NBJG Series

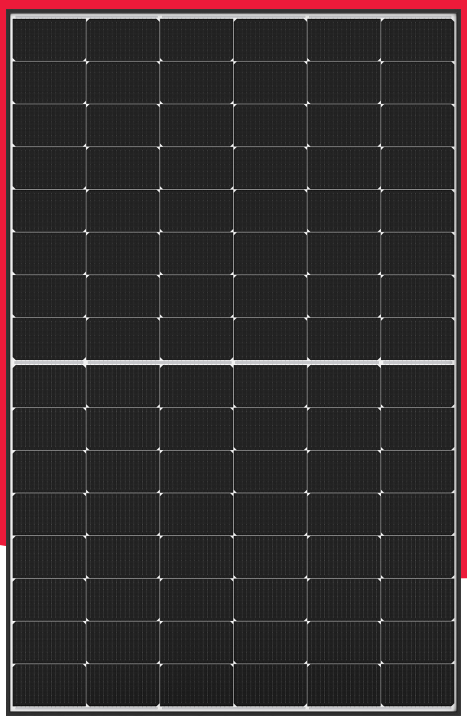
# NBJG445R - 455R

## 445 - 455W

## The High Performer

GOLD | Top 5%
ecovadis
Sustainability Rating
OCT 2024

## Bifacial



## Powerful product features

+% Guaranteed positive power tolerance (0/+3 %)

MBB busbar technology
Improved reliability
Higher efficiency
Reduced series resistance

Tested and certified
VDE, IEC/EN61215, IEC/EN61730
Safety class II, CE, UKCA
(MCS under application)
Fire rating class C

High module efficiency
22.27 / 22.52 / 22.77 %
N-Type TOPCon monocrystalline silicon photovoltaic modules

Half-cut cell
Improved shading performance
Lower internal losses

Robust product design
PID resistance test passed
Salt mist test passed (IEC61701)
Ammonia test passed (IEC62716)
Dust and sand test passed (IEC60068)

Bifacial module
Additional rear side power gain

## Your solar partner for life

65 YEARS 65 years of solar expertise

30 YEARS Linear power output guarantee

15* YEARS Product guarantee
not on roof

Local support team in Europe

50 MIL 50 million PV modules installed

25* YEARS Product guarantee
on roof

**Energy Solutions**

SHARP
Be Original.

* Applicable for modules installed within the EU and additional listed countries.
Please check the guarantee conditions for your area before purchasing.

## Electrical data (STC)

| | | NBJG445R | NBJG450R | NBJG455R | |
|---|---|---|---|---|---|
| Maximum power | $P_{max}$ | 445 | 450 | 455 | $W_p$ |
| Open-circuit voltage | $V_{oc}$ | 35.39 | 35.59 | 35.78 | V |
| Short-circuit current | $I_{sc}$ | 16.01 | 16.10 | 16.19 | A |
| Voltage at point of maximum power | $V_{mpp}$ | 29.55 | 29.73 | 29.90 | V |
| Current at point of maximum power | $I_{mpp}$ | 15.06 | 15.14 | 15.22 | A |
| Module efficiency | $\eta_m$ | 22.27 | 22.52 | 22.77 | % |
| Bifaciality coefficient | φ | φ $P_{max}$ = 80 (±10) | φ $V_{oc}$ = 99 (±10) | φ $I_{sc}$ = 80 (±10) | % |

STC = Standard Test Conditions: irradiance 1,000 W/m², AM 1.5, cell temperature 25 °C. Rated electrical characteristics are within ±5 % of $I_{SC}$, ±3 % of $V_{OC}$ and 0 to +3 % of $P_{max}$.

## Electrical data (BNPI, BSI, Low Light)

| | | NBJG445R | NBJG450R | NBJG455R | |
|---|---|---|---|---|---|
| Maximum power BNPI | $P_{max}$ | 492 | 497 | 503 | $W_p$ |
| Open-circuit voltage BNPI | $V_{oc}$ | 35.51 | 35.72 | 35.91 | V |
| Short-circuit current BNPI | $I_{sc}$ | 17.71 | 17.81 | 17.91 | A |
| Short-circuit current BSI | $I_{sc}$ | 19.85 | 19.96 | 20.08 | A |
| Maximum power low light | $P_{max}$ | 87.60 | 88.70 | 89.60 | $W_p$ |

BNPI: Bifacial Nameplate Irradiance: 1,000 W/m² (front) and 135 W/m² (rear)
BSI: Bifacial Stress Irradiance: 1,000 W/m² (front) and 300 W/m² (rear)
Low light conditions: irradiance 200 W/m², cell temperature of 25 °C
Rated electrical characteristics are within ±10 % of the indicated values of $I_{SC}$, $V_{OC}$ and 0 to +5 % of $P_{max}$.

## Mechanical data

| | |
|---|---|
| Length | 1,762 mm |
| Width | 1,134 mm |
| Depth | 30 mm |
| Weight | 25.0 kg |

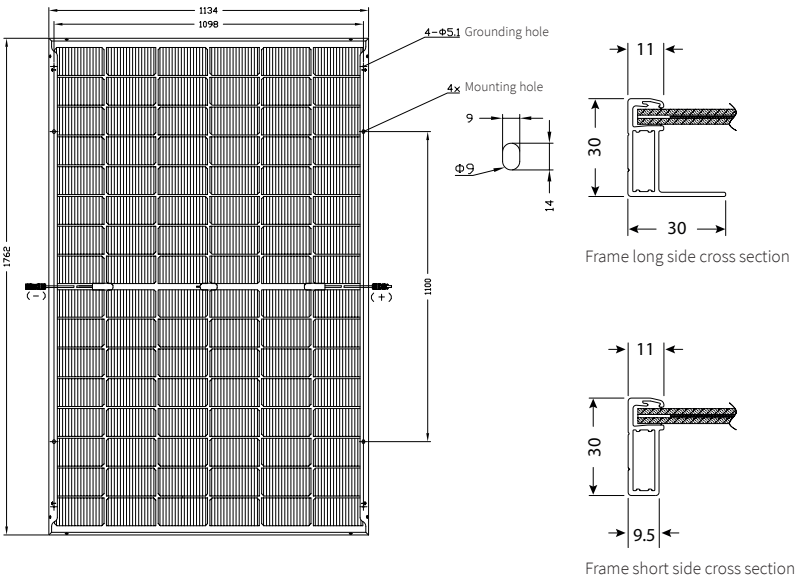
## Temperature coefficient

| | |
|---|---|
| $P_{max}$ | -0.290 %/°C |
| $V_{oc}$ | -0.240 %/°C |
| $I_{sc}$ | 0.047 %/°C |

## Limit values

| | |
|---|---|
| Maximum system voltage | 1,000 V DC |
| Over-current protection | 30 A |
| Temperature range | -40 to 85 °C |
| Max. mechanical load (snow/wind) | 2,400 Pa |
| Tested snow load (IEC61215 test pass*) | 5,400 Pa |

## Dimensions (mm)




*Please refer to SHARP's installation manual for details.

## Packaging data

| | |
|---|---|
| Modules per pallet | 36 pcs |
| Pallet size (L × W × H) | 1.79 m x 1.13 m x 1.25 m |
| Pallet weight | Approx. 930 kg |

## General data

| | |
|---|---|
| Cells | Half-cut cell mono, 182 mm x 105 mm, MBB, 2 strings of 48 cells in series |
| Front glass | Anti-reflective high transmissive low iron semi-tempered glass, 2 mm |
| Rear glass | Semi-tempered glass, 2 mm |
| Frame | Anodized aluminium alloy, black |
| Cable | ø 4.0 mm², length 1,270 mm |
| Connection box | IP68 rating, 3 bypass diodes |
| Connector | MC4 (Multi Contact, Stäubli), IP68 |



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