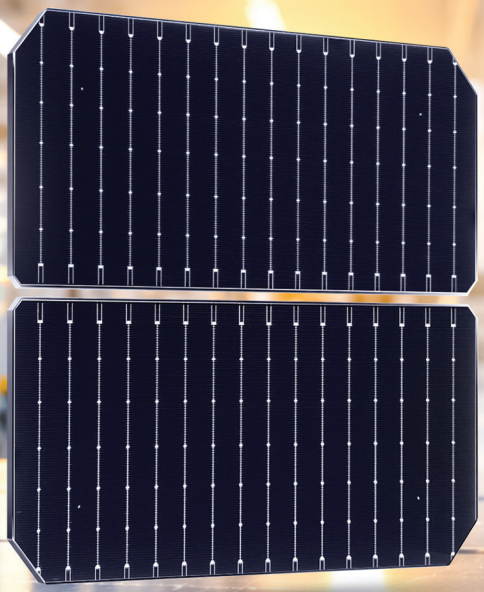
INDOSOL®

CLEANER ENERGY
BRIGHTER TOMORROW

INTRODUCING

INDOSOL TRUE™

G12R N TYPE TOPCon CELL



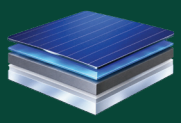
ONE G12R CELL CUT INTO TWO HIGH PERFORMANCE HALF CELLS.

PRECISION CUT.
SUPERIOR PERFORMANCE.

ENGINEERED BEYOND CONVENTIONAL TOPCon.

Advanced Cell architecture for higher Performance, greater Reliability and a brighter tomorrow.

T
TOPCon



Tunnel-Oxide Passivated Contacts for high-performance N Type platform

- HIGH Voc
- LOW LID/LeTID
- BETTER TEMPERATURE COEFFICIENT

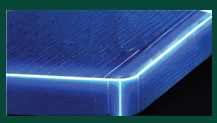
R
REAR POLY-FINGER



Selective rear poly finger architecture to reduce parasitic absorption and improve rear-side response

- HIGHER BIFACIALITY
- BETTER REAR SIDE UTILIZATION

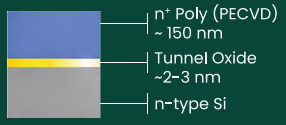
U
UNIFORM ALD EDGE PASSIVATION



Conformal ALD passivation of cut edges to reduce perimeter recombination

- LOWER CUT EDGE RECOMBINATION
- HIGHER MODULE OUTPUT

E
ENGINEERED POLY INTERFACE



Engineered poly interface with Phosphorus-doped PECVD poly for improved gate resilience

- LOWER REVERSE CURRENT
- IMPROVED SHADE RESISTANCE

KEY SPECIFICATIONS

G12R	N Type TOPCon	≥ 25.5%	HALF-CUT
CELL SIZE 210 x 182.3 mm	CELL TECHNOLOGY	CONVERSION EFFICIENCY	FORMAT

- CONSISTENT QUALITY
- RELIABLE SUPPLY
- PARTNER FOR PROGRESS
- GLOBAL READY

www.indosolsolar.com

G12R N Type TOPCon Bifacial Solar Cell

Surface & Optical Structure

Front Surface Texture	Random Pyramid Texture (Alkaline Texturing)
Front ARC Coating	Silicon Nitride (SiNx:H)
Front Surface Reflectance	< 2% (optimized refractive index)
Rear Passivation Structure	Tunnel oxide (SiO_2) + doped poly-Si (TOPCon)
Edge Passivation	Aluminium Oxide (Al_2O_3)
Rear Surface Coating	Dielectric stack for enhanced reflectivity

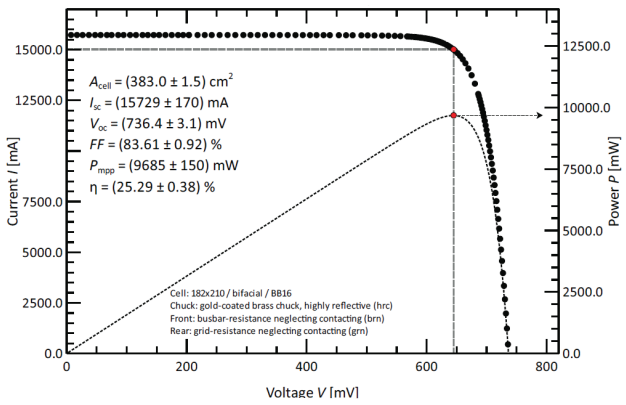
Temperature Coefficient

Parameters	Value	Recommended Tolerance
Voc Temperature Coefficient	-0.256 % / K	±0.010 % / K
Isc Temperature Coefficient	+0.045 % / K	±0.005 % / K
Pmax Temperature Coefficient	-0.30 % / K	±0.015 % / K

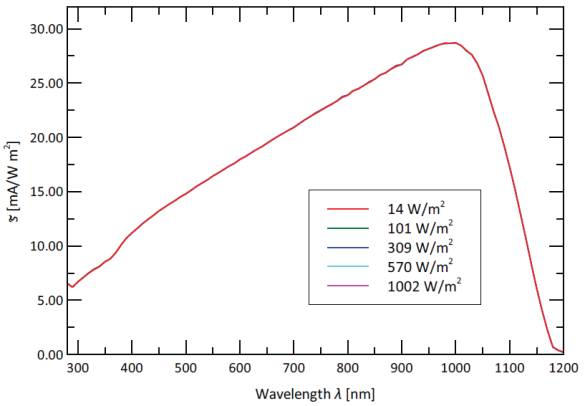
Mechanical Data & Design

Cell Technology	N-Type TOPCon, Bifacial	Product	G12R_16BB Rectangular Monocrystalline
Wafer Type	N-type Monocrystalline Silicon	Wafer Growth Method	Czochralski (CZ)
Crystal Orientation	<100>	Base Doping	Phosphorus-doped (N-type)
Cell Dimensions	182.3 mm × 210.0 mm ± 0.50 mm	Diagonal	272.0 mm ± 0.5 mm
Thickness	130 µm ± 20 µm	Wafer Resistivity	~1–3 Ω·cm
Front Side (+)	16 Busbars, 14 Pads, 210 Fingers	Back Side (–)	16 Busbars, 14 Pads, 222 Fingers
Front Busbar Width	0.05 ± 0.035 mm	Back Busbar Width	0.05 ± 0.035 mm
Busbar Distance (C-C)	10.8 ± 0.15 mm	Finger Count	Front: 210 / Back: 222

IV Curve



Spectral Response



Electrical Characteristics (STC*)

Efficiency (%)	Pmpp (W)	Vmpp (V)	Impp (A)	Voc (V)	Isc (A)	FF (%)
25.5	9.77	0.6537	14.947	0.7393	15.612	84.66
25.4	9.73	0.6521	14.921	0.7386	15.601	84.44
25.3	9.70	0.6504	14.908	0.7371	15.596	84.36
25.2	9.66	0.6490	14.879	0.7377	15.594	83.93

*STC: Irradiance: 1000 W/m², AM: 1.5 Spectrum, Cell Temperature: 25 ±2°C.
Specifications are subject to change due to continuous product improvement.

Version: CG12R042026

INDOSOL SOLAR PRIVATE LIMITED

Factory: Survey No: 585/2, 585-5, 593-2A, Chevuru Village, Gudluru, Prakasam Dist., Andhra Pradesh, India - 523291

HQ: Aurobindo Galaxy Towers, 16th Floor, A wing, Rayadurgam, Hyderabad, Telangana, India - 500081