



BIFACIAL N-TYPE TOPCon BLACK PATTERNED BACKSHEET

108 CELL HALF CUT

GTB54HM10XXX - 420 to 440WP

22.53%

MODULE
CONVERSION
EFFICIENCY

12
YEARS

PRODUCT
WARRANTY*

25
YEARS

LINEAR
PERFORMANCE
WARRANTY**

ASSURED
89.40%
**POWER
OUTPUT**
AT THE END OF
25TH YEAR

MADE IN
INDIA

KEY FEATURES



Cutting Edge
Manufacturing
Technology



Seamless Rooftop Integration
with Striking Aesthetics and
Improved Winter Energy Yield



100% String Level
EL and Triple
Stage EL Testing



PID Resistance and Minimized LID and
LeTID by Adopting Advanced Cell
Technology



Excellent Performance
at Dawn, Dusk and
Low Light



Advance MBB Technology Enhances
Redundancy, Minimizes Performance
Loss from Micro Cracks & Ensures
Long-term Durability and Efficiency

QUALITY & RELIABILITY

1

Qualified Premium Quality Raw
Materials

3

IP-68 Junction Box for Long-Term
Weather Endurance

2

In-House Laboratory Checks
at Multiple Stages

4

Suitable for 1500 VDC

CERTIFICATIONS[#]

IEC 61730 | IEC 61215 | IEC 62804 | IEC 61701 | IEC 61726 | IEC 62782 | IEC 61853-1 & 2 |
IEC 60068 | IEC 62759 | UL 61730 – 1 & 2



• Manufactured in an ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 certified facility.

*Certifications in process

Technical Data for GTB54HM10XXX - TOPCon Module

Electrical Parameter at STC						Temperature Coefficient (TC)	
Module Type	GTB54HM10XXX					Temperature Coefficient (Voc)	-0.19% /°C
Peak Power - (0~+4.99 Wp) Pmax(Wp)	420	425	430	435	440	Temperature Coefficient (Isc)	0.035% /°C
Open Circuit Voltage - Voc (V)	38.87	38.99	39.11	39.23	39.35	Temperature Coefficient (Pmax)	-0.29% /°C
Short Circuit Current - Isc (A)	13.71	13.81	13.91	14.01	14.11	Packing Configuration	
Rated Voltage - Vmp (V)	32.11	32.24	32.38	32.51	32.65		
Rated Current - Imp (A)	13.08	13.18	13.28	13.38	13.48		
Module Efficiency (%)	21.51	21.76	22.02	22.28	22.53	Container	40'FT
NOCT - P (Wp)	315	318	322	326	330	Modules per Pallet	37
Under Standard Test Conditions (STC) of irradiance 1000 W/m², spectrum AM 1.5 and cell temperature of 25°C. NOCT irradiance 800 W/m2, ambient temperature 20°C, wind speed 1 m/sec.						Pallets per Container	26
						Modules per Container	962

Electrical Parameters at BNPI						
Maximum Power - Pmax (Wp)	464	469	475	480	485	
Maximum Power Current - Imp (A)	14.31	14.39	14.47	14.54	14.61	
Maximum Power Voltage - Vmp (V)	32.43	32.63	32.83	33.03	33.23	
Short-Circuit Current - Isc (A)	15.14	15.23	15.33	15.42	15.51	
Open - Circuit Voltage - Voc (V)	38.95	39.15	39.15	39.25	39.35	
For STC and BNPI, except Pmax, all other parameters have a tolerance of ±3%. Measurement uncertainty of ±3%. BNPI: Irradiance front 1000W/m2 and rear 135 W/m2, cell temperature 25°C, AM=1.5.						
Permissible Operating Conditions						
Temperature Range	-40°C to + 85°C					
Maximum System Voltage	1500 VDC					
NOCT	47± 2°C					
Bifaciality	80 ± 5%					

Mechanical Drawing

The mechanical drawing shows a rectangular solar panel with the following dimensions and features:

- Overall Dimensions:** 1134 mm (width) x 1400 mm (height).
- Internal Dimensions:** 1091 mm (width) x 900 mm (height).
- Mounting Holes:** 8 Nos. (14x9) along the top and bottom edges.
- Grounding Holes:** 4 Nos. (Ø4) along the top and bottom edges.
- Solar Tracker Holes:** 4 Nos. (11x7) along the left and right edges.
- Vent Holes:** 8 Nos. (8x3) along the top and bottom edges.
- Frame Cross Sections:** Short Frame Cross Section (35 mm x 20 mm) and Long Frame Cross Section (35 mm x 30 mm).

- All measurements are in mm
- Mechanical Tolerance for $\leq 40\text{mm}$ is $\pm 0.5\text{mm}$
- Mechanical Tolerance for $> 40\text{mm}$ is $\pm 2\text{mm}$

IV Curve

The IV Curve graph shows the relationship between Current (A) and Voltage (V) for different incident irradiances. The curves are as follows:

- Incident Irrad. = 1000 W/M² (Blue curve)
- Incident Irrad. = 800 W/M² (Orange curve)
- Incident Irrad. = 600 W/M² (Green curve)
- Incident Irrad. = 400 W/M² (Light Blue curve)
- Incident Irrad. = 200 W/M² (Purple curve)

Linear Performance Warranty

The Linear Performance Warranty graph shows the guaranteed power percentage over a 25-year period. The graph compares the GREW Solar Standard (green area) with the Industry Standard (grey area). The GREW Solar Standard starts at 99.9% in Year 1 and degrades to 89.40% by Year 25. The Industry Standard starts at 90% in Year 1 and degrades to 80% by Year 25.

*Warranty claims are applicable as per GEPL's manual guidelines.

**Linear Performance Warranty with 1% degradation in the 1st year and only 0.4% from year 2 to 25.

- When unpacking and installing this product, it is crucial to diligently consult the guidelines outlined in the company manual. Doing so will enable you to handle and install the product accurately and mitigate any potential risk of damage.
- Ensure proper disposal of the product as E-waste when it reaches the end of its operational lifespan, to safeguard the environment.

GREW
solar

GREW Solar reserves the right to modify the specifications and features outlined in this datasheet at any time without prior notice.