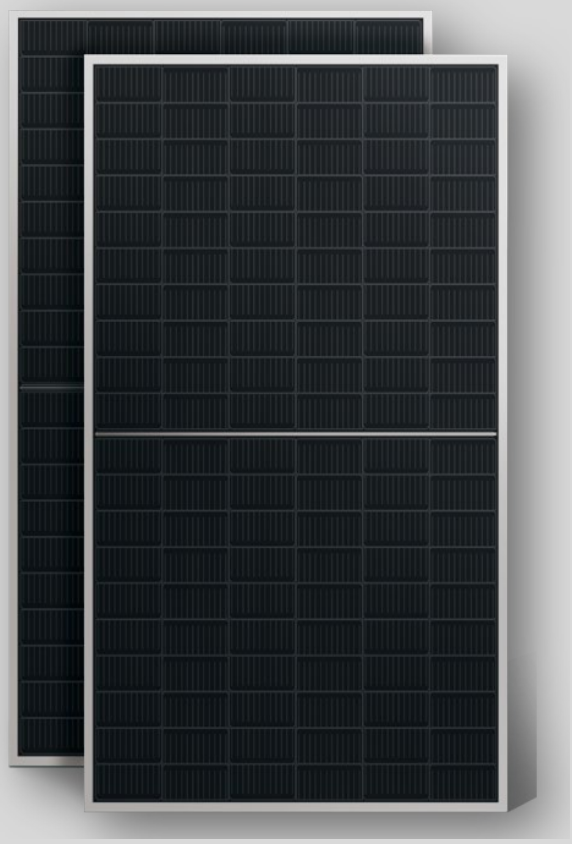
ABS-120GGS-M10
490W – 510W
TOPCon Half-Cut PV Module
Glass/Glass-Silver Frame

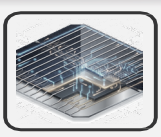


510W MAXIMUM POWER OUTPUT

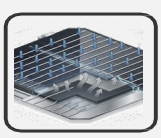
0 to+5W POSITIVE POWER SORTING

23.57% MAXIMUM EFFICIENCY

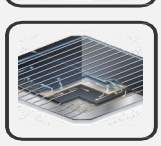
KEY FEATURES



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.



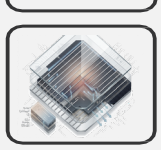
TOPCon CELL TECHNOLOGY
Half-cut cells with 16-busbar interconnection



BIFACIAL POWER GENERATION
Rear irradiance can increase output.

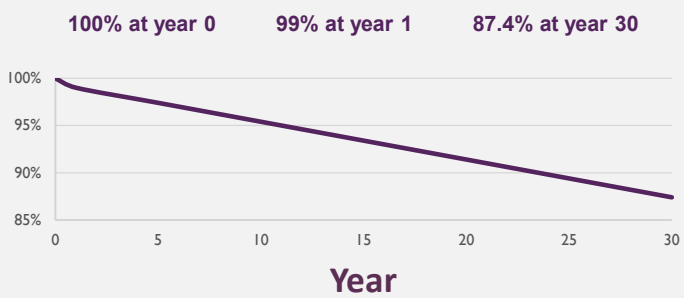


TEMPERATURE PERFORMANCE
Pmax temperature coefficient: −0.30%/°C.



GLASS / GLASS CONSTRUCTION
2.0 mm front glass and 2.0 mm rear glass.

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/TDS120GGS-M10/Rev-00
Date-31.10.2026

ABS-120GGS-M10-490-510W

ENGINEERING DRAWINGS & TECHNICAL PARAMETERS

BRONZE SOLAR

ELECTRICAL CHARACTERISTICS (STC/NMOT/BNPI)

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	BNPI	STC	NMOT	BNPI	STC	NMOT	BNPI	STC	NMOT	BNPI	STC	NMOT	BNPI	%
ABS-120GGS-M10-490	490	366.3	545	43.89	41.27	43.89	37.26	34.76	37.26	13.82	11.15	15.48	13.20	10.57	14.65	22.65%
ABS-120GGS-M10-495	495	370.0	550	43.95	41.32	43.95	37.44	34.93	37.44	13.86	11.18	15.52	13.27	10.63	14.73	22.88%
ABS-120GGS-M10-500	500	373.7	555	44.03	41.40	44.03	37.65	35.13	37.65	13.89	11.21	15.56	13.33	10.67	14.80	23.11%
ABS-120GGS-M10-505	505	377.5	560	44.09	41.45	44.09	37.85	35.31	37.85	13.92	11.23	15.59	13.39	10.72	14.86	23.34%
ABS-120GGS-M10-510	510	381.2	565	44.16	41.52	44.16	38.01	35.46	38.01	13.95	11.26	15.62	13.46	10.78	14.94	23.57%

STC: 1,000 W/m² front, cell temperature 25 °C, AM1.5. BNPI: 1,000 W/m² front + 135 W/m² rear; other conditions require confirmation.

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.

ILLUSTRATIVE BIFACIAL POWER GAIN

Models		490 W	495 W	500 W	505 W	510 W
10%	Power (W)	539	545	550	556	561
15%	Power (W)	564	569	575	581	587
20%	Power (W)	588	594	600	606	612
25%	Power (W)	613	619	625	631	638

Assumed power gain relative to front-side STC rating. Calculated output = nominal power × (1 + Power gain). Actual gain depends on rear irradiance, albedo, mounting height, spacing and shading. These figures are not guaranteed site yields.

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

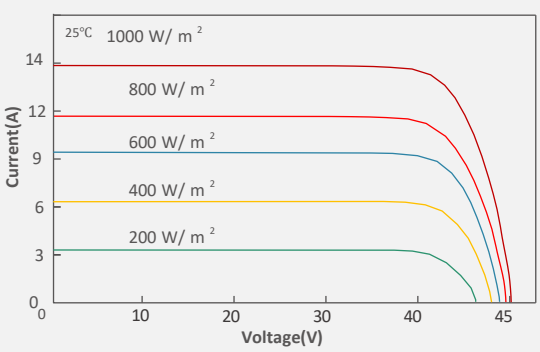
Loads apply to the specified mounting configurations. Test loads are not allowable design loads.

MECHANICAL DATA

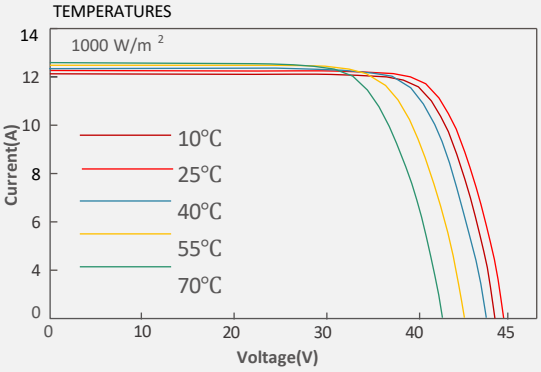
Solar cell	TOPCon half-cut, 182.2 × 91.88 mm, 16BB
Number of half-cells	120 (6 × 20)
Dimensions	1,908 × 1,134 × 30 mm (75.11 × 44.65 × 1.18 in)
Weight	26 kg (±3%)
Front Glass	2.0 mm, High Transmission, Low Iron, Tempered ARC Glass
Encapsulant	Front: EPE multilayer film / Rear: EVA
Back Glass	2.0 mm Semi Tempered Glass with Glaze
Frame	Silver-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

IV-CURVES

CURRENT-VOLTAGE CURVE UNDER DIFFERENT IRRADIANCE

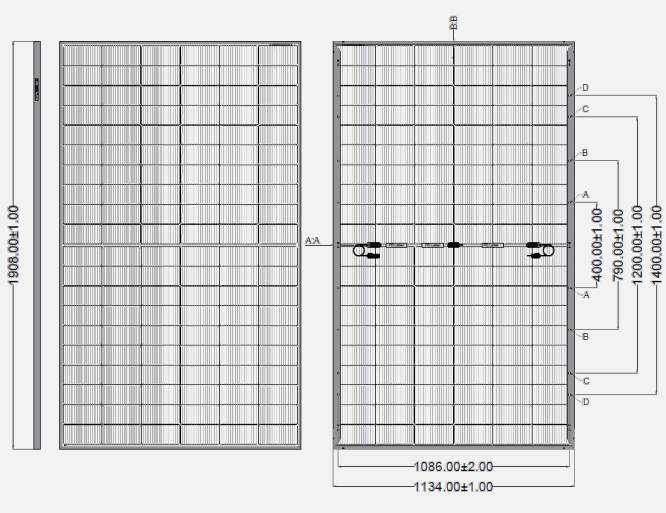


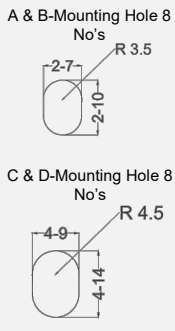
CURRENT-VOLTAGE CURVE UNDER DIFFERENT WORKING TEMPERATURES

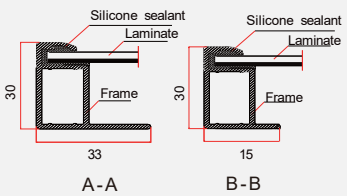


Typical I–V characteristics are presented for reference purpose only.

DIMENSIONS OF PV MODULE (mm)







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