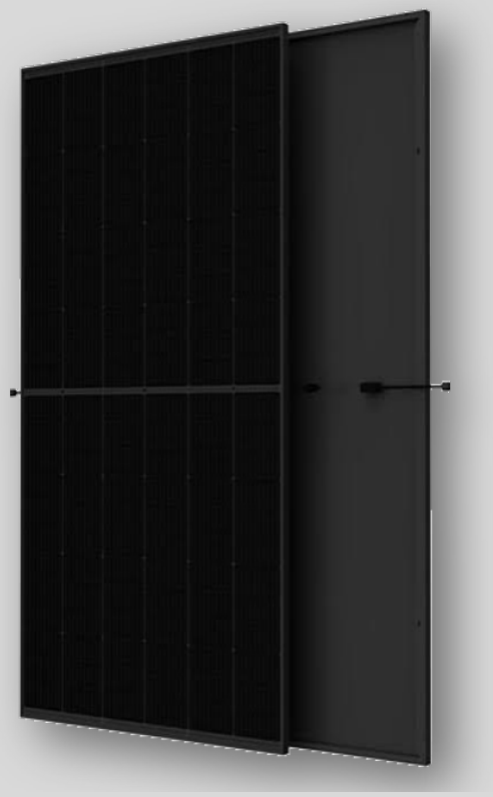
ABS-120GBB-M10
490W – 510W
TOPCon Half-Cut PV Module
Glass/ Black Back sheet-Black Frame

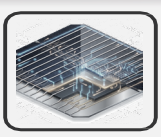


510W MAXIMUM POWER OUTPUT

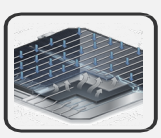
0 to+5W POSITIVE POWER SORTING

23.57% MAXIMUM EFFICIENCY

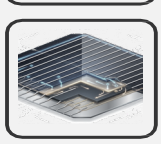
KEY FEATURES



HIGH POWER DENSITY
Module efficiency up to 23.57% at STC



MECHANICAL TEST LOADS
Front: 5,400 Pa. Rear: 2,400 Pa.
Subject to specified mounting configuration.



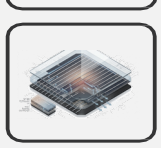
TOPCon CELL TECHNOLOGY
Half-cut cells with 16-busbar interconnection



LOW-LIGHT PERFORMANCE
Efficient power generation even under low irradiance conditions

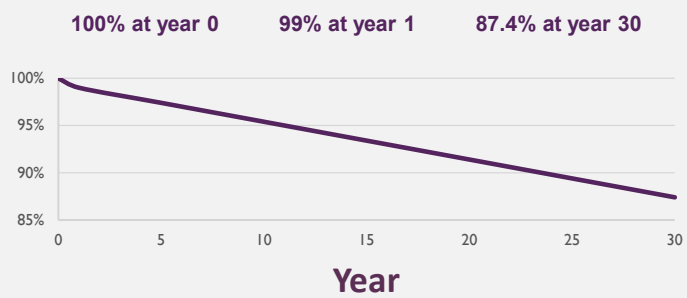


TEMPERATURE PERFORMANCE
Pmax temperature coefficient: −0.30%/°C.



GLASS / BACK SHEET CONSTRUCTION
3.2 mm front glass and Black rear Back sheet.

30-YEAR LINEAR POWER WARRANTY



30-year linear power warranty
99% at year 1 · 87.4% at year 30

Maximum degradation: 1% in year 1, then 0.40 percentage points/year. Subject to limited warranty terms.

15-year product warranty
Covers defects in materials and workmanship.

THE IDEAL SOLUTION FOR



STANDARDS and CERTIFICATIONS

IEC 61215 | IEC 61730 | IEC 61701 | IEC 62716 | IEC 60068-2-68

UL 61730 | MCS | CEC | ISO 9001 | ISO 14001 | ISO 45001

ADVANTAGES

MADE IN UAE
Manufactured in Abu Dhabi, United Arab Emirates.

A RELIABLE INVESTMENT
Products up to 510Wp, 30 years of warranty.

ENCOURAGING INNOVATION
European production technology

Address: Abundance Solar Panels Industries – L .L .C Plot No 7-8, KHIA5, KEZAD, Abu Dhabi, UAE
Website: www. bronzesolar.com

ABS-MOD/TDS120GBB-M10/Rev-00
Date-31.10.2026

ABS-120GBB-M10-490-510W

ENGINEERING DRAWINGS & TECHNICAL PARAMETERS

BRONZE SOLAR

ELECTRICAL CHARACTERISTICS (STC/NMOT)

Models	Maximum Rating Power (Pmax) (W)		Open Circuit Voltage (Voc) (V)		Maximum Power Voltage (Vmp) (V)		Short Circuit Current (Isc) (A)		Maximum Power Current (Imp) (A)		Module Efficiency
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	%
ABS-120GBB-M10-490	490	366.3	43.89	41.27	37.26	34.76	13.82	11.15	13.20	10.57	22.65%
ABS-120GBB-M10-495	495	370.0	43.95	41.32	37.44	34.93	13.86	11.18	13.27	10.63	22.88%
ABS-120GBB-M10-500	500	373.7	44.03	41.40	37.65	35.13	13.89	11.21	13.33	10.67	23.11%
ABS-120GBB-M10-505	505	377.5	44.09	41.45	37.85	35.31	13.92	11.23	13.39	10.72	23.34%
ABS-120GBB-M10-510	510	381.2	44.16	41.52	38.01	35.46	13.95	11.26	13.46	10.78	23.57%

STC: 1,000 W/m² front, cell temperature 25 °C, AM1.5.

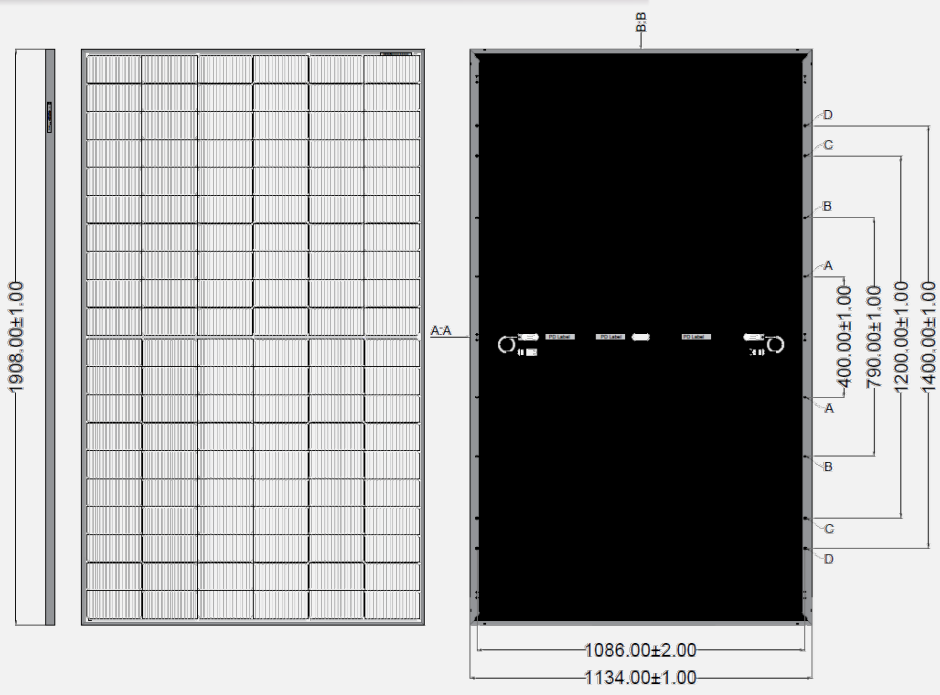
NMOT: 800 W/m², ambient 20 °C, wind 1 m/s, module operating near maximum power.

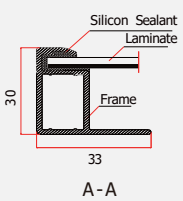
Electrical measurement uncertainty: ±3% for Pmax, Voc, Vmp, Isc and Imp at STC and NMOT. Pmax is the nominal power class. Power-class assignment and numerical rounding may cause slight differences between nominal Pmax and Vmp × Imp. Positive sorting applies to measured STC power.

MECHANICAL DATA

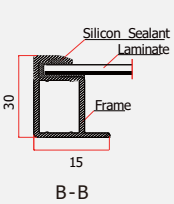
Solar cell	TOPCon half-cut, 182.2 × 91.88 mm, 16BB
Number of half-cells	120 (6 × 20)
Dimensions	1,908 × 1,134 × 30 mm (75.11 × 44.65 × 1.18 in)
Weight	23 kg (±3%)
Front Glass	3.2 mm, High Transmission, Low Iron, Tempered ARC Glass
Encapsulant	Front: EPE multilayer film / Rear: EVA
Back Sheet	Black Back sheet
Frame	Black-anodized aluminium alloy, 6005-T6
Junction box	Dhash JB 12Y, 25 A; IP68; 1,500 V DC; 3 bypass diodes
Connectors	Dhash DS01
Output cable	4 mm²; 400 mm or 1,300 mm, per order
Packaging	36 modules/pallet; 864 modules/40-foot HC container

DIMENSIONS OF PV MODULE (mm)



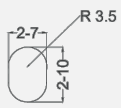


A-A

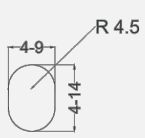


B-B

A & B-Mounting Hole 8 No's



C & D-Mounting Hole 8 No's



OPERATING CONDITION

Front test load	5,400 Pa
Rear test load	2,400 Pa
Maximum system voltage	1,500 V DC
Maximum series fuse	25 A
Operating temperature	−40 to +85 °C
Protection class	Class II
Fire classification	Class C

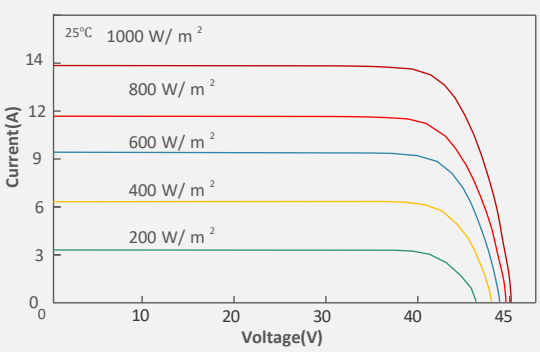
TEMPERATURE CHARACTERISTICS

Nominal Module Operating Temperature	43°C ± 2°C
Temperature Coefficient of Isc	+0.05 % / °C
Temperature Coefficient of Voc	-0.25 % / °C
Temperature Coefficient of Pmax	-0.30 % / °C

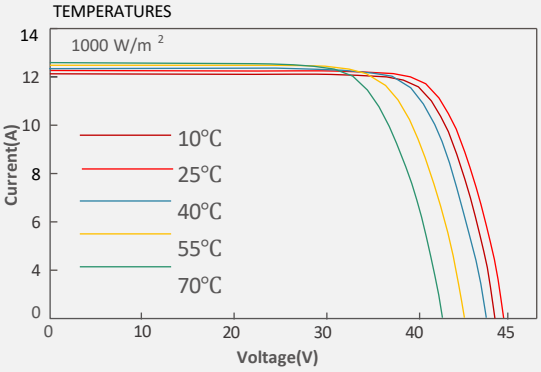
Loads apply to the specified mounting configurations. Test loads are not allowable design loads.

IV-CURVES

CURRENT-VOLTAGE CURVE UNDER DIFFERENT IRRADIANCE



CURRENT-VOLTAGE CURVE UNDER DIFFERENT WORKING TEMPERATURES



Typical I–V characteristics are presented for reference purpose only.

Address: Abundance Solar Panels Industries – L .L .C Plot No 7-8, KHIA5, KEZAD, Abu Dhabi, UAE
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