Trina Solar Limited
www.trinasolar.com

15.0%
MAX EFFICIENCY

245W
MAX POWER OUTPUT

10 YEAR
PRODUCT WARRANTY

25 YEAR
LINEAR POWER WARRANTY

Founded in 1997, Trina Solar is a vertically integrated PV manufacturer, involved in the production of ingots, wafers and cells to the assembly of high quality modules, using both mono and multicrystalline technologies. As of July 2011, the Company has already achieved an annualized nameplate module capacity of approximately 1.9GW. Trina Solar’s wide range of products are used in residential, commercial, industrial and public utility applications throughout the world.

Only by matching an efficient cost-structure with proven performance will we as an industry achieve grid parity. And at Trina Solar, we have both.

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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

Independently certified by international certification bodies
IEC 61215, IEC 61730, UL1703, TUV Safety Class II, CE

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

TSM-PC05
TSM-PA05
THE UNIVERSAL SOLUTION

Mono Multi Solutions

10 Year Product Warranty • 25 Year Linear Power Warranty
### Electrical Data @ STC

<table>
<thead>
<tr>
<th>Model</th>
<th>TSM-225 PC/PA05</th>
<th>TSM-230 PC/PA05</th>
<th>TSM-235 PC/PA05</th>
<th>TSM-240 PC/PA05</th>
<th>TSM-245 PC/PA05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak Power (Wp)</td>
<td>225</td>
<td>230</td>
<td>235</td>
<td>240</td>
<td>245</td>
</tr>
<tr>
<td>Power Output Tolerance (±%)</td>
<td>0/+3</td>
<td>0/+3</td>
<td>0/+3</td>
<td>0/+3</td>
<td>0/+3</td>
</tr>
<tr>
<td>Maximum Power Voltage (V)</td>
<td>29.4</td>
<td>29.8</td>
<td>30.1</td>
<td>30.4</td>
<td>30.7</td>
</tr>
<tr>
<td>Maximum Power Current (A)</td>
<td>7.66</td>
<td>7.72</td>
<td>7.81</td>
<td>7.89</td>
<td>7.98</td>
</tr>
<tr>
<td>Open Circuit Voltage (V)</td>
<td>36.9</td>
<td>37.0</td>
<td>37.1</td>
<td>37.2</td>
<td>37.3</td>
</tr>
<tr>
<td>Short Circuit Current (A)</td>
<td>8.20</td>
<td>8.26</td>
<td>8.31</td>
<td>8.37</td>
<td>8.47</td>
</tr>
<tr>
<td>Module Efficiency (η) (%)</td>
<td>13.7</td>
<td>14.1</td>
<td>14.4</td>
<td>14.7</td>
<td>15.0</td>
</tr>
</tbody>
</table>

Values at Standard Test Conditions: (Air Mass AM1.5, Irradiance: 1000W/m², Cell Temperature: 25°C)

### Electrical Data @ NOCT

<table>
<thead>
<tr>
<th>Model</th>
<th>TSM-225 PC/PA05</th>
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<th>TSM-235 PC/PA05</th>
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<th>TSM-245 PC/PA05</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Power (W)</td>
<td>164</td>
<td>168</td>
<td>172</td>
<td>175</td>
<td>178</td>
</tr>
<tr>
<td>Maximum Power Voltage (V)</td>
<td>26.9</td>
<td>27.1</td>
<td>27.4</td>
<td>27.7</td>
<td>27.8</td>
</tr>
<tr>
<td>Maximum Power Current (A)</td>
<td>6.12</td>
<td>6.20</td>
<td>6.27</td>
<td>6.32</td>
<td>6.41</td>
</tr>
<tr>
<td>Open Circuit Voltage (V)</td>
<td>33.8</td>
<td>33.9</td>
<td>34.0</td>
<td>34.1</td>
<td>34.2</td>
</tr>
<tr>
<td>Short Circuit Current (A)</td>
<td>6.62</td>
<td>6.68</td>
<td>6.70</td>
<td>6.75</td>
<td>6.83</td>
</tr>
</tbody>
</table>

NOCT: Irradiance at 800W/m², Ambient Temperature: 20°C, Wind Speed: 1M/s

### Mechanical Data

- **Solar Cells**: Multicrystalline 156 × 156mm (6 inches)
- **Cell Orientation**: 60 cells (6 × 10)
- **Module Dimension**: 1650 × 992 × 40mm (64.95 × 39.05 × 1.57 inches)
- **Weight**: 19.5kg (43.0 lb)
- **Glass**: High transparency solar glass 3.2mm (0.13 inches)
- **Frame**: Anodized aluminum alloy
- **J-Box**: IP 65 rated
- **Cables/Connectors**: Photovoltaic Technology cable 4.0mm² (0.006 inches²), 1000mm (39.4 inches), MC4 / H4

### Temperature Ratings

- **Nominal Operating Cell Temperature (NOCT)**: 46°C (±2°C)
- **Temperature Coefficient of Pmax**: -0.43%/°C
- **Temperature Coefficient of Voc**: -0.32%/°C
- **Temperature Coefficient of Isc**: 0.047%/°C

### Maximum Ratings

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

### Warranty

- **10 year workmanship warranty**
- **25 year linear performance warranty**

*(Please refer to product warranty for details)*

### Packaging Configuration

- **Modules per box**: 25 pcs
- **Modules per 40’ container**: 650 pcs

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**Certification**

- [logo]

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**Trina Solar**

The power behind the panel

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