



# N-type i-TOPCon

BIFACIAL DUAL GLASS MONOCRYSTALLINE MODULE

TSM-NEG21C.20K 705-720W

**720<sub>W</sub>** / MAXIMUM POWER OUTPUT

**23.2%** / MAXIMUM EFFICIENCY



## High customer value

- 기존 기술 적용 제품 대비 35w이상 높아진 고출력 모듈과 표준화된 모듈 사이즈
- 모듈의 저전압 설계로 인하여 BOS 비용 및 LCOE 비용 감소
- 낮은 성능 감소를 및 뛰어난 내구성



## High power up to 720W

- 최대 23.2%의 고효율 모듈
- 낮은 Contact 저항, 높은 후면 반사율과 뛰어난 옛지 품질 등 효율 개선을 위해 특허 받은 i-TOPCon 기술



## High reliability

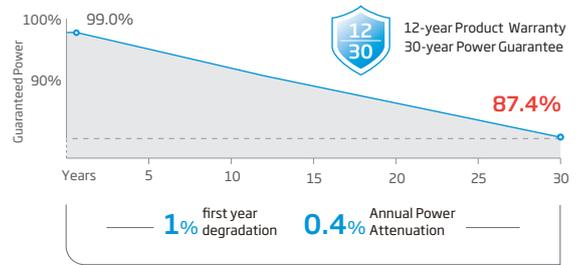
- 최첨단 무손상 커팅기술로 마이크로 크랙 최소화
- Half-Cut 기술로 핫스팟 현상 최소화
- 염분, 암모니아, 모래, 고온, 습도 등 가혹한 환경에 대한 뛰어난 내성



## 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

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 <sub>MAX</sub> (Wp)	705	540	776	710	543	782	715	547	787	720	551	793
출력공차 (W)	0 ~ +5											
최대출력 동작전압-V <sub>MPP</sub> (V)	40.7	38.3	40.7	40.9	38.5	40.9	41.1	38.7	41.1	41.3	38.8	41.3
최대출력 동작전류-I <sub>MPP</sub> (A)	17.33	14.08	19.08	17.36	14.12	19.12	17.40	14.14	19.16	17.44	14.19	19.21
개방전압-V <sub>oc</sub> (V)	48.8	46.3	48.8	49.0	46.5	49.0	49.2	46.7	49.2	49.4	46.9	49.4
단락전류-I <sub>sc</sub> (A)	18.36	14.80	20.22	18.40	14.83	20.26	18.44	14.86	20.31	18.49	14.90	20.36
모듈효율 (%)	22.7			22.9			23.0			23.2		

STC: Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5. NOCT: Irradiance at 800W/m<sup>2</sup>, Ambient Temperature 20°C, Wind Speed 1m/s. BNPI: Irradiance: front 1000W/m<sup>2</sup>, rear 135W/m<sup>2</sup>, 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)

후면 추가발전량	5%	5%	5%	5%
최대출력-P <sub>MAX</sub> (Wp)	740	746	751	756
최대출력 동작전압-V <sub>MPP</sub> (V)	40.7	40.9	41.1	41.3
최대출력 동작전류-I <sub>MPP</sub> (A)	18.20	18.23	18.27	18.31
개방전압-V <sub>oc</sub> (V)	48.8	49.0	49.2	49.4
단락전류-I <sub>sc</sub> (A)	19.28	19.32	19.36	19.41

Power Bifaciality: 80±7%, P<sub>ax</sub>: 80±7%, V<sub>oc</sub>: 100%±3%, I<sub>sc</sub>: 80±7%

**TEMPERATURE RATINGS**

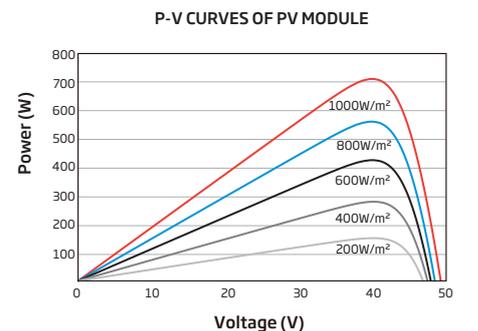
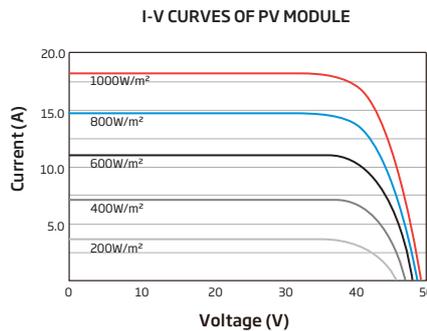
NOCT (Nominal Operating Cell Temperature)	43°C (±2°C)
P <sub>MAX</sub> 온도계수	-0.29% /°C
V <sub>oc</sub> 온도계수	-0.24% /°C
I <sub>sc</sub> 온도계수	0.04% /°C

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)
최대퓨즈정격전류	35A

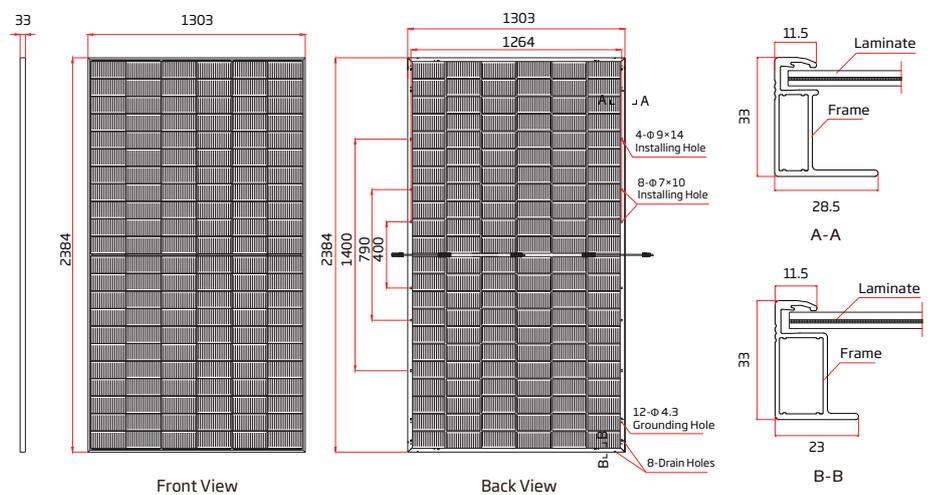
**CURVES OF PV MODULE**



**MECHANICAL DATA**

Solar Cells	N-type i-TOPCon Monocrystalline
No. of cells	132 cells
Module Dimensions	2384×1303×33 mm
weight	38.3 kg
Front Glass	2.0 mm AR Coating Heat Strengthened Glass
Back Glass	2.0 mm Heat Strengthened Glass (White Coating)
Frame	33mm Anodized Aluminium Alloy
J-Box	IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm <sup>2</sup> Landscape: 1400/1400 mm Length can be customized
Connector	MC4 EVO2 / TS4 Plus / TS4*
Packaging	Modules per box: 33 pieces Modules per 40' container: 594 pieces

\*Please refer to regional datasheet for specified connector.



CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.  
 © 2024 Trina Solar Co., Ltd. All rights reserved. Specifications included in this datasheet are subject to change without notice. The right of final interpretation belongs to Trina Solar Co., Ltd.

제품 문의: 국내 총판 (주)스틴 +82 02 6465 8888 / sales.kr@stinholdings.com / www.stininc.com  
 최종 수정일: 2025년 08월 27일