

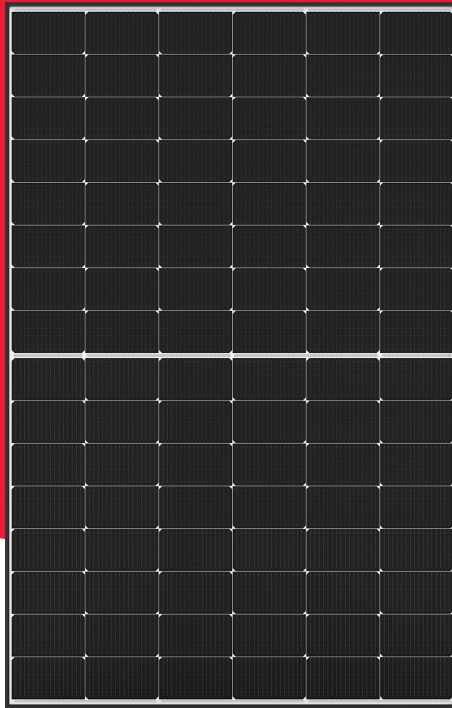
NBJG Series

# NBJG445R - 455R

445 - 455W


The High Performer

Bifacial





## Powerful product features


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


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

**MBB** MBB busbar technology  
Improved reliability  
Higher efficiency  
Reduced series resistance

 Half-cut cell  
Improved shading performance  
Lower internal losses

 Bifacial module  
Additional rear side power gain

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

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

## Your solar partner for life

**65**  
YEARS 65 years of solar expertise

 Local support team in Europe

**30**  
YEARS Linear power output guarantee

**50**  
MIL 50 million PV modules installed

**15\***  
YEARS Product guarantee  
not on roof

**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	$\phi$	$\phi P_{max} = 80 (\pm 10)$	$\phi V_{oc} = 99 (\pm 10)$	$\phi I_{sc} = 80 (\pm 10)$	%

STC = Standard Test Conditions: irradiance 1,000 W/m<sup>2</sup>, AM 1.5, cell temperature 25°C. Rated electrical characteristics are within  $\pm 5\%$  of  $I_{sc}$ ,  $\pm 3\%$  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/m<sup>2</sup> (front) and 135 W/m<sup>2</sup> (rear)

BSI: Bifacial Stress Irradiance: 1,000 W/m<sup>2</sup> (front) and 300 W/m<sup>2</sup> (rear)

Low light conditions: irradiance 200 W/m<sup>2</sup>, cell temperature of 25°C

Rated electrical characteristics are within  $\pm 10\%$  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

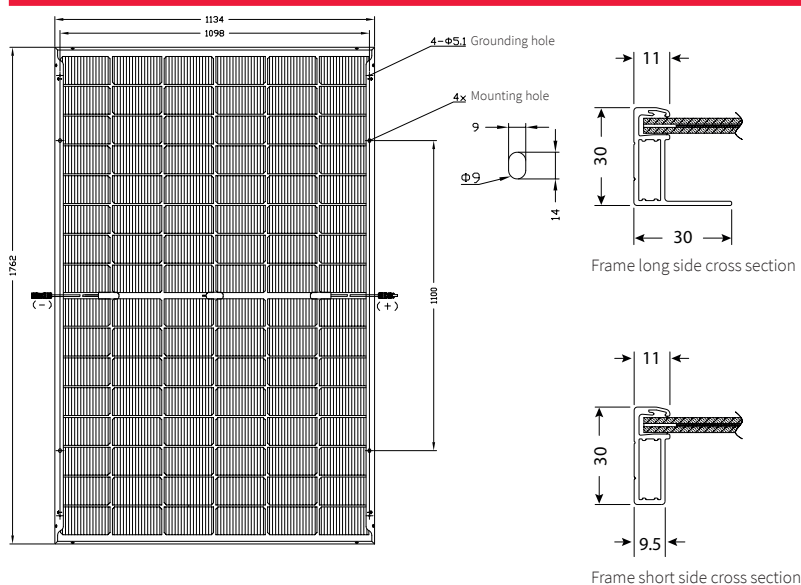
## Limit values

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

## Packaging data

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

## Dimensions (mm)



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

## 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	$\varnothing$ 4.0 mm <sup>2</sup> , length 1,270 mm
Connection box	IP68 rating, 3 bypass diodes
Connector	MC4 (Multi Contact, Stäubli), IP68

Note: Technical data is subject to change without prior notice. Before using SHARP products, please request the latest data sheets from SHARP. SHARP accepts no responsibility for damage to devices which have been equipped with SHARP products on the basis of unverified information. The specifications may deviate slightly and are not guaranteed. Installation and operating instructions are to be found in the corresponding handbooks, or can be downloaded from www.sharp.eu. This module should not be directly connected to a load.