Founded in 1997, Trina Solar is the world’s leading comprehensive solutions provider for solar energy. We believe close cooperation with our partners is critical to success. Trina Solar now distributes its PV products to over 60 countries all over the world. Trina Solar is able to provide exceptional service to each customer in each market and supplement our innovative, reliable products with the backing of Trina Solar as a strong, bankable partner. We are committed to building strategic, mutually beneficial collaboration with installers, developers, distributors and other partners.

Comprehensive Product And System Certificates
IEC61215/IEC61730/UL777/IEC61701/IEC62716
ISO 9001: Quality Management System
ISO 14001: Environmental Management System
ISO14064: Greenhouse Gas Emissions Verification
OHSAS 18001: Occupational Health and Safety Management System

Trina Solar’s DUOMAX M PLUS Linear Performance Warranty
- Additional value from Trina Solar’s DUOMAX warranty
- 0.5% annual degradation

Exellent low light performance on cloudy days, mornings and evenings
- Back surface field
- Monocrystalline cells with advanced Honey surface texturing
- Selective emitter

Maximazed limited space with top-end efficiency
- Up to 192 W/m² power density
- Low thermal coefficients for greater energy production at high operating temperatures

Improved durability
- Anti PID
- Reduced soiling due to natural cleaning

Enhanced safety
- Fire class A certified by TUV Rheinland according to fire test IEC 61730-2 / MST 23

Increased value
- 1,500 V system voltage reduces BOS costs by increased string length
- 30 year linear warranty
- 0.5% annual degradation

Certified to withstand challenging environmental conditions
- Module coating resistant to sand, acid, and alkali
- 2400 Pa wind load
- 5400 Pa snow load
- 35 mm hail stones at 97 km/h

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**Electrical Data @ STC**

<table>
<thead>
<tr>
<th></th>
<th>TSM-280</th>
<th>TSM-285</th>
<th>TSM-290</th>
<th>TSM-295</th>
<th>TSM-300</th>
<th>TSM-305</th>
<th>TSM-310</th>
<th>TSM-315</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peak Power Watts $P_{max}$ (Wp)</td>
<td>280</td>
<td>285</td>
<td>290</td>
<td>295</td>
<td>300</td>
<td>305</td>
<td>310</td>
<td>315</td>
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<tr>
<td>Power Output Tolerance $P_{max}$ (Wp)</td>
<td>0/+5</td>
<td>0/+5</td>
<td>0/+5</td>
<td>0/+5</td>
<td>0/+5</td>
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<tr>
<td>Maximum Power Voltage-$V_{mp}$ (V)</td>
<td>31.7</td>
<td>31.8</td>
<td>32.2</td>
<td>32.5</td>
<td>32.7</td>
<td>32.9</td>
<td>33.1</td>
<td>33.3</td>
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<tr>
<td>Maximum Power Current-$I_{sc}$ (A)</td>
<td>8.84</td>
<td>8.96</td>
<td>9.02</td>
<td>9.08</td>
<td>9.18</td>
<td>9.26</td>
<td>9.37</td>
<td>9.46</td>
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<tr>
<td>Open Circuit Voltage-$V_{oc}$ (V)</td>
<td>38.4</td>
<td>38.5</td>
<td>38.7</td>
<td>39.4</td>
<td>39.8</td>
<td>40.0</td>
<td>40.2</td>
<td>40.4</td>
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<tr>
<td>Module Efficiency $\eta$ (%)</td>
<td>17.0</td>
<td>17.3</td>
<td>17.6</td>
<td>17.9</td>
<td>18.2</td>
<td>18.5</td>
<td>18.8</td>
<td>19.2</td>
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**Electrical Data @ NOCT**

<table>
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<th>TSM-290</th>
<th>TSM-295</th>
<th>TSM-300</th>
<th>TSM-305</th>
<th>TSM-310</th>
<th>TSM-315</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Power-$P_{max}$ (Wp)</td>
<td>209</td>
<td>212</td>
<td>216</td>
<td>220</td>
<td>223</td>
<td>227</td>
<td>231</td>
<td>235</td>
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<tr>
<td>Maximum Power Voltage-$V_{mp}$ (V)</td>
<td>29.4</td>
<td>29.5</td>
<td>29.9</td>
<td>30.1</td>
<td>30.3</td>
<td>30.5</td>
<td>30.7</td>
<td>30.9</td>
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<tr>
<td>Maximum Power Current-$I_{sc}$ (A)</td>
<td>7.10</td>
<td>7.20</td>
<td>7.25</td>
<td>7.30</td>
<td>7.38</td>
<td>7.44</td>
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<tr>
<td>Open Circuit Voltage-$V_{oc}$ (V)</td>
<td>35.7</td>
<td>35.8</td>
<td>36.0</td>
<td>36.6</td>
<td>37.0</td>
<td>37.2</td>
<td>37.4</td>
<td>37.5</td>
</tr>
<tr>
<td>Short Circuit Current-$I_{sc}$ (A)</td>
<td>7.62</td>
<td>7.66</td>
<td>7.74</td>
<td>7.87</td>
<td>7.92</td>
<td>7.94</td>
<td>7.96</td>
<td>7.98</td>
</tr>
</tbody>
</table>

**Mechanical Data**

- **Solar Cells**: Monocrystalline 156.75 × 156.75 mm
- **Cell Orientation**: 60 cells (6 x 10)
- **Module Dimensions**: 1658 × 992 × 7.6 mm with corner protector (Std)*
- **Weight**: 23.5 kg
- **Front Glass**: 2.5 mm, high transparency, AR coated and heat strengthened glass
- **EVA**: White
- **Back Glass**: 2.5 mm, heat strengthened glass
- **Frame**: Frameless
- **J-Box**: IP 67 rated or IP 68 rated
- **Cables**: Photovoltaic Technology Cable 4.0 mm²
- **Connector**: MC4 EVD2/UTX/TS4

**Temperature Ranges**

- Nominal Operating Cell Temperature (NOCT): 44°C (±2K)
- Temperature Coefficient of $P_{max}$: -0.39%/K
- Temperature Coefficient of $V_{mp}$: -0.29%/K
- Temperature Coefficient of $I_{sc}$: 0.05%/K

**Warranty**

- 10 year Product Workmanship Warranty
- 30 year Linear Performance Warranty

**Packaging Configuration**

- Modules per box: 33 pieces
- Modules per 40’ container: 858 pieces

**Maximum Ratings**

- **Operational Temperature**: -40 to +85°C
- **Maximum System Voltage**: 1500VDC (IEC)
- **Max Series Fuse Rating**: 20 A (Power ≥ 295 W)
- **Mechanical Load**: 5400Pa
- **Wind Load**: 2400Pa

**More Options**

- Compact AR (Antireflective) coating
- POE (Polyolefin Elastomer) foil

* Measuring tolerance: ±3%

* STC: Irradiance 1000 W/m², Cell Temperature 25°C, Air Mass AM1.5

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

**Temperature Ratings**

- **Nominal Operating Cell Temperature (NOCT)**: 44°C (±2K)
- **Temperature Coefficient of $P_{max}$**: -0.39%/K
- **Temperature Coefficient of $V_{mp}$**: -0.29%/K
- **Temperature Coefficient of $I_{sc}$**: 0.05%/K

**Applications**

- **Module Efficiency**: 17.0%
- **Short Circuit Current**: 17.3 A
- **Open Circuit Voltage**: 17.6 V
- **Maximum Power**: 17.9 W
- **Peak Power Watts**: 18.2 W

CAUTION: READ SAFETY AND INSTALLATION INSTRUCTIONS BEFORE USING THE PRODUCT.

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