

BACK CONTACT MONO
450 - 465 Watt



KEY FEATURES

HIGH EFFICIENCY

- Increased solar light absorption area
- No front side busbars

HIGH RELIABILITY

- All Back Contact technology
- Lower micro-crack risk

AESTHETIC DESIGN

- Full black design with no visible front side contacts

HIGH DURABILITY

- Low degradation $\leq 1\%$ in year 1 and $\leq 0,4\%$ in years 2-30
- Low temperature coefficient of $-0,29\%/^{\circ}\text{C}$ optimised
- Positive power tolerance of $0\sim+3\%$

OPTIMIZED BOS

- Significant construction and installation cost savings



QUALITY AND SAFETY

- Industry leading power output warranty
15 years power warranty 93,4%
30 years linear power warranty 87,4%
- 30 years warranty on materials & workmanship
- Fire Rating: Class 1



PREMIUM PERFORMANCE WARRANTY

30 years

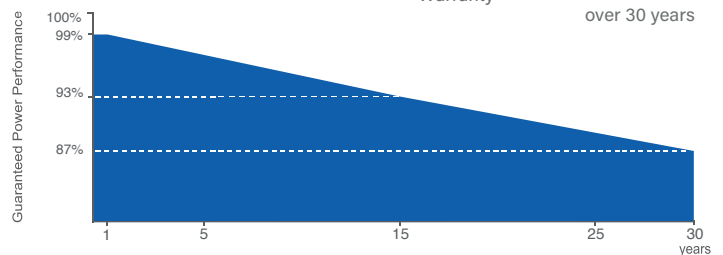
Product Warranty

30 years

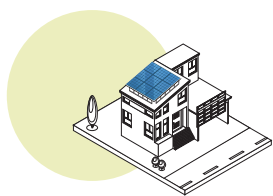
Linear Power
Warranty

0.40%

Annual
degradation
over 30 years



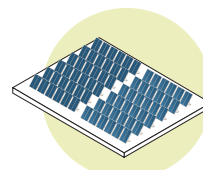
APPLICATIONS



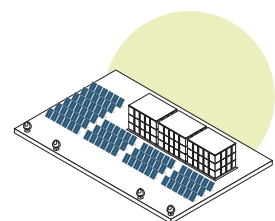
On-grid residential roof-tops



On-grid commercial - industrial roof-tops

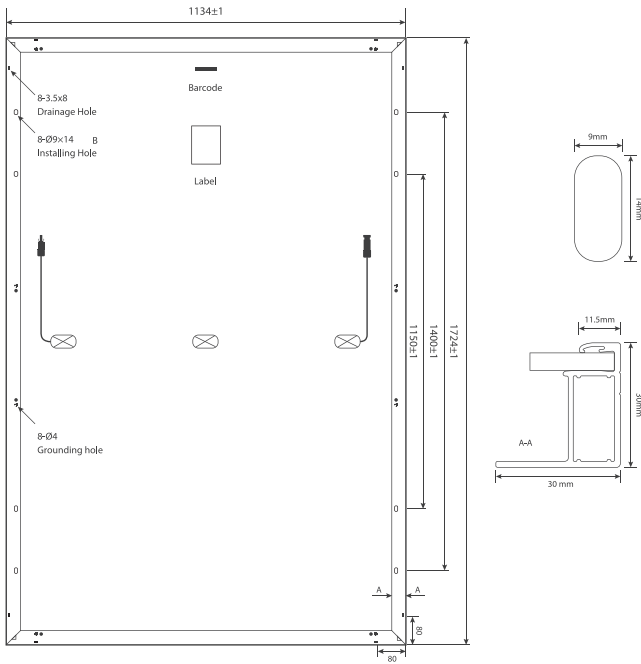


Solar power plants



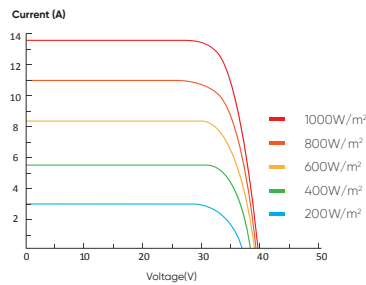
Off-grid systems

ENGINEERING DRAWINGS

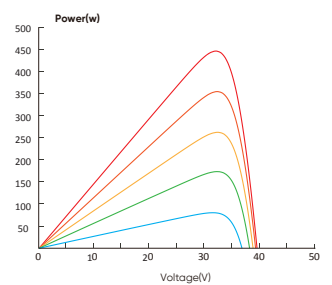


ELECTRICAL PERFORMANCE & TEMPERATURE DEPENDENCE

Current-Voltage Curve(450W)



Power-Voltage Curve(450W)



PACKAGING CONFIGURATION

Standard packaging	72 pcs / pallet
Module quantity per 40' container	936pcs

MECHANICAL CHARACTERISTICS

Cell Type	Back Contact N-Type, mono-crystalline 182mm
No. of cells	108
Dimensions	1724 x 1134 x 30 mm
Weight	20.8kgs
Front Glass	3.2mm tempered, high transmission AR coating
Frame	Anodized Aluminium Alloy
Junction Box	IP68 Rated
Output Cables	TÜV 1x4.0mm ² / UL 12AWG, Length:1100mm

SPECIFICATIONS

STC



Irradiance 1000W/m²



Module Temperature 25°C



AM=1.5

Module Type ⁽¹⁾	TKA450M-BC-108	TKA455M-BC-108	TKA460M-BC-108	TKA465M-BC-108
	STC ⁽²⁾ NMOT ⁽³⁾	STC ⁽²⁾ NMOT ⁽³⁾	STC ⁽²⁾ NMOT ⁽³⁾	STC ⁽²⁾ NMOT ⁽³⁾
Maximum Power (P _{max})	450Wp 339Wp	455Wp 343Wp	460Wp 347Wp	465Wp 351Wp
Maximum Power Voltage (V _{mp})	33.81V 31.84V	33.91V 31.94V	34.01V 32.03V	34.11V 32.12V
Maximum Power Current (I _{mp})	13.32A 10.67A	13.42A 10.76A	13.53A 10.84A	13.64A 10.93A
Open-circuit Voltage (V _{oc})	39.99V 37.66V	40.09V 37.76V	40.19V 37.85V	40.29V 37.94V
Short-circuit Current (I _{sc})	13.96A 11.32A	14.02A 11.37A	14.08A 11.42A	14.14A 11.46A
Module Efficiency (%)	23.0%	23.3%	23.6%	23.8%
V _{oc} and I _{sc} tolerance	±3%			
Operating Temperature(°C)	-40°C~+85°C			
Maximum system voltage	1500V			
Maximum series fuse rating	25A			
Temperature coefficients of P _{max}	-0.29%/°C			
Temperature coefficients of V _{oc}	-0.25%/°C			
Temperature coefficients of I _{sc}	0.045%/°C			
Nominal operating cell temperature (NOCT)	45±2 °C			

⁽¹⁾ Measurement Tolerances: P_{max} (± 3%), I_{sc} & V_{oc} (± 3%) - Module Type 0/+5W

⁽²⁾ STC (Standard Testing Condition); Irradiance 1000W/m², Cell Temperature 25°C, AM 1.5

⁽³⁾ NMOT (Nominal Operating Module Temperature); Irradiance 800W/m², NMOT, Ambient Temperature 20°C, AM 1.5, Wind Speed 1m/s

Specifications included in this datasheet are subject to change without notice. Tenka Solar reserves the right of final interpretation.