

# **BIFACIAL N-TYPE TOPCON**BLACK PATTERNED BACKSHEET

108 CELL HALF CUT

#### GTB54HM10XXX - 420 to 440WP



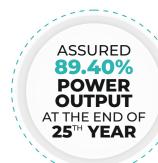
MODULE CONVERSION EFFICIENCY



PRODUCT WARRANTY\*



LINEAR PERFORMANCE WARRANTY\*\*







#### **KEY FEATURES**



Cutting Edge Manufacturing Technology



100% String Level EL and Triple Stage EL Testing



Excellent Performance at Dawn, Dusk and Low Light



Seamless Rooftop Integration with Striking Aesthetics and Improved Winter Energy Yield



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



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

## **QUALITY & RELIABILITY**



Qualified Premium Quality Raw Materials



In-House Laboratory Checks at Multiple Stages



IP-68 Junction Box for Long-Term Weather Endurance



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.

### **Technical Data for GTB54HM10XXX - TOPCon Module**

Electrical Parameter at STC					Temperature Coefficient (TC)			
Module Type	GTB54H	M10XXX				Temperature Coefficient (Vo	c)	-0.19% /°C
Peak Power - (0~+4.99 Wp) Pmax(Wp)	420	425	430	435	440	Temperature Coefficient (Isc) 0.		0.035% /°C
Open Circuit Voltage - Voc (V)	38.87	38.99	39.11	39.23	39.35	Temperature Coefficient (Pmax) -0.		-0.29% /°C
Short Circuit Current - Isc (A)	13.71	13.81	13.91	14.01	14.11			
Rated Voltage - Vmp (V)	32.11	32.24	32.38	32.51	32.65	Packing Configuration		
Rated Current - Imp (A)	13.08	13.18	13.28	13.38	13.48		401==	
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  $\pm 3\%$ . 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%		

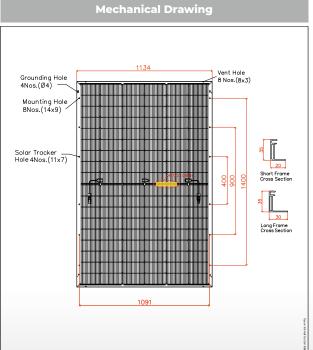
	Mechanical Specification
Specification	Details
Solar Cells	N-Type Bifacial TOPCon, MBB, 108 Half-Cut
Front Glass	3.2 mm, High Transmission, ARC Tempered Glass
Encapsulation	Ultra - Clear PID Free
Backside	Black Mesh/Patterned Transparent Backsheet
Frame	Black Anodized Aluminium Alloy
Dimensions	(L) 1722 mm x (W) 1134 mm x (H) 35 mm
Weight	~21 kg±3%
J - Box	IP 68 certified, 3 Diodes
Cable	Solar Cable 4mm <sup>2</sup>   400mm can be Customized
Connectors	MC4-Compatible Connectors or Stäubli MC4
Application Class	Class A
Electrical Safety	Class II
Fire Safety	Class C ( Type 1)
Surface Load	Snow Load - 5400 Pa   Wind Load - 2400 Pa
Overcurrent Protection Rating	30 A

100%

80%

(Year)

**Guaranteed Power** 



• All measurements are in mm

Mechanical Tolerance for ≤40mm is ±0.5mm
Mechanical Tolerance for >40mm is ±2mm

- \*\*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.

IV Curve

Incident Irrad. = 1000 W/M

Incident Irrad. = 800 W/M² Incident Irrad. = 600 W/M2

Incident Irrad. = 400 W/M<sup>2</sup>

Incident Irrad. = 200 W/M<sup>2</sup>

VOLTAGE [V]

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



**Linear Performance Warranty** 

GREW Solar Standard

15

Industry Standard

20