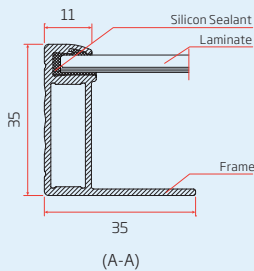
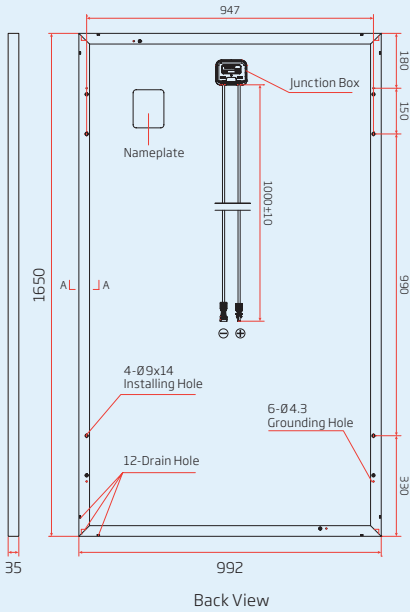
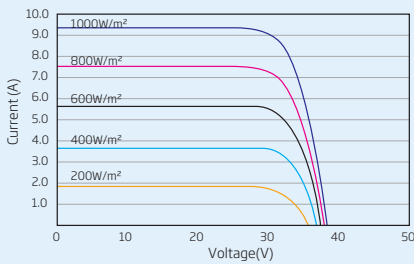




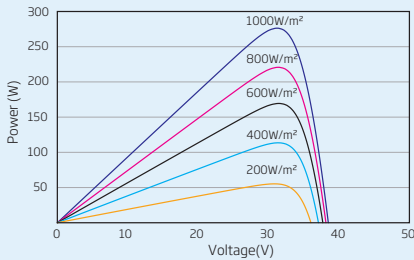
**DIMENSIONS OF PV MODULE**  
TSM-PD05  
(unit: mm)



**I-V CURVES OF PV MODULE (280W)**



**P-V CURVES OF PV MODULE (280W)**



ELECTRICAL DATA @ STC	TSM-270 PD05	TSM-275 PD05	TSM-280 PD05	TSM-285 PD05
Peak Power Watts- $P_{MAX}$ (Wp)*	270	275	280	285
Power Output Tolerance- $P_{MAX}$ (W)	0/+5	0/+5	0/+5	0/+5
Maximum Power Voltage- $V_{MPP}$ (V)	30.9	31.1	31.4	31.6
Maximum Power Current- $I_{MPP}$ (A)	8.73	8.84	8.92	9.02
Open Circuit Voltage- $V_{OC}$ (V)	37.9	38.1	38.2	38.3
Short Circuit Current- $I_{SC}$ (A)	9.22	9.32	9.40	9.49
Module Efficiency $\eta_m$ (%)	16.5	16.8	17.1	17.4

STC: Irradiance 1000 W/m<sup>2</sup>, Cell Temperature 25°C, Air Mass AM1.5  
\* Measuring tolerance: ±3%

ELECTRICAL DATA @ NOCT	TSM-270 PD05	TSM-275 PD05	TSM-280 PD05	TSM-285 PD05
Maximum Power- $P_{MAX}$ (Wp)	200	204	208	211
Maximum Power Voltage- $U_{MPP}$ (V)	28.6	28.8	29.0	29.2
Maximum Power Current- $I_{MPP}$ (A)	7.00	7.09	7.15	7.23
Open Circuit Voltage- $U_{OC}$ (V)	35.1	35.3	35.4	35.5
Short Circuit Current- $I_{SC}$ (A)	7.44	7.52	7.59	7.66

NOCT: Irradiance at 800 W/m<sup>2</sup>, Ambient Temperature 20°C, Wind Speed 1 m/s.

**MECHANICAL DATA**

Solar Cells	Multicrystalline 156.75 × 156.75 mm
Cell Orientation	60 cells (6 × 10)
Module Dimensions	1650 × 992 × 35 mm
Weight	18.6 kg
Glass	3.2 mm, high transparency, AR coated and heat tempered solar glass
Backsheet	White
Frame	Silver Anodized Aluminium Alloy
J-Box	IP 67 or IP 68 rated
Cables	Photovoltaic Technology Cable 4.0mm <sup>2</sup> , 1000 mm
Connector	EU Countries: 28 MC4 / UTX / TS4, Non-EU Countries: 28 QC4 / TS4

**TEMPERATURE RATINGS**

Nominal Operating Cell Temperature (NOCT)	44°C (±2K)
Temperature Coefficient of $P_{MAX}$	- 0.41%/K
Temperature Coefficient of $V_{OC}$	- 0.32%/K
Temperature Coefficient of $I_{SC}$	0.05%/K

**MAXIMUM RATINGS**

Operational Temperature	-40 to +85°C
Maximum System Voltage	1000VDC (IEC) 1000VDC (UL)
Max Series Fuse Rating*	15 A
Mechanical Load	5400 Pa
Wind Load	2400 Pa

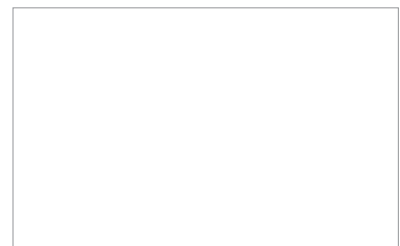
\* DO NOT connect fuse in combiner box with two or more strings in parallel connection

**WARRANTY**

10 year Product Workmanship Warranty
25 year Linear Performance Warranty
(Please refer to product warranty for details)

**PACKAGING CONFIGURATION**

Modules per box:	30 pieces
Modules per 40' container:	840 pieces



TSM\_EN\_2017\_LB