



N-type i-TOPCon

BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

TSM-NEG19RC.20K 620-635W

635W / MAXIMUM POWER OUTPUT

23.5% / MAXIMUM EFFICIENCY



High customer value

- 1P 트래커와 호환성이 좋은 모듈사이즈
- 모듈의 저전압 설계로 인하여 BOS 비용 및 LCOE 비용 감소
- 낮은 성능 감소를 및 뛰어난 내구성



High power up to 635W

- 최대 23.5%의 고효율 모듈
- 낮은 Contact 저항, 높은 후면 반사율과 뛰어난 엣지 품질 등 효율 개선을 위해 특허받은 i-TOPCon 기술



High reliability

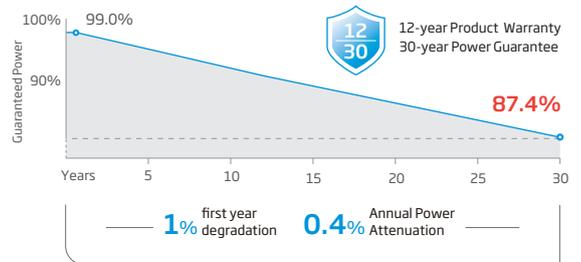
- 최첨단 무손상 커팅기술로 마이크로 크랙 최소화
- Half-Cut 기술로 핫스팟 현상 최소화
- 염분, 암모니아, 모래, 고온, 습도 등 가혹한 환경에 대한 뛰어난 내성



High energy yield

- 외부기관으로 부터 검증 받은 뛰어난 낮은 조사 성능
- 낮은 온도 계수
- 빛 반사율에 따라 후면에서 추가 발전이 가능한 높은 Bifaciality.
- 30년의 수명을 보장하는 안정적인 양면 유리형 구조

Performance Warranty



* Please refer to product warranty for details

Comprehensive Products and System Certificates

IEC61215/IEC61730/IEC61701/IEC62716/UL61730

ISO 9001: Quality Management System

ISO 14001: Environmental Management System

ISO14064: Greenhouse Gases Emissions Verification

ISO45001: Occupational Health and Safety Management System

ISO14067: Product Carbon Footprint Limited Assurance

ISO14025: Environmental Product Declaration



ELECTRICAL DATA (STC & NOCT & BNPI)

Testing Condition	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI	STC	NOCT	BNPI
최대출력-P _{MAX} (Wp)*	620	473	687	625	477	692	630	481	698	635	487	704
출력공차(W)**	0 ~ +5											
최대출력 동작전압-V _{MPP} (V)	40.24	37.90	40.24	40.46	38.10	40.46	40.68	38.30	40.68	40.84	38.60	40.84
최대출력 동작전류-I _{MPP} (A)	15.41	12.47	17.07	15.45	12.52	17.12	15.49	12.57	17.16	15.55	12.60	17.23
개방전압-V _{oc} (V)	48.50	46.10	48.50	48.70	46.30	48.70	48.90	46.50	49.90	49.10	46.60	49.10
단락전류-I _{sc} (A)	16.26	13.10	18.02	16.32	13.15	18.08	16.38	13.20	18.15	16.44	13.25	18.22
모듈효율(%)	23.0			23.1			23.3			23.5		

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. BNPI: Irradiance: front 1000W/m², rear 135W/m², Temperature 25°C, Air Mass AM1.5
 *Measuring tolerance: ±3%. **Power selection up to: +3%.

Electrical characteristics with different power bin (5% 후면 추가 발전량)

후면추가발전량	5%	5%	5%	5%
최대출력-P _{MAX} (Wp)	651	656	662	667
최대출력 동작전압-V _{MPP} (V)	40.24	40.46	40.68	40.84
최대출력 동작전류-I _{MPP} (A)	16.18	16.22	16.26	17.26
개방전압-V _{oc} (V)	48.50	48.70	48.90	49.10
단락전류-I _{sc} (A)	17.07	17.14	17.20	17.33

Power Bifaciality: 80±10%.

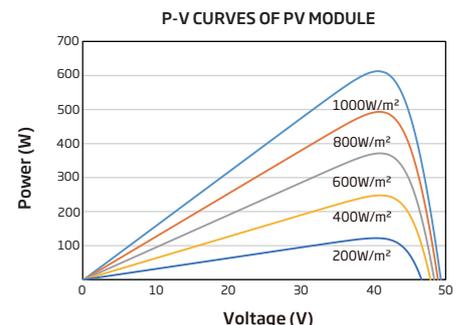
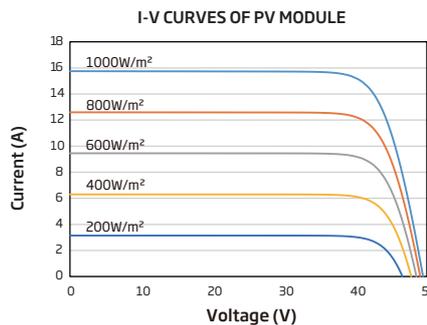
TEMPERATURE RATINGS

NOCT (Nominal Operating Cell Temperature)	43°C (±2°C)
P _{MAX} 온도계수	-0.29%/°C
V _{oc} 온도계수	-0.24%/°C
I _{sc} 온도계수	0.04%/°C

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

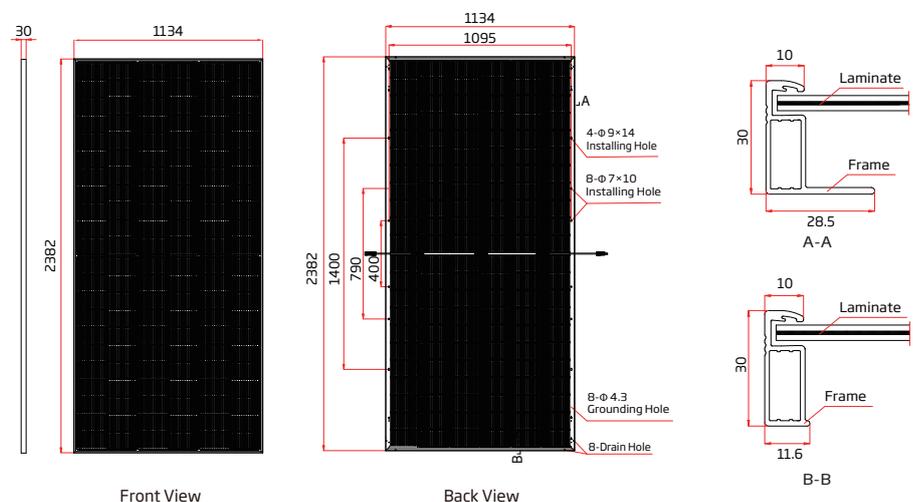
MAXIMUM RATINGS

작업온도	-40 ~ +85°C
최대시스템전압	1500V DC (IEC)
	1500V DC (UL)
최대류즈정격전압	35A

CURVES OF PV MODULE

MECHANICAL DATA

Solar Cells	N-type i-TOPCon Monocrystalline
No. of cells	132 cells
Module Dimensions	2382×1134×30 mm
Weight	33.0 kg
Front Glass	2.0 mm AR Coating Heat Strengthened Glass
Back Glass	2.0 mm Heat Strengthened Glass (White Coating)
Frame	30mm Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm Portrait: 350/280 mm Length can be customized
Connector	MC4 EV02 / TS4 Plus / TS4*
Packaging	Modules per box: 36 pieces Modules per 40' container: 720 pieces

*Please refer to regional datasheet for specified connector.



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

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