



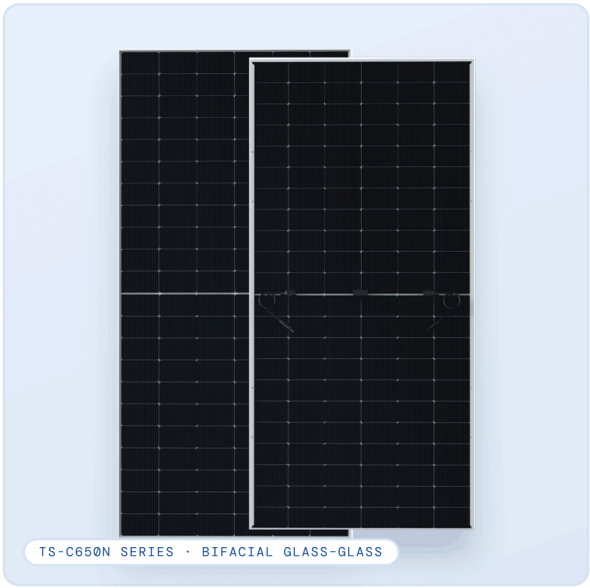
[N-TYPE MODULE · G12R · 16BB]

TS-C650N

630-650 W

N-Type bifacial dual-glass modules, assembled in the United States. 132 half-cut cells sealed between dual 2.0 mm glass, backed by a 30-year linear performance warranty.

24.06%	650 ^W	720 ^W	30 ^{yr}
MODULE EFFICIENCY	PEAK POWER	BIFACIAL PMAX	LINEAR WARRANTY



[WHY TS-C650N] Engineered for higher yield and a lower LCOE

Excellent temperature coefficient

A Pmax of **-0.290 %/°C** for high-heat efficiency.

Superior low-light performance

Extends daily power generation by **over an hour**.

Minimal degradation

Highly resistant to both **LID and LeTID** degradation.

High bifacial yield

An **85 %** rate utilizes rear-side light to lower LCOE.

[CERTIFIED & COMPLIANT] Tested to the standards that matter



STANDARDS: IEC 61215:2021 · IEC 61730:2023 · IEC 61701 / 62716 / 60068 / 62804 · ISO 9001:2015 · ISO 14001:2015 · ISO 45001:2018 · ISO 14067:2018 / PAS 2050:2011 · EU-28 WEEE compliant · Made in USA.

[CIRCULARITY] Built to be recovered, not discarded

PV CYCLE MEMBER · TAKE-BACK PROGRAM

Environmental responsibility doesn't end at the panel.

We have two recovery streams: one in the factory, one in the field, routing away from landfill.

01 In manufacturing

Scrap, cartons, plastics, broken cells, and defective raw material are routed for **recycling rather than landfill**.

02 At end of life

We take modules back from customers when a unit is being replaced under warranty or a system has reached the end of its service life.

Materials recovered

Backed by PV CYCLE membership.

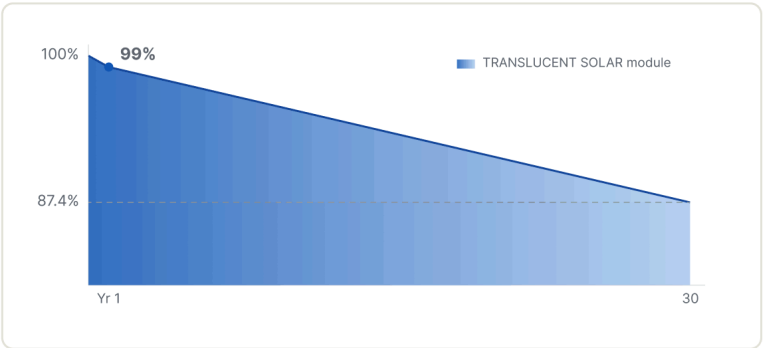
[WARRANTY] Linear performance warranty

LINEAR POWER · 30-YEAR HORIZON

15 Years product warranty on materials & workmanship

30 Years linear power output warranty

30-year decay **≤ 0.55 %** annually on average

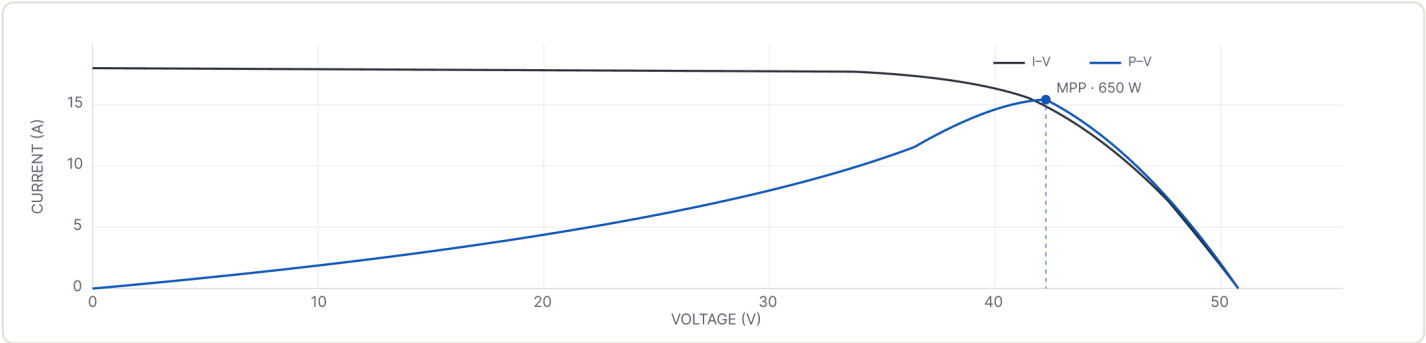


[ELECTRICAL] Electrical characteristics

PER POWER BIN · MEAS. TOL. ±3 %

Standard Test Conditions					
1000 W/M² · AM1.5 · CELL 25 °C					
PARAMETER	630	635	640	645	650
Peak Power Pmax (Wp)	630	635	640	645	650
Power Voltage Vmp (V)	41.55	41.59	41.63	41.68	41.72
Power Current Imp (A)	15.16	15.27	15.37	15.47	15.58
Open-Circuit Voc (V)	48.88	48.93	48.98	49.03	49.08
Short-Circuit Isc (A)	16.11	16.22	16.33	16.44	16.55
Efficiency η (%)	23.32	23.51	23.69	23.87	24.06

Bifacial Nameplate					
FRONT 1000 + REAR 135 W/M² · 25 °C					
PARAMETER	630	635	640	645	650
Peak Power Pmax (Wp)	698	704	709	715	720
Power Voltage Vmp (V)	41.67	41.72	41.76	41.80	41.84
Power Current Imp (A)	16.75	16.87	16.98	17.10	17.21
Open-Circuit Voc (V)	49.03	49.08	49.13	49.18	49.23
Short-Circuit Isc (A)	17.80	17.92	18.04	18.17	18.29
Bifaciality (%)	85				



[MECHANICAL & THERMAL] Module data

IEC 61215 / 61730

Mechanical		Module
Cell type	182 × 105 N-Type mono	
No. of cells	132 (12 × 11)	
Dimensions	2382 × 1134 × 30 mm (93.78 × 44.65 × 1.18 in)	
Weight	32.40 kg (71.43 lb)	
Front / back glass	2.0 / 2.0 mm	
Frame	Anodized Al (silver)	
Junction box	IP68, 1500 V · 3 bypass diodes	
Cables / connector	4.0 mm², ±300 mm · MC4-compatible	
Snow / wind load	5400 / 2400 Pa	

Operating & Thermal		Limits
Temp. coeff. – Pmax	-0.290 %/°C	
Temp. coeff. – Voc	-0.250 %/°C	
Temp. coeff. – Isc	+0.045 %/°C	
NMOT	45 ± 2 °C	
Operating temperature	-40 ... +85 °C	
Max system voltage	1500 V DC	
Max series fuse	28 A	
Safety class · fire	Class II · Class A	

PACKING STANDARD 40 FT · HQ CONTAINER

Modules / pallet
37

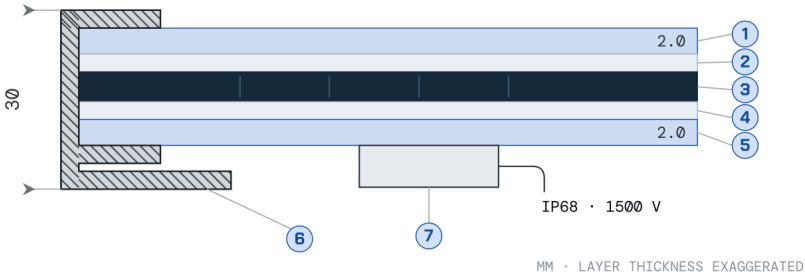
Pallets / container
20

Modules / container
740

[CONSTRUCTION & DIMENSIONS] Bifacial dual-glass build

MM · TOLERANCE ±2 MM

1	Front Glass	2.0 mm AR
2	Front Encapsulant	POE
3	N-Type Cell Matrix	132 · 12×11
4	Rear Encapsulant	POE
5	Back Glass	2.0 mm
6	Frame	30 mm
7	Junction Box	IP68 · 1500V · 3 diodes



TITLE N-Type Bifacial Module · TS-C650N · 630-650 W		DRAWING NO. TS-ODA33VRZ-EN		REV. 03
ORIGIN Made in USA · Charleston, SC	DOMESTIC CONTENT 10.8 %*	CONTACT +1 [332] 282-1175	WEB translucent-solar.com	

© 2026 Translucent Solar · Charleston, South Carolina. STC values at 1000 W/m², AM1.5, 25 °C cell; bifacial (BNPI) values add 135 W/m² rear irradiance; measurement tolerance ±3 %. Dimensional tolerance ±2 mm; overall length 2384 ±1 mm. *Domestic content assumes ground-mounted tracking and safe-harbor.