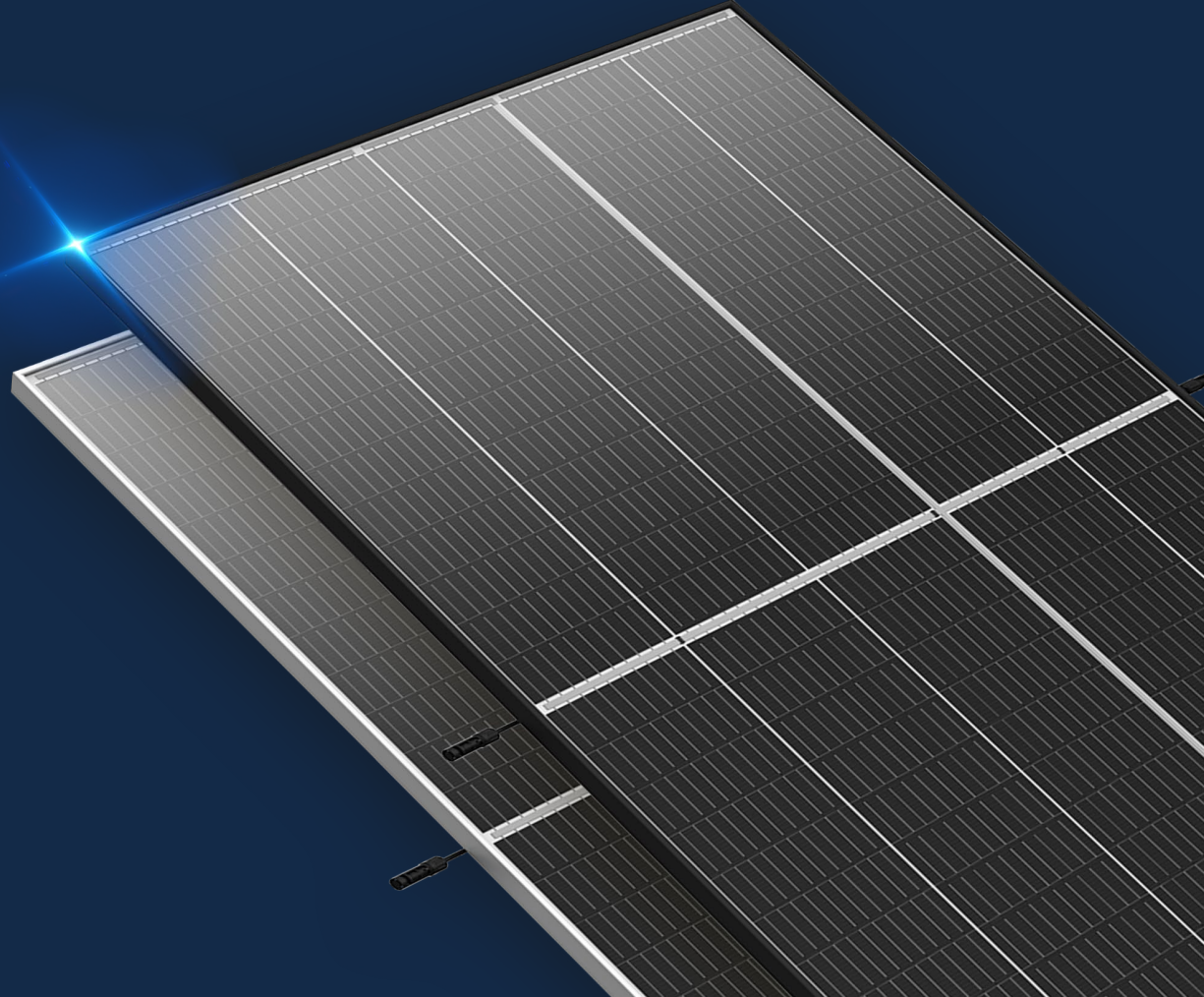


Vertex S⁺

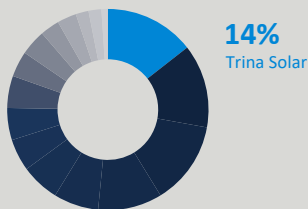
March 2022



Trustworthy Brand in Australia

Trina Solar Australia

Annual status of panel share



Australia market leader

No.1 brand of solar module in 2021
with 14% market share



Local office, local team Since 2009

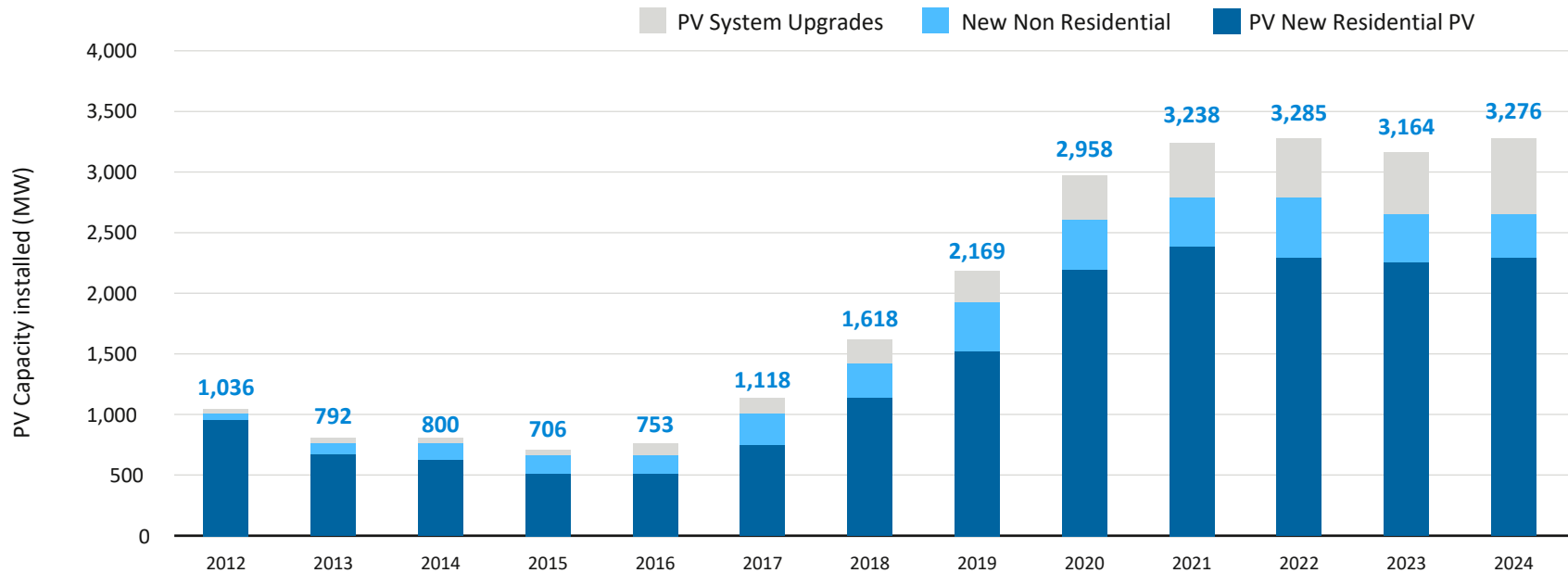
Local warehouses – in Sydney and Brisbane
1300 number – 1300 874 627



Widely recognized

Cumulative **>3GW+** shipment to Australia
with numerous iconic projects

PV Capacity Installation Outlook

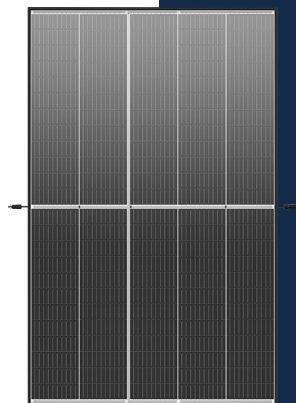
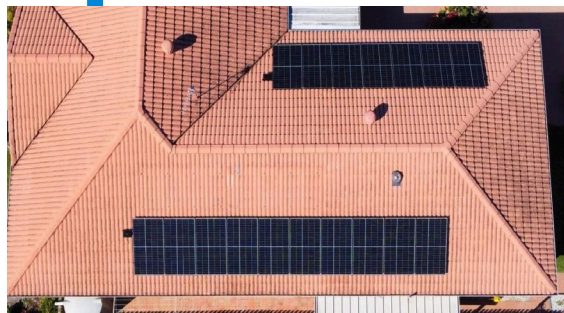


(Source: Sunwiz Market Insight)

New Residential dominates the distribution market



Crucial Non-utility PV System Requirements



ENERGY YIELD
higher

WARRANTY
Longer to 25

SIZE
Shorter than 1800

APPEARANCE
Beautiful

RELIABILITY
Long life

POWER
Maximize

LONGER WARRANTY

25 years
Product
Warranty

30 years
Power
Warranty

HIGHER POWER

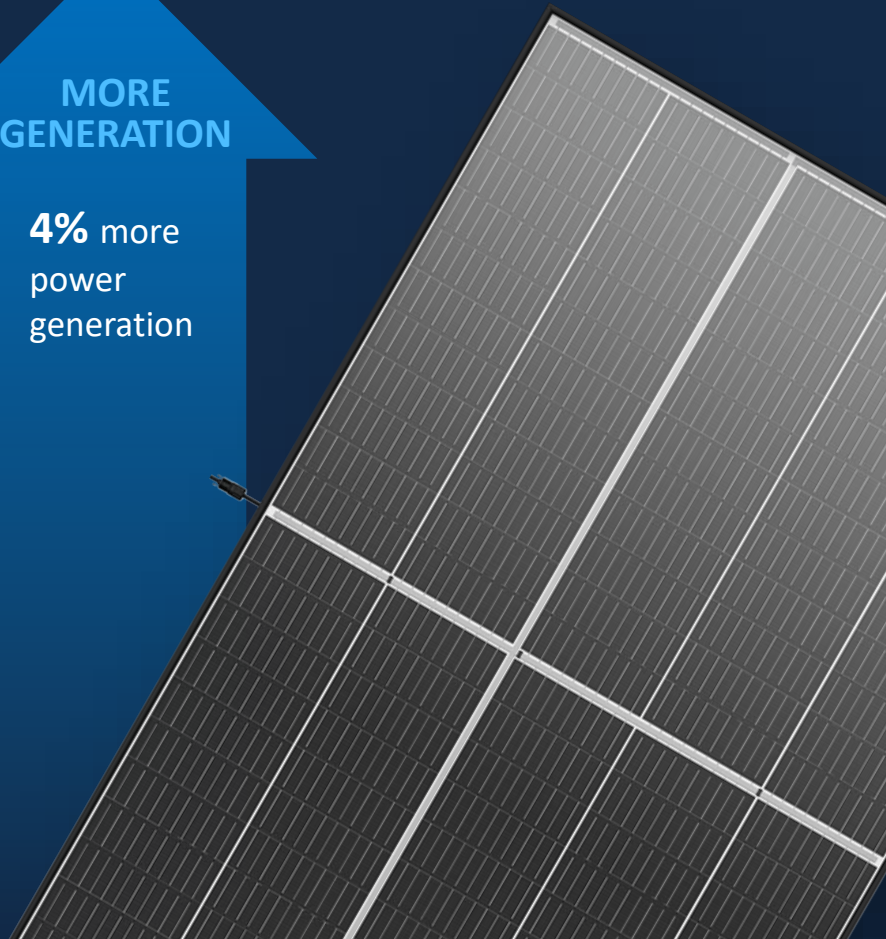
Up to
425W

MORE RELIABLE

Anti crack and
high fire class

MORE GENERATION

4% more
power
generation



1

425W module:

Vertex S⁺

Maximum Power Output

Up to **425W**

Maximum Module Efficiency

Up to **21.9%**

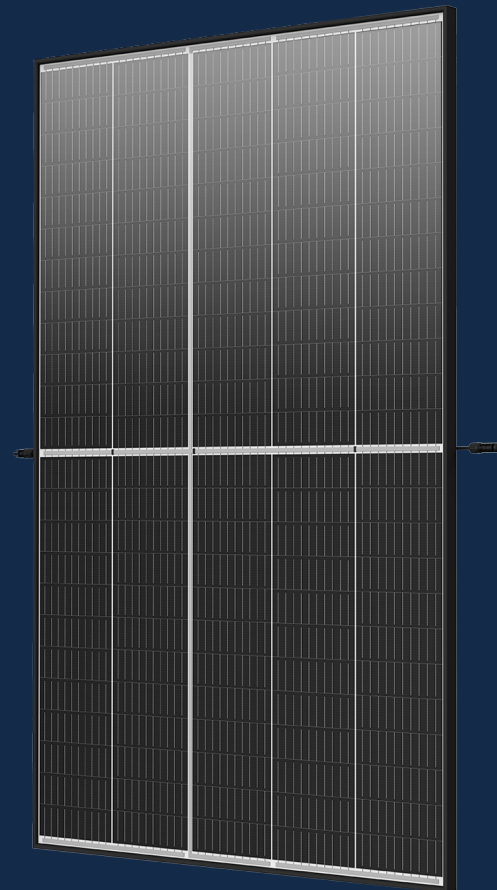
High Power Output

Electrical Parameter

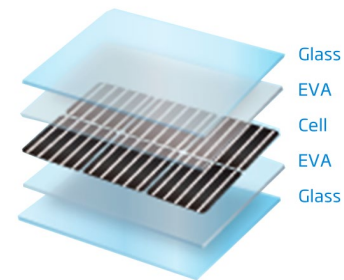
- Open Circuit Voltage: 43.1V
- Short Circuit Current: 12.33A

Mechanical Parameter

- Dimensions: 1770*1096*30mm
- Weight: 21.5kg

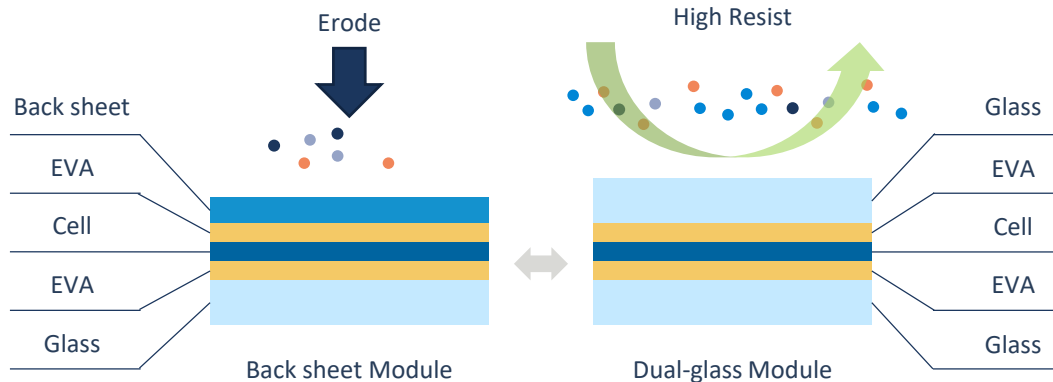


2 Longer warranty



Aging Factors in Nature

- Alkaline
- Acidic
- High Temperature
- High Humidity
- UV



3

Low Working Temperature

HIGHER POWER GENERATION

- Module power is also impacted by temperature when increased, Taken 420W as an example, Vertex S+ with 10-18W higher than PERC module under the same working temperature.
- Reliable and remarkable product for the higher temperature working environment.

Module Working Temperature

Vertex S+

Power Output

-0.30%/°C

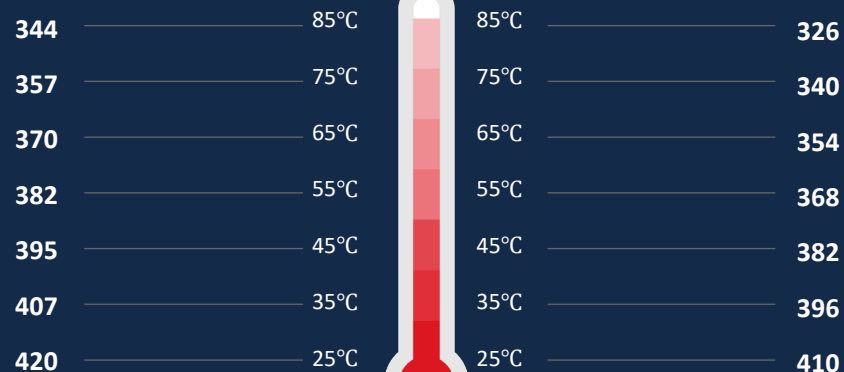
Temp Coefficient

Mainstream

Power Output

-0.34%/°C

Temp Coefficient



0.04% temp coefficient advantage increase ~1% power generation

4

Ultra-Low Degradation

Extra power gain during the module life cycle

30Yr

Power Warranty

25Yr

Product Warranty

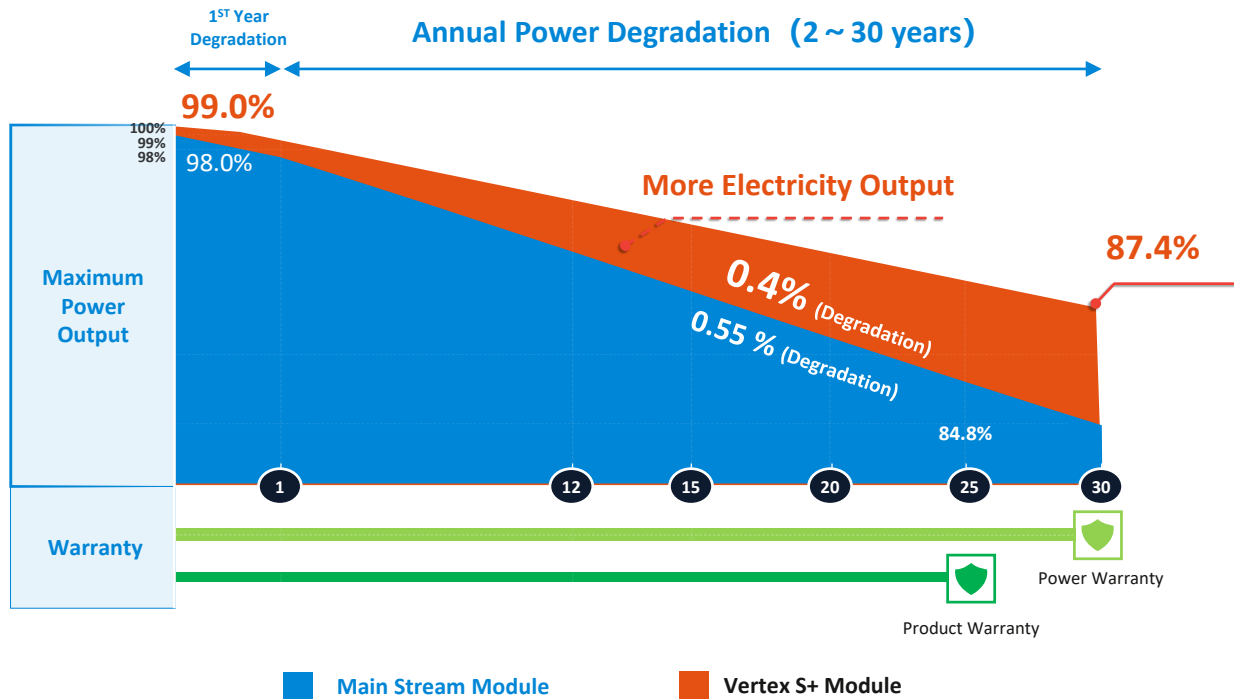
1%

1st Year Degradation

0.4%

Annual Power Attenuation

Lower degradation, higher generation!



~3% more power generation over 30 years

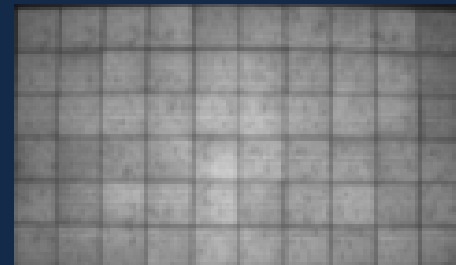
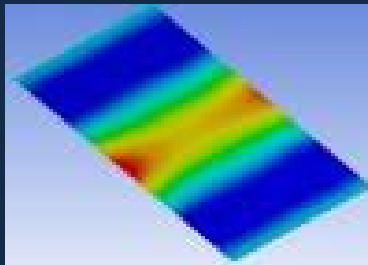
5

Reliable- Dual glass module Design

1

Anti Crack

Micro-crack free



2

Higher Safety

Fire Class A + C



3

High Reliability

Reliable Module for all
climates and coastal
installations
Ensure power output
stability



6 Applicable for Residential and Small C&I Rooftops

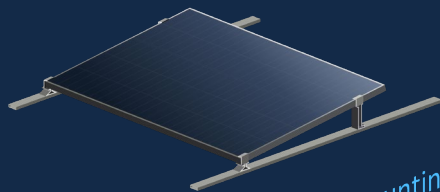
Compatible with diverse installation methods



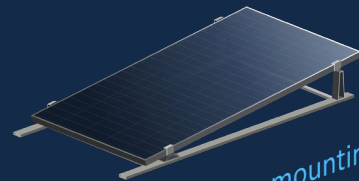
Positive Load
5400Pa



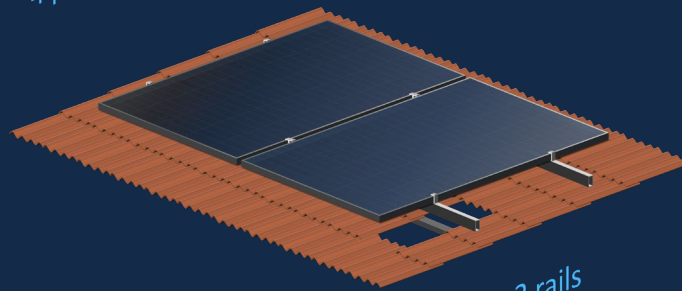
Negative Load
4000Pa



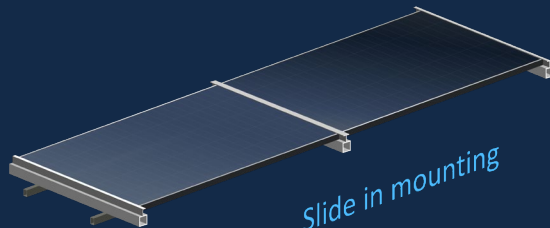
4 points mounting



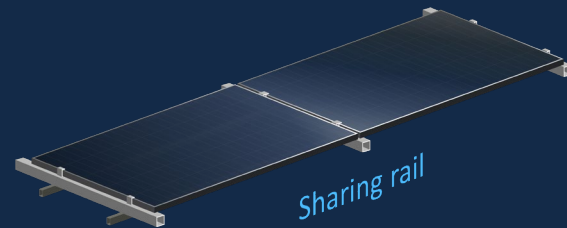
points mounting



2 rails



Slide in mounting

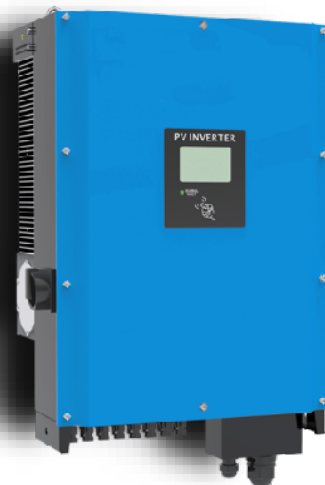


Sharing rail

7

Main stream Inverter / Optimizer Compatibility

Pmax	415W
Isc	12.27A
Voc	42.7V








Inverter Compatibility

Pmax 415W

Isc 12.27A

Voc 42.7V

Inverter Brand	Size	NEG9.28 415W
	5/6 KW	Three phase: ✓ Single Phase: ✓
	4/4.5 KW	Three phase: ✓ Single Phase: ✓
	5/6 KW	Three phase: ✓ Single Phase: ✓
	5/6 KW	Three phase: ✓ Single Phase: ✓
	5/6 KW	Three phase: ✓ Single Phase: ✓

and many more inverter brands...

Key Feature of Vertex S⁺

Australia

Best power
Low degradation
Longer warranty

Compared to 410W module
,Vertex S⁺ has higher power
and longer warranty

	NEG9.28	Other Module
Power Bin	415	410
Module Efficiency(%)	21.4	21.0
Maximum Power Current-IMPP (A)	11.52	13.39
Short Circuit Current-ISC (A)	12.27	13.92
Maximum Power Voltage-VMP (V)	36.0	30.6
Open Circuit Voltage-VoC (V)	42.7	37.1
Dimension	1770×1096×30 mm	1718×1134×30mm
Weight	21.5kg	22kg
LID	1%	2%
yearly degradation	0.40%	0.55%
Warranty Product	25 years	15 years
Warranty Power	30 years	25 years

Trina Residential

Product

Vertex S⁺ NEG9.28

System size

415W x 16 pcs = 6.64kW

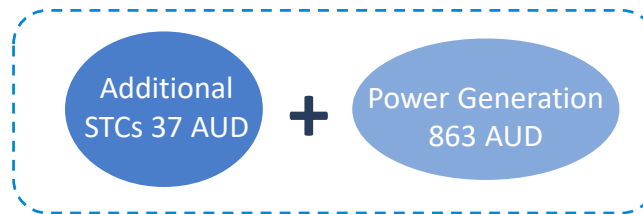


Customer Value Assessment

Australia

Location	Perth
Irradiance hours	1940 hr / yr
Calculation Period	30 years
Additional Power Generation over 30years	4%
Operation mode	100% self consumption

*Case study comparison 6.64KW vs 6.56KW system for illustration purposes only

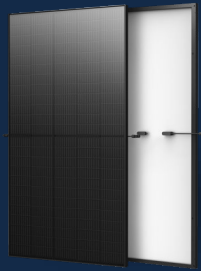


900 AUD

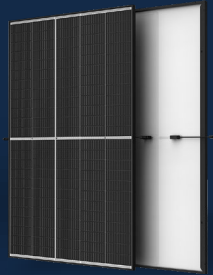
Potential savings of **~900 AUD!**

Trina Vertex Family Leading Technology that Exceeds Expectations

Vertex series can be applied to various scenarios: residential, industrial & commercial rooftops, agricultural complementary PV projects, fishing complementary PV projects and large utility, etc.



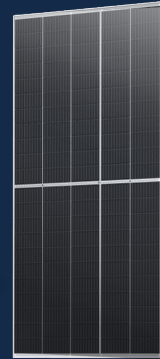
Vertex S



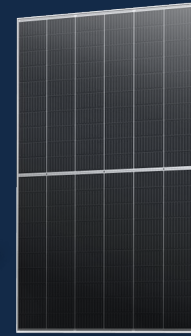
Vertex S⁺



18 series



19 series



20 series



21 series

UP to 405W

UP to 425W

UP to 510W

UP to 560W

UP to 605W

UP to 670W

370W

450W

540W

580W

600W+

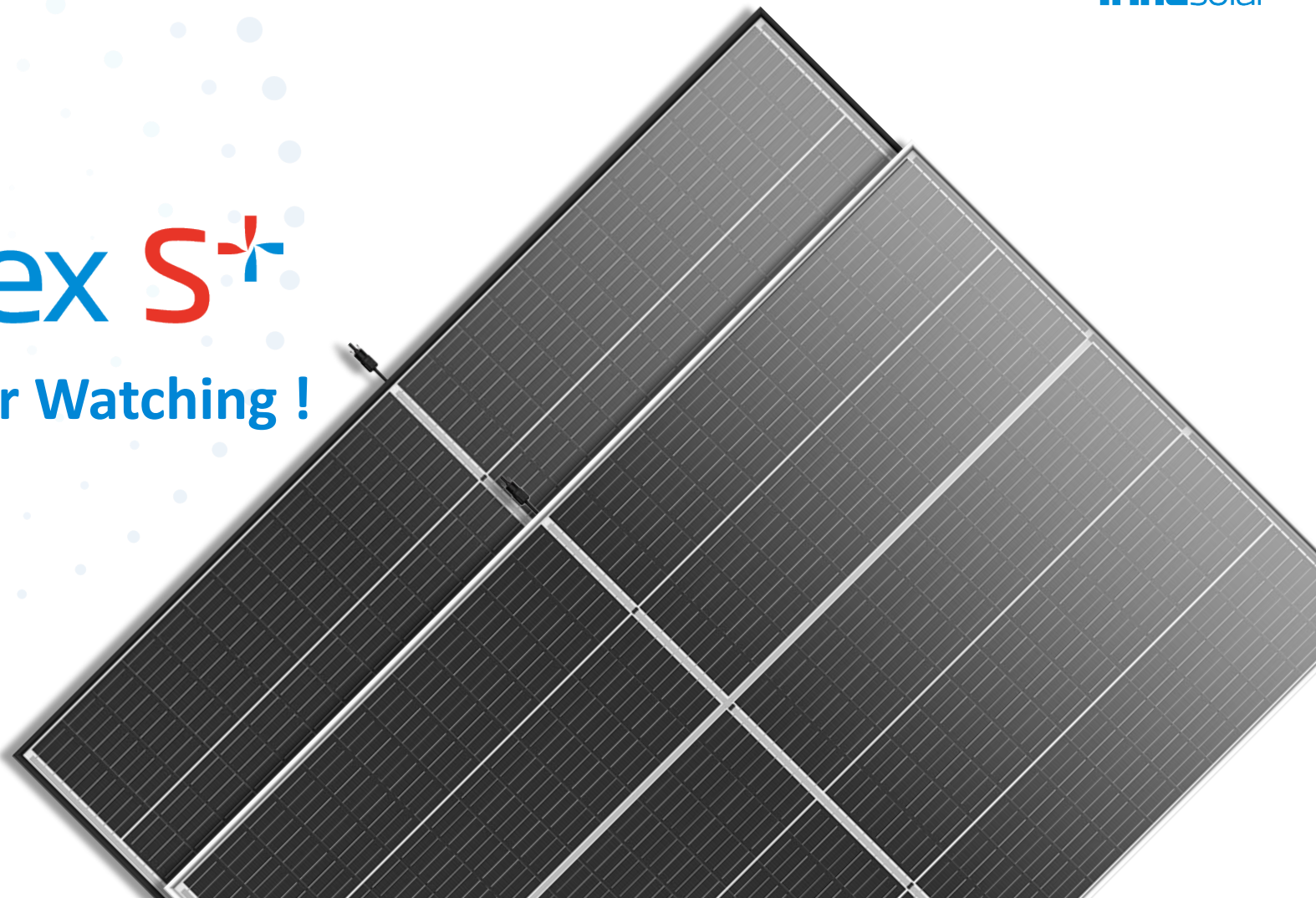
Industrial
average

Residential, commercial & Industrial

Utility

Vertex S⁺

Thanks for Watching !



Trina Solar N Type PACO Solar cell

Texture

1

p+ boron diffusion

2

Rear p+ removal

3

Thermal SiO_x+i-poly

4

n+ doped poly-Si

5

SSE+ cleaning

6

Surface passivation

7

Screen printing
& firing

8

n-type CZ silicon wafer

ARC

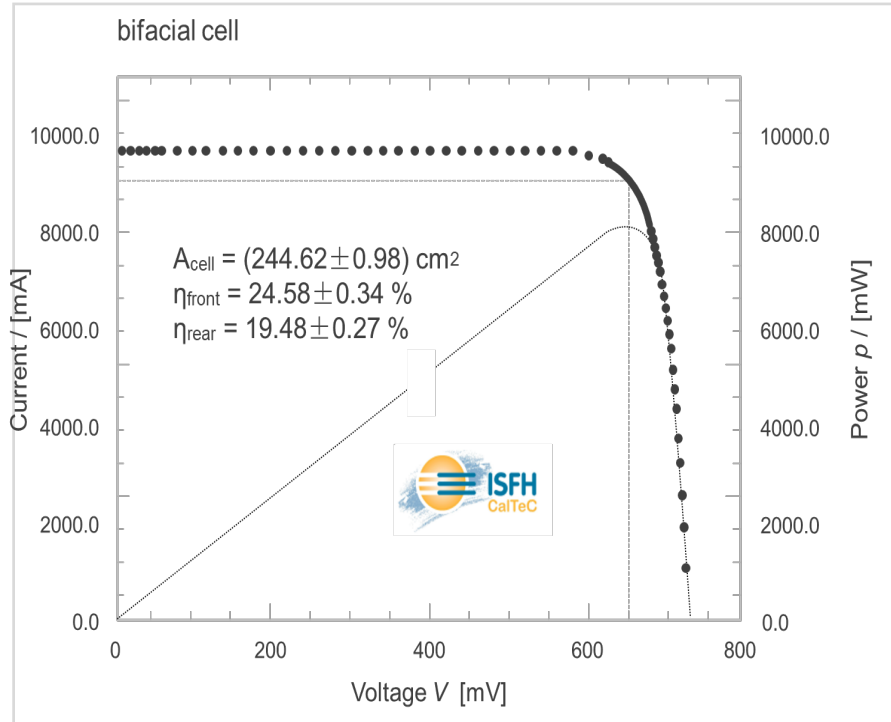
Boron diffused emitter

tunneling SiO_x

n-type poly-Si thin film

SiN_x

Historical Efficiency of PACO Solar Cell Efficiency in Trina solar



Lab development started in 2015

First patent in Aug 2015

2018: Front side efficiency 23.07% (JET certificated)

2019: Front side efficiency 24.58% (ISFH CalTeC certificated)

2021: 210mm size cell front side efficiency 24.54% (home measured)