V)	48.88	46.00	49.03	46.10	49.18	46.24	49.33	46.38	49.48	46.52	49.63	46.66	49.78	46.80	49.93	46.94
Short Circuit Current- I_{sc} (A)	13.63	10.99	13.69	11.04	13.75	11.09	13.81	11.14	13.87	11.19	13.93	11.23	13.99	11.28	14.05	11.33
Module Efficiency η_m (%)	20.10		20.30		20.50		20.70		20.90		21.10		21.30		21.50	

STC: Irradiance 1000W/m², Cell Temperature 25°C, Air Mass AM1.5. NOCT: Irradiance at 800W/m², Ambient Temperature 20°C, Wind Speed 1m/s. *Measuring tolerance: ±3%. **Power selection up to: +3%.

Electrical characteristics with different power bin (reference to 5% & 10% backside power gain)

Backside Power Gain	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%	5%	10%
Peak Power Watts- $P_{MAX}(W_p)$	546	572	551	578	557	583	562	589	567	594	572	600	578	605	583	611
Maximum Power Voltage- V_{MPP} (V)	41.09	41.09	41.24	41.24	41.39	41.39	41.54	41.54	41.69	41.69	41.84	41.84	41.99	41.99	42.14	42.14
Maximum Power Current- I_{MPP} (A)	13.29	13.93	13.38	14.01	13.45	14.09	13.52	14.17	13.61	14.26	13.68	14.33	13.76	14.41	13.84	14.50
Open Circuit Voltage- V_{oc} (V)	48.88	48.88	49.03	49.03	49.18	49.18	49.33	49.33	49.48	49.48	49.63	49.63	49.78	49.78	49.93	49.93
Short Circuit Current- I_{sc} (A)	14.31	14.99	14.37	15.06	14.44	15.13	14.50	15.19	14.56	15.26	14.63	15.32	14.69	15.39	14.75	15.46

Power Bifaciality: 70±5%.

TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature)	43°C (±2°C)
Temperature Coefficient of P_{MAX}	-0.34% /°C
Temperature Coefficient of V_{oc}	-0.25% /°C
Temperature Coefficient of I_{sc}	0.04% /°C

Due to different testing methods, the actual performances might differ from the declared specifications.

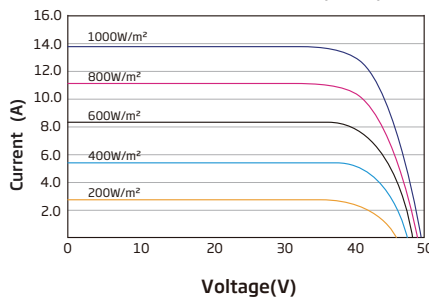
MAXIMUM RATINGS

Operational Temperature	-40~+85°C
Maximum System Voltage	1500V DC (IEC)
Max Series Fuse Rating	30A

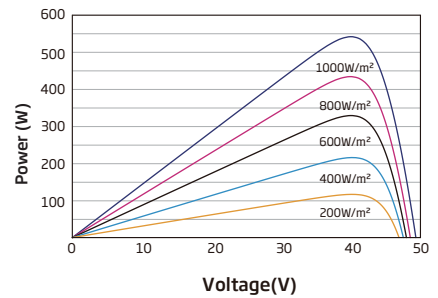
CURVES OF PV MODULE

Preliminary

I-V CURVES OF PV MODULE(545 W)



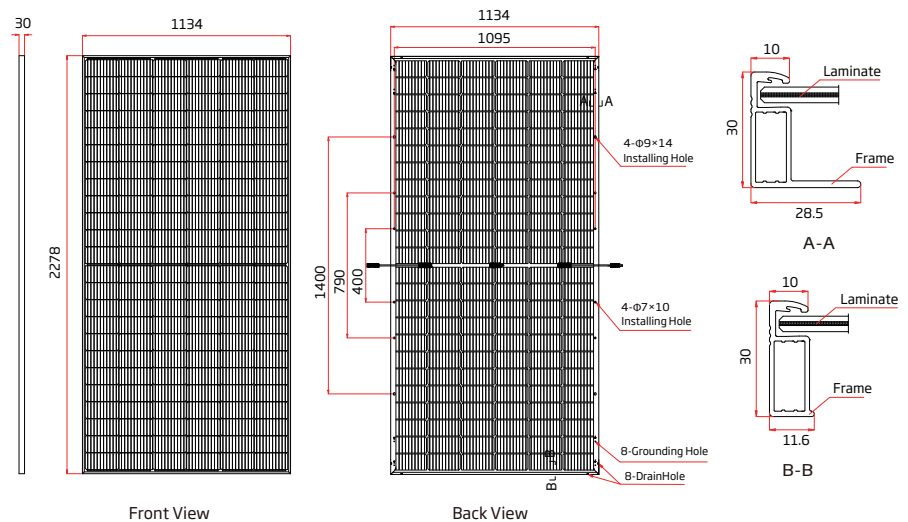
P-V CURVES OF PV MODULE(545W)



MECHANICAL DATA

Solar Cells	Monocrystalline
No. of cells	144 cells
Module Dimensions	2278×1134×30 mm (89.69×44.65×1.18 inches)
Weight	32.6±0.5 kg
Front Glass	2.0 mm (0.08 inches), AR Coating Heat Strengthened Glass
Back Glass	2.0 mm (0.08 inches), Heat Strengthened Glass (White Coating)
Frame	30mm (1.18 inches) Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm ² (0.006 inches ²) Portrait: 350/280 mm (13.78/11.02 inches) Length can be customized
Connector	MC4 EV02 / TS4 Plus / TS4*
PACKAGING CONFIGURATION	Modules per box: 36 pieces Modules per 53' container: 540pieces

*Please refer to regional datasheet for specified connector.



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