

# SOLAR MODULE SPECIFICATION

## TECHNICAL DATA

ELECTRICAL DATA - ALL DATA REFERS TO STC (AM 1.5 G, 1000 W/m<sup>2</sup>, 25°C)

Type	TSE 230	TSE 235	TSE 240	TSE 250
Rated Peak Power (Wp)	230	235	240	250
Nominal voltage V <sub>mpp</sub> (V)	29.49	29.87	30.04	30.46
Nominal current I <sub>mpp</sub> (A)	7.80	7.87	7.99	8.21
Open circuit voltage Voc (V)	37.34	37.50	37.82	38.22
Short circuit current I <sub>sc</sub> (A)	8.25	8.35	8.48	8.70

Tolerance of Electrical parameters: All electrical parameters ±3%

## MECHANICAL SPECIFICATION:

Length	1663 ± 1.5mm
Width	998 ± 1.5mm
Height	45 mm
Weight	21 kg
Junction Box	IP65, 4 terminal Insertion type with 3 bypass diodes(15A)
Cable & Connectors	4mm <sup>2</sup> , TUV & UL Certified, 1000 mm
Application class	CLASS A (Safety class II)
Front cover	High Transmission, Low Iron, 3.2/4 mm Tempered ARC Glass
Cells	288, 156x156mm, 60 no's pcs Poly -crystalline solar cells
Cell encapsulation	EVA (Ethylene Vinyl Acetate)
Back cover	Composite film
Frame	≥17μ Anodized thickness aluminium frame with twin wall profile
Maximum surface load capacity	According to IEC 61215, snow load 5400 Pa or 550kg/m & Wind load 2400pa

## TEMPERATURE COEFFICIENTS (TC) AND PERMISSIBLE OPERATING CONDITIONS

Tc of Open circuit voltage (β)	-0.35 ± 0.01 % / °C
Tc of short circuit current(α)	0.05 ± 0.02 % / °C
Tc of Power(Y)	-0.44 ± 0.02 % / °C
Maximum system voltage	1000 V(TUV), 600V(UL)
NOCT	45 °C ± 2 °C
Temperature range	- 40 °C to + 85 °C
Efficiency reduction at 200W/m <sup>2</sup> , 25°C	< 5%
Maximum Reverse current(A)	12.5
Resistance against hail	maximum diameter of 24 mm with impact speed of 83 km/h

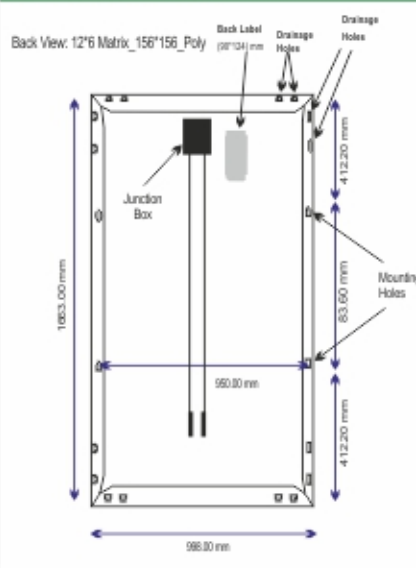
## GURANTEES AND CERTIFICATIONS:

Product Warranty	5 Years
Performance Guarantee	Guaranteed power Output of 90% for 10 Years and 80% for 25 Years
Approvals and certificates	TUV: IEC 61215 Ed.2, IEC 61730, IEC 61701

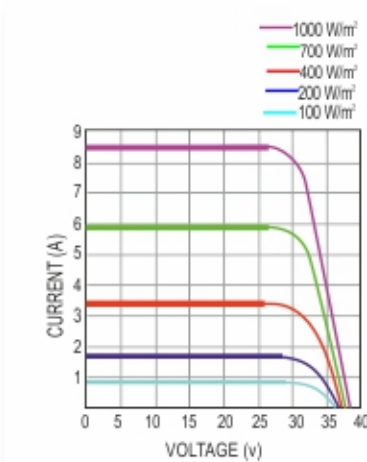
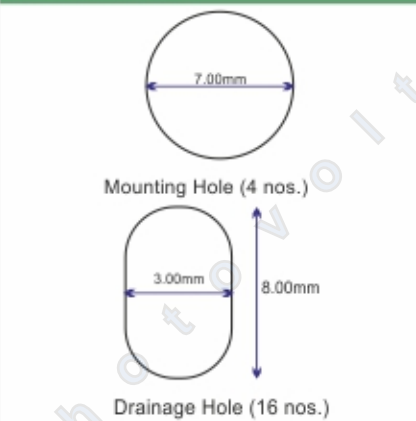
## PACKING INFORMATION:

20ft. Container - 226 Numbers
40ft. Container - 452 Numbers
40ft. H.C Container - 517 Numbers

## MECHANICAL DRAWINGS



## HOLES DESCRIPTION



# SOLAR MODULE SPECIFICATION

## TECHNICAL DATA

ELECTRICAL DATA - ALL DATA REFERS TO STC (AM 1.5 G, 1000 W/m<sup>2</sup>, 25°C)

Type	TSE 275	TSE 280	TSE 285	TSE 290	TSE 295	TSE 300
Rated Peak Power (Wp)	275	280	285	290	295	300
Nominal voltage V <sub>mpp</sub> (V)	35.72	35.86	36.03	36.16	36.39	36.55
Nominal current I <sub>mpp</sub> (A)	7.70	7.81	7.92	8.02	8.11	8.21
Open circuit voltage Voc (V)	44.00	44.15	44.32	44.46	44.68	44.82
Short circuit current I <sub>sc</sub> (A)	8.20	8.31	8.41	8.52	8.58	8.63

Tolerance of Electrical parameters: All electrical parameters ±3%

## MECHANICAL SPECIFICATION:

Length	1979 ± 1.5mm
Width	998 ± 1.5mm
Height	45 mm
Weight	23 kg
Junction Box	IP65, 4 terminal Insertion type with 3 bypass diodes(15A)
Cable & Connectors	4mm <sup>2</sup> , TUV & UL Certified, 1000 mm
Application class	CLASS A (Safety class II)
Front cover	High Transmission, Low Iron, 3.2/4 mm Tempered ARC Glass
Cells	288, 156x156mm, 72 no's pcs Poly -crystalline solar cells
Cell encapsulation	EVA (Ethylene Vinyl Acetate)
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Tc of Open circuit voltage (β)	-0.35 ± 0.01 % / °C
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Maximum system voltage	1000 V(TUV), 600V(UL)
NOCT	45 °C ± 2 °C
Temperature range	- 40 °C to + 85 °C
Efficiency reduction at 200W/m <sup>2</sup> , 25°C	< 5%
Maximum Reverse current(A)	12.5
Resistance against hail	maximum diameter of 24 mm with impact speed of 83 km/h

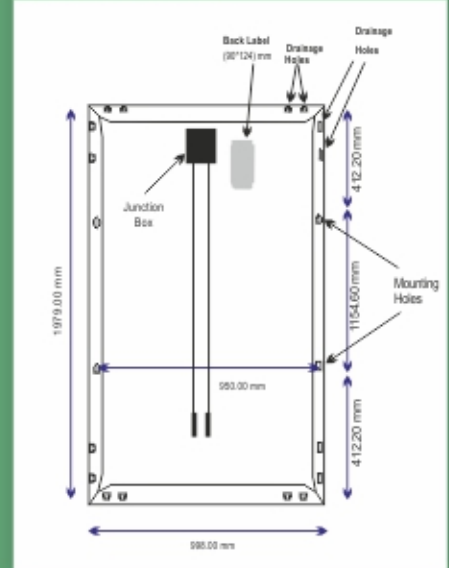
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Performance Guarantee	Guaranteed power Output of 90% for 10 Years and 80% for 25 Years
Approvals and certificates	TUV: IEC 61215 Ed.2, IEC 61730, IEC 61701

## PACKING INFORMATION:

20ft. Container - 178 Numbers
40ft. Container - 356 Numbers
40ft. H.C Container - 408 Numbers

## MECHANICAL DRAWINGS



## HOLES DESCRIPTION

