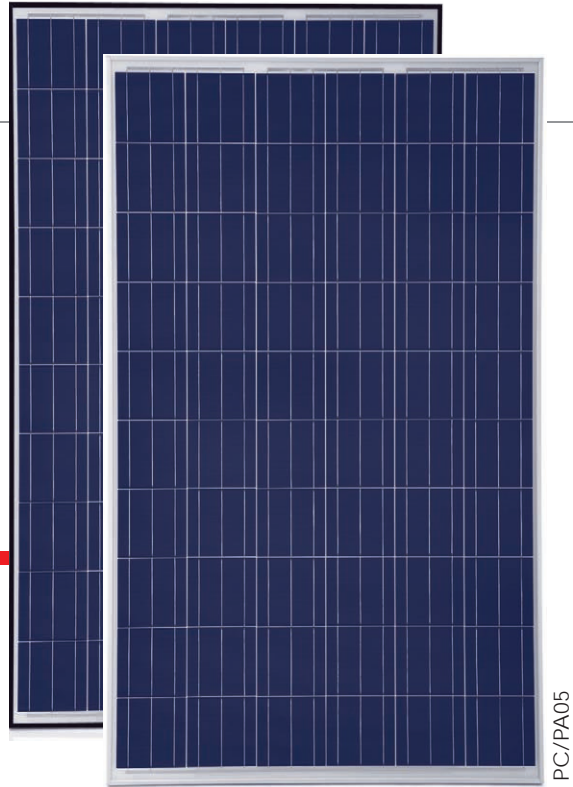


# TSM-PC05 TSM-PA05 THE UNIVERSAL SOLUTION



**15.0%**  
MAX EFFICIENCY

**245W**  
MAX POWER OUTPUT

**10 YEAR**  
PRODUCT WARRANTY

**25 YEAR**  
LINEAR POWER WARRANTY

Founded in 1997, Trina Solar (NYSE: TSL) has established itself as a leader in the solar community with its vertically integrated business model. Our modules and system solutions provide clean solar power in on-grid and off-grid residential, commercial, industrial and utility-scale systems.

With more than 22 offices worldwide, Trina Solar has partnerships with leading installers, distributors, utilities and developers in all major PV markets. Trina Solar is committed to driving smarter energy choices.

Trina Solar Limited  
[www.trinasolar.com](http://www.trinasolar.com)



Module can bear snow loads up to **5400Pa** and wind loads up to **2400Pa**



Guaranteed power output **0~+3%**



High performance under low light conditions  
**Cloudy days, mornings and evenings**



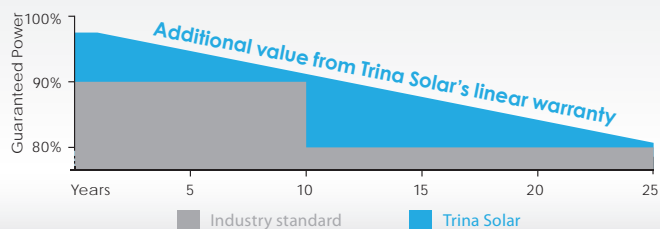
Manufactured according to International Quality and Environment Management System Standards  
**ISO9001, ISO14001**



**MC4** photovoltaic connectors increase system reliability

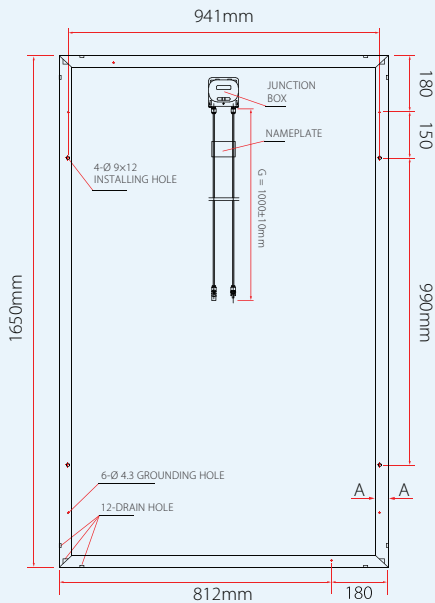
## LINEAR PERFORMANCE WARRANTY

10 Year Product Warranty • 25 Year Linear Power Warranty

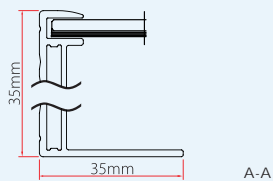


# TSM-PC05 / TSM-PA05 THE UNIVERSAL SOLUTION

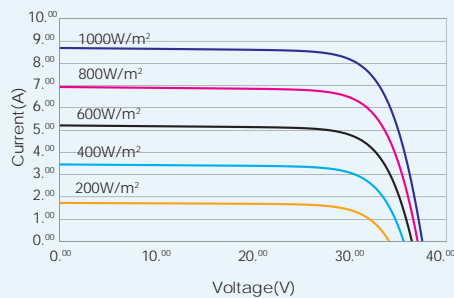
## DIMENSIONS OF PV MODULE TSM-PC/PA05



Back View



## I-V CURVES OF PV MODULE TSM-245 PC/PA05



Average efficiency reduction of 4.5% at 200W/m<sup>2</sup> according to EN 60904-1.

## CERTIFICATION




ELECTRICAL DATA @ STC	TSM-230 PC/PA05	TSM-235 PC/PA05	TSM-240 PC/PA05	TSM-245 PC/PA05
Peak Power Watts- $P_{MAX}$ (Wp)	230	235	240	245
Power Output Tolerance- $P_{MAX}$ (%)	0/+3	0/+3	0/+3	0/+3
Maximum Power Voltage- $V_{MP}$ (V)	29.2	29.3	29.7	30.2
Maximum Power Current- $I_{MPP}$ (A)	7.90	8.03	8.10	8.13
Open Circuit Voltage- $V_{OC}$ (V)	37.1	37.2	37.3	37.5
Short Circuit Current- $I_{SC}$ (A)	8.53	8.55	8.62	8.68
Module Efficiency $\eta_m$ (%)	14.1	14.4	14.7	15.0

Values at Standard Test Conditions STC (Air Mass AM1.5, Irradiance 1000W/m<sup>2</sup>, Cell Temperature 25°C). Power measurement tolerance:  $\pm 3\%$

ELECTRICAL DATA @ NOCT	TSM-230 PC/PA05	TSM-235 PC/PA05	TSM-240 PC/PA05	TSM-245 PC/PA05
Maximum Power- $P_{MAX}$ (Wp)	167	171	174	178
Maximum Power Voltage- $V_{MP}$ (V)	26.3	26.4	26.6	26.8
Maximum Power Current- $I_{MPP}$ (A)	6.35	6.48	6.55	6.64
Open Circuit Voltage (V)- $V_{OC}$ (V)	33.9	34.0	34.1	34.2
Short Circuit Current (A)- $I_{SC}$ (A)	6.95	6.97	7.04	7.10

NOCT: Irradiance at 800W/m<sup>2</sup>, Ambient Temperature 20°C, Wind Speed 1m/s. Power measurement tolerance:  $\pm 3\%$

## MECHANICAL DATA

Solar cells	Multicrystalline 156 × 156mm (6 inches)
Cell orientation	60 cells (6 × 10)
Module dimensions	1650 × 992 × 35mm (64.95 × 39.05 × 1.37 inches)
Weight	18.6kg (41.0 lb)
Glass	High transparency solar glass 3.2mm (0.13 inches)
Frame	Anodized aluminium alloy
J-Box	IP 65 rated
Cables	Photovoltaic Technology cable 4.0mm <sup>2</sup> (0.006 inches <sup>2</sup> ), 1000mm (39.4 inches)
Connector	Original MC4 

## TEMPERATURE RATINGS

Nominal Operating Cell Temperature (NOCT)	45°C ( $\pm 2^\circ\text{C}$ )
Temperature Coefficient of $P_{MAX}$	-0.43%/°C
Temperature Coefficient of $V_{OC}$	-0.32%/°C
Temperature Coefficient of $I_{SC}$	0.047%/°C

## MAXIMUM RATINGS

Operational Temperature	-40 ~ +85°C
Maximum System Voltage	1000V DC(IEC)/600V DC(UL)
Max Series Fuse Rating	15A

## WARRANTY

10 year Product Workmanship Warranty

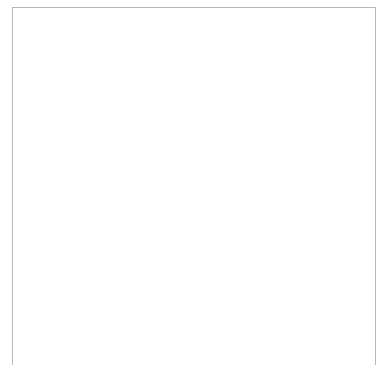
25 year Linear Power Warranty

(Please refer to product warranty for details)

## PACKAGING CONFIGURATION

Modules per box: 29 pieces

Modules per 40' container: 812 pieces



TSM\_EN\_Nov\_2012