



## TRINA TSM-D05 , 200W to 240W Photovoltaic Solar Module

### STRENGTHS

- Tolerance  $\pm 3\%$
- High Transmission: Low Iron Tempered Glass
- 3 Bypass Diode Integrated
- Plug & Play Connectors

### WARRANTY

- Product: 2 years
- Production: 90%-----10 years  
80%-----25 years

### CERTIFICATIONS



Suitable for On Grid and Off Grid Systems

### TYPICAL ELECTRICAL CHARACTERISTICS

Typical Type	D05	TSM-200	TSM-210	TSM-220	TSM-230	TSM-240
Max-Power	Pm(W)	200	210	220	230	240
Power Tolerance	(%)	$\pm 3$	$\pm 3$	$\pm 3$	$\pm 3$	$\pm 3$
Max-Power Voltage	Vm(V)	28.7	29.2	29.8	30.0	30.6
Max-Power Current	Im(A)	6.97	7.19	7.39	7.66	7.84
Open-Circuit Voltage	Voc(V)	36.0	36.4	36.8	37.0	37.5
Short-Circuit Current	Isc(A)	7.75	7.86	8.00	8.18	8.38
Max-System Voltage	(VDC)	1000				
Cell Efficiency	$\eta_c(\%)$	14.1	14.8	15.5	16.2	16.9
Module Efficiency	$\eta_m(\%)$	12.2	12.8	13.4	14.1	14.7
Type, Number and Array of Cells		Mono-crystalline Silicon, 60 in series (6×10)				
Cell Size	(mm)	156 X 156				
Cable Type, Diameter and Length		4mm <sup>2</sup> , TÜV Certified, 1000mm				
Type of Connector		Compatible with Type III and Type IV				
No. of bypass Diodes		6 pcs (2 in parallel)				
Max. Series Fuse	(A)	11				
Pm Temperature Coefficient	(%/°C)	- 0.45				
Isc Temperature Coefficient	(%/°C)	0.05				
Voc Temperature Coefficient	(%/°C)	- 0.35				
Nom. Operating Temp. of Cells	(°C)	47±2				

### MECHANICAL CHARACTERISTICS

Dimension	AXBXC	(mm)	1650X992X46
Weight		(Kg)	19.5
No.of Draining Holes In Frame			8
Front Glass, Type and Thickness			High Transmiss., Low Iron, Tempered Glass 3.2mm.
Packing Configuration			2 in 1 or 20 in 1
Quantity/Pallet			36 pcs/pallet or 20pcs/pallet
Loading Capacity			504 pcs/40ft or 520pcs/40ft(H)

### ABSOLUTE RATINGS

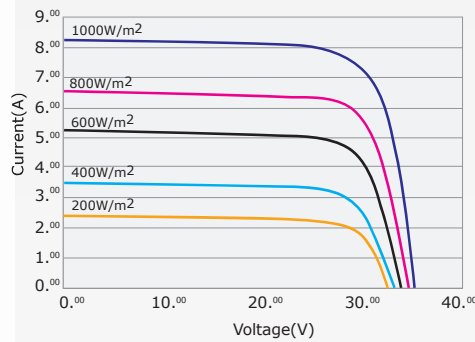
Dielectric Insulation Voltage	(VDC)	3000 max.
Operational Temperature	(°C)	-40~+85
Package Temperature	(°C)	-40~+85

\*STC Conditions(1000W/m<sup>2</sup>; 1.5 AM and 25°C Cell temperature)

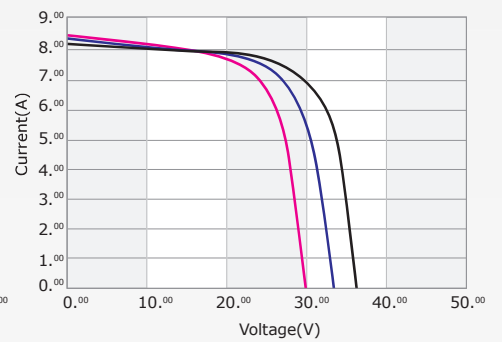
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## I-V Curves

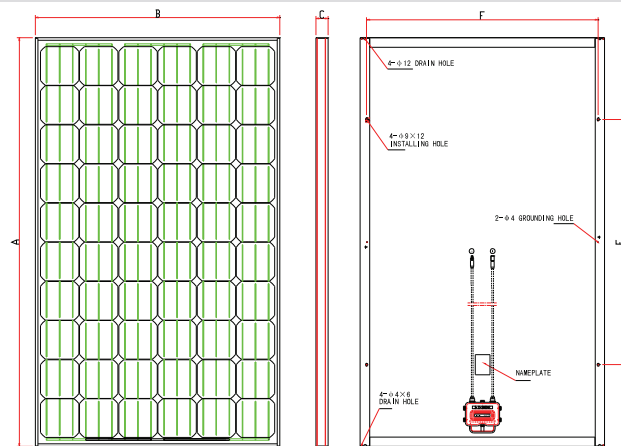
I-V Curves of TSM-D05-230



Temperature I-V Curves of TSM-D05-230



## Dimensions



Dimensions (mm)	A*B*C	1650*992*46
Installation Hole (mm)	E*F	800*937
Cable Length (mm)	G	1000
Dimension of the Hole (mm)		Φ9×12
Test Conditions		STC:AM=1.5, 1000W/m <sup>2</sup> , Cells Temperature 25°C

Suitable for On Grid and Off Grid Systems

\*The company is not responsible for potential typing errors.