

ULICA SOLAR



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Established in Aug., 2005 by Shanshan Group who is one of the top 500 enterprises in China, Ningbo Ulica Solar Science & Technology Co., Ltd. is a professional manufacturer specializing in producing solar cells, solar modules and providing solar system integration service in China. It boasts a vigorous and united team including senior technical experts, PhD and senior engineers in the field of solar energy. The location of Ulica solar is in convenient transportation network. It has one-hour way from Ningbo Port and quick transportation with Ningbo airport and highway.

Since its establishment, Ulica Solar has been always devoted to the research and development on new technology, with 17 patents obtained, among which N-type mono-crystalline silicon solar cell is awarded as a National Torch Program. Ulica Solar has been also devoted to improving high efficiency and quality and reducing manufacturing costs. Currently as a National Hi-tech Enterprise and an engineering centre of Ningbo city, Ulica has acquired many international certificates, such as CE, IEC 61215 & IEC 61730/TÜV, UL, ISO9001, CEC and CGC-Solar and has access to the Chinese domestic market. Ulica is also cooperating closely with some prestigious institutions and Universities including Ningbo Material Technology & Engineering Institution of Chinese Academy of Sciences, Shanghai Donghua University etc.

In order to enlarge production capacity and improve product quality, Ulica Solar has brought in the most advanced silicon solar cell manufacturing technology and state-of-art equipments from Germany, Italy, America, Japan and Spain, currently its annual production capacity is 75MW for cell and 100MW for module capacity and will increase to 250MW for cell and 250MW for module in 2011, and 450MW for cells and 450MW for modules in 2012 respectively.

Ulica's products have been exported to Germany, Italy, France, Spain, Belgium, Portugal, Holland, America, Japan, Czech Republic, Australia and so on, and have won wide praise among our clients. "Integrity, Innovation, Dedication, Responsibility" is the essence and core value of Ulica's enterprise culture, the inexhaustible source of Ulica's solidarity, and the most cherished spiritual treasure. Ulica solar was, is and will always be devoted to protecting our planet, making more and more families enjoy renewable solar energy, to build a cleaner and more livable environment. Ulica solar is also devoted to becoming a leading company in the field of solar energy, making contributions to the global environmental protection and energy saving.

Enjoy Sunny Life!



Solar Park Germany

Apartment Block London

Roof System Germany

Apartment Block London

BIPV Project France

Monocrystalline Solar Module 125X125mm 6x12 Cells

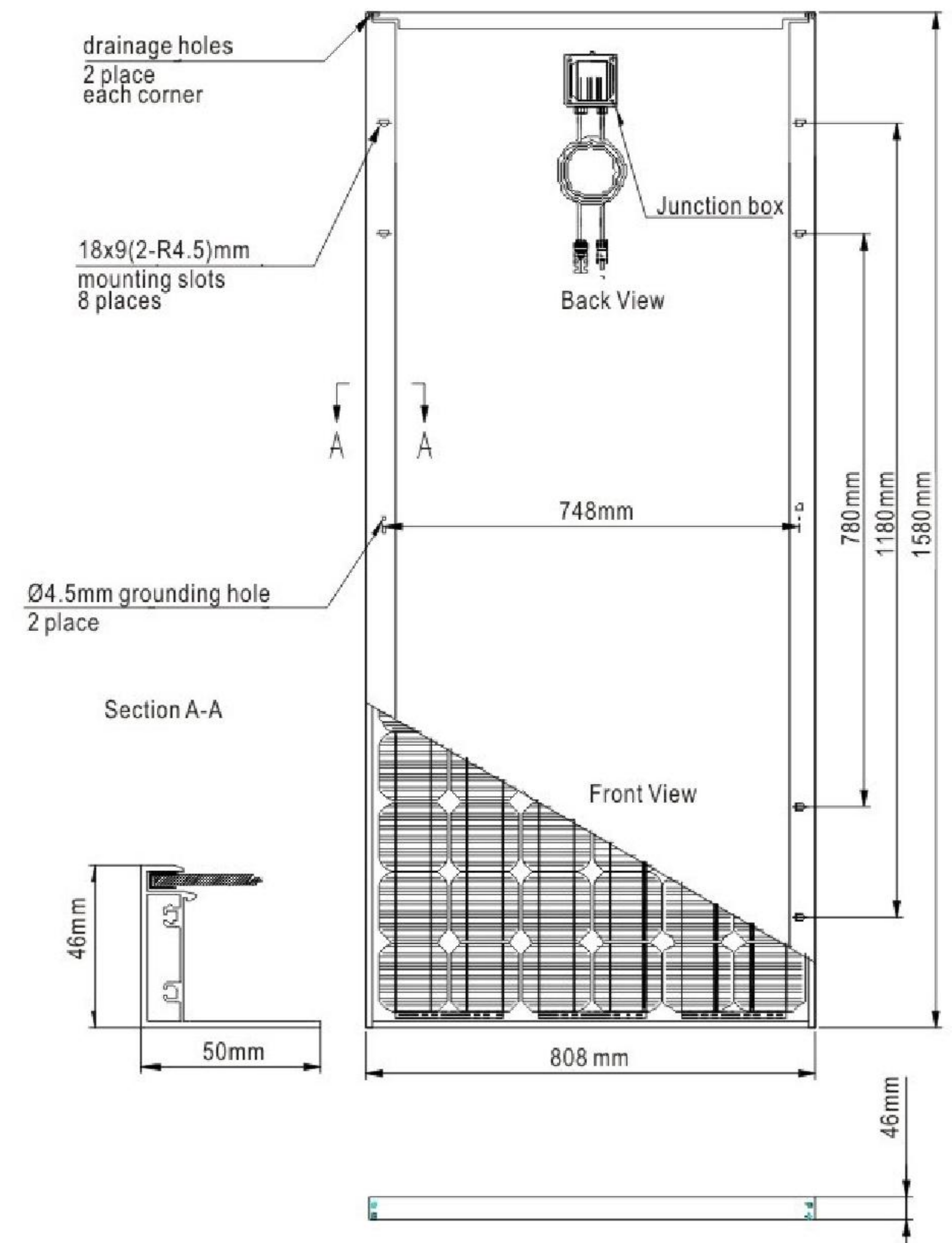
Electrical Characteristics

| TUV-Model | UL-175D-72 | UL-180D-72 | UL-185D-72 | UL-190D-72 | UL-195D-72 |
|--------------------------------|-------------------|------------|------------|------------|------------|
| UL-Model | UL-175D | UL-180D | UL-185D | UL-190D | UL-195D |
| Max Power Pm(W) | 175 | 180 | 185 | 190 | 195 |
| Max Power Voltage Vm(V) | 35.2 | 35.4 | 35.6 | 35.8 | 36.0 |
| Max Power Current Im(A) | 4.98 | 5.09 | 5.20 | 5.31 | 5.42 |
| Open-Circuit Voltage Voc(V) | 44.0 | 44.3 | 44.6 | 44.6 | 44.8 |
| Short-Circuit Current Isc(A) | 5.48 | 5.59 | 5.68 | 5.79 | 5.86 |
| Cell Efficiency | 16.4% | 16.8% | 17.3% | 17.1% | 17.5% |
| Module Efficiency | 13.7% | 14.1% | 14.5% | 14.9% | 15.3% |
| Power Tolerance | ±3% | | | | |
| Maximum System Voltage(V) | 1000(TUV)/600(UL) | | | | |
| Temperture Coefficient of Isc | 0.065%/°C | | | | |
| Temperture Coefficient of Voc | -0.35%/°C | | | | |
| Temperture Coefficient of Pmax | -0.40%/°C | | | | |
| Operating Temperature | -40°C~+85°C | | | | |
| NOCT | 47±2°C | | | | |
| Series Fuse Rating(A) | 10 | | | | |

STC: irradiance: 1000W/mm²; solar spectrum: AM1.5; cell temperature: 25°C

Mechanical Characteristics

| | |
|-----------------------|-------------|
| Module Dimension (mm) | 1580x808x46 |
| Cell Dimension (mm) | 125x125 |
| Array (PCS) | 6x12 |
| Weight(Kg) | 16 |



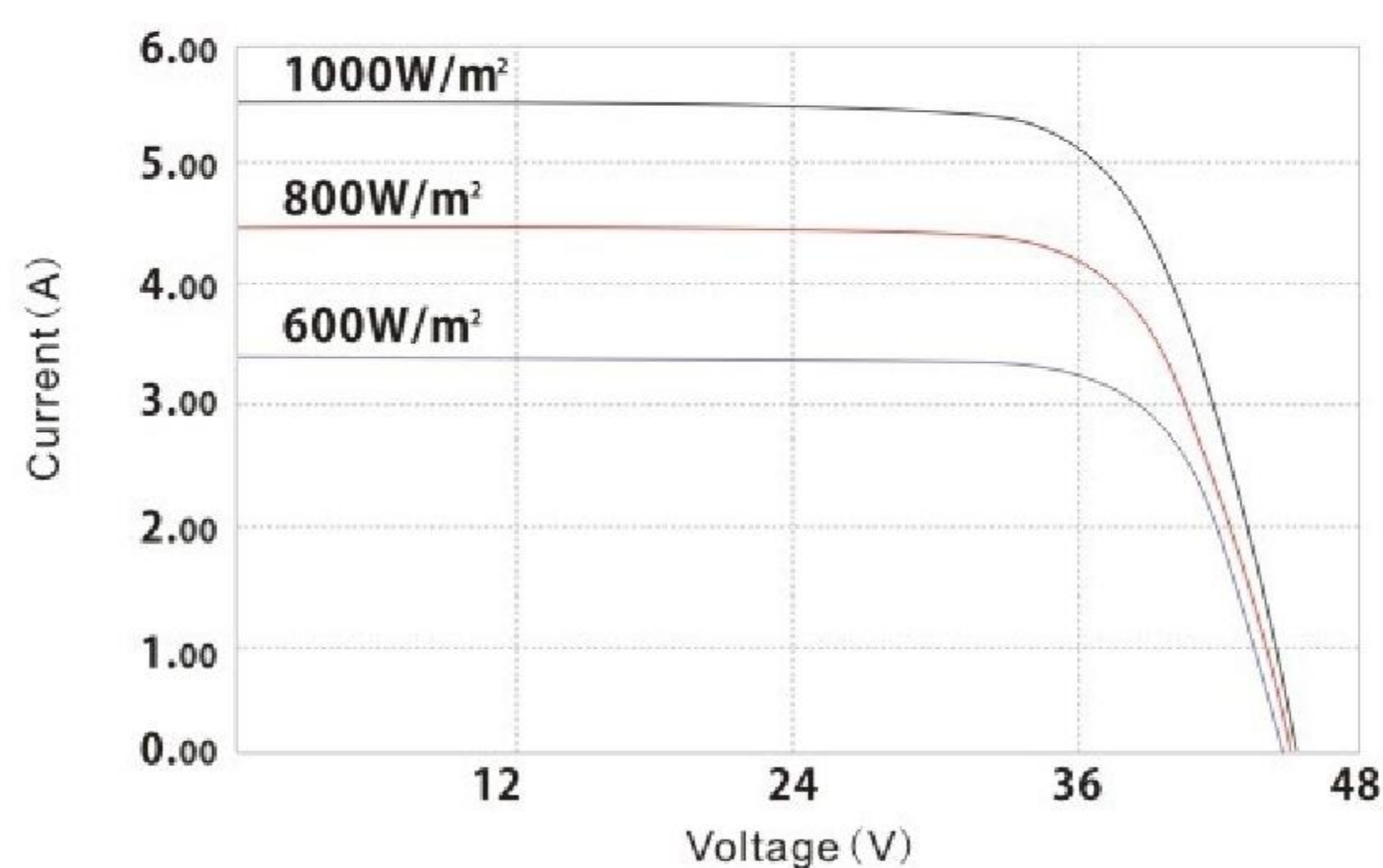
GUARANTEE

- 5-year product guarantee
- 10-year performance guarantee at 90% power output
- 25 year performance guarantee at 80% power output

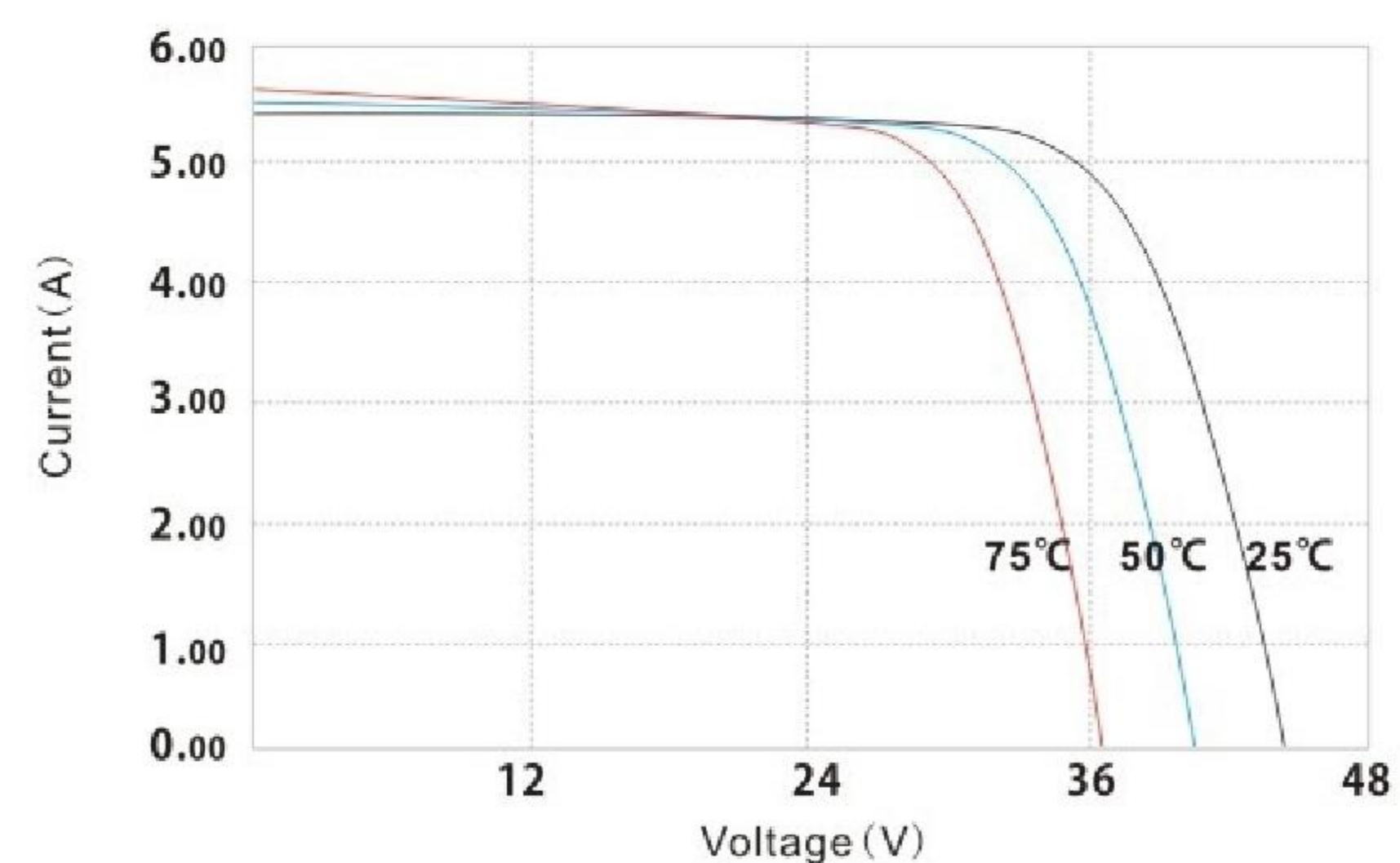
NOTE

- Nominal Operating Cell Temperature above data is only for reference
- Deviation of Vm(V), Im(A), Voc(V) and Isc(A) of ±10%

I-V Curves of UL-180D/UL-180D-72



I-V Curves at different irradiance



I-V Curves at different temperature

Monocrystalline Solar Module 125X125mm 6x14 Cells

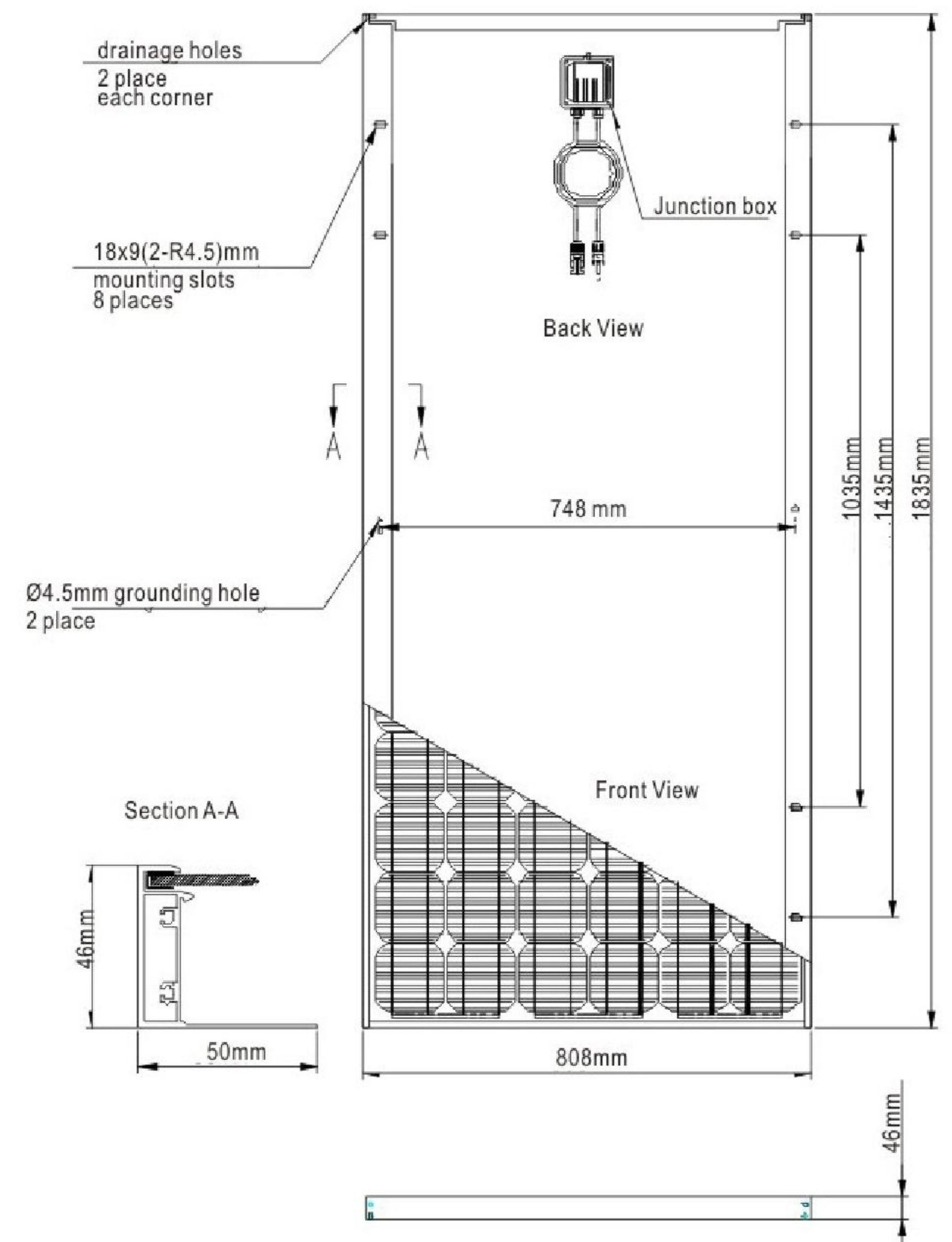
Electrical Characteristics

| TUV-Model | UL-205D-84 | UL-210D-84 | UL-215D-84 | UL-220D-84 | UL-230D-84 |
|---------------------------------|-------------------|------------|------------|------------|------------|
| UL-Model | UL-205D-84 | UL-210D-84 | UL-215D-84 | UL-220D-84 | UL-230D-84 |
| Max Power Pm(W) | 205 | 210 | 215 | 220 | 230 |
| Max Power Voltage Vm(V) | 41.1 | 41.3 | 41.5 | 41.8 | 42.0 |
| Max Power Current Im(A) | 4.99 | 5.09 | 5.18 | 5.27 | 5.48 |
| Open-Circuit Voltage Voc(V) | 51.3 | 51.7 | 52.0 | 52.0 | 52.3 |
| Short-Circuit Current Isc(A) | 5.48 | 5.59 | 5.68 | 5.77 | 5.94 |
| Cell Efficiency | 16.4% | 16.8% | 17.2% | 16.9% | 17.7% |
| Module Efficiency | 13.8% | 14.1% | 14.5% | 14.8% | 15.5% |
| Power Tolerance | ±3% | | | | |
| Maximum System Voltage(V) | 1000(TUV)/600(UL) | | | | |
| Temperature Coefficient of Isc | 0.065%/°C | | | | |
| Temperature Coefficient of Voc | -0.35%/°C | | | | |
| Temperature Coefficient of Pmax | -0.40%/°C | | | | |
| Operating Temperature | -40°C~85°C | | | | |
| NOCT | 47±2°C | | | | |
| Series Fuse Rating(A) | 10 | | | | |

STC: irradiance: 1000W/mm²; solar spectrum: AM1.5; cell temperature: 25°C

Mechanical Characteristics

| | |
|-----------------------|-------------|
| Module Dimension (mm) | 1835x808x46 |
| Cell Dimension (mm) | 125x125 |
| Array (PCS) | 6x14 |
| Weight(Kg) | 18.5 |



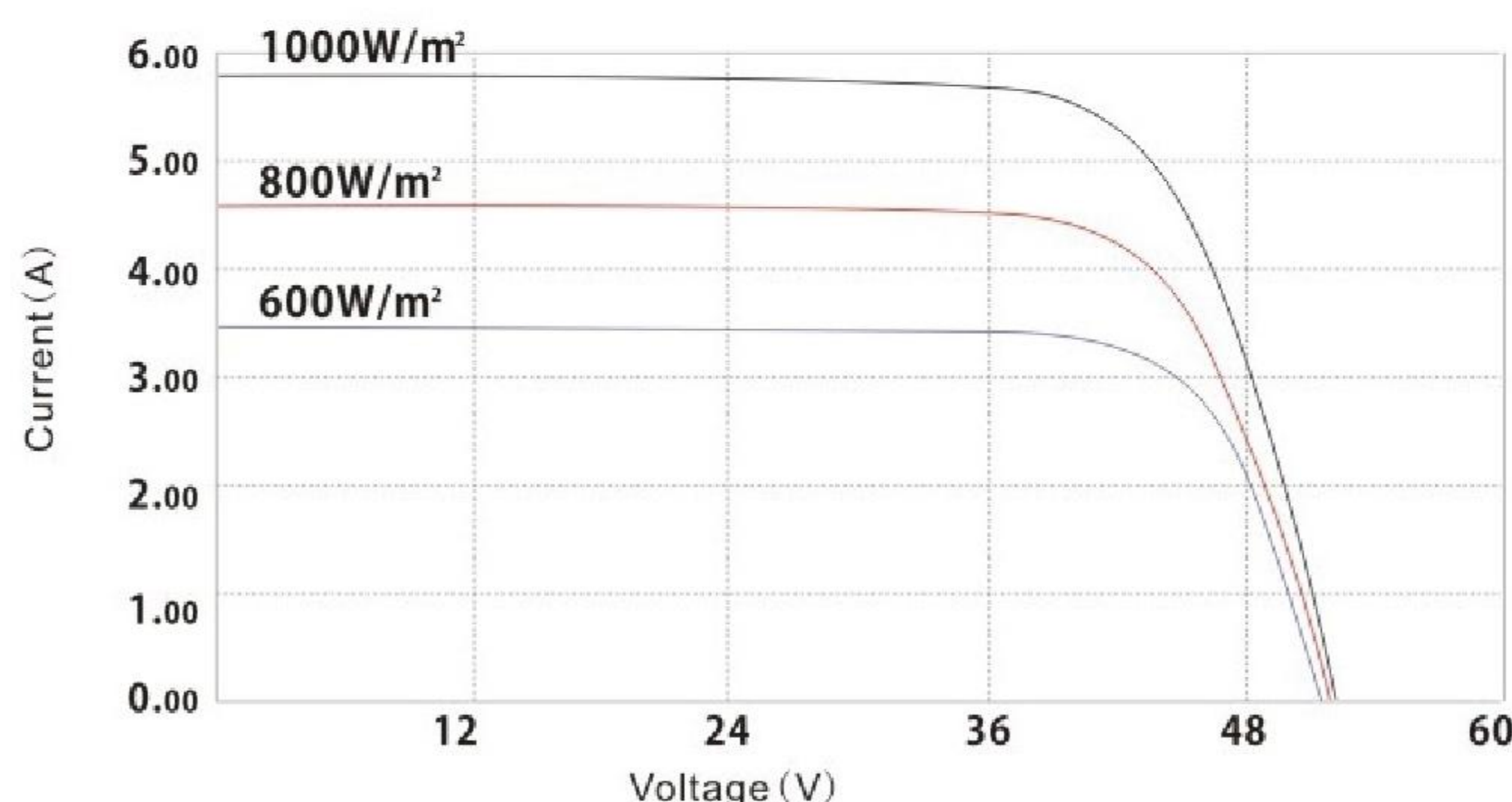
GUARANTEE

- 5-year product guarantee
- 10-year performance guarantee at 90% power output
- 25 year performance guarantee at 80% power output

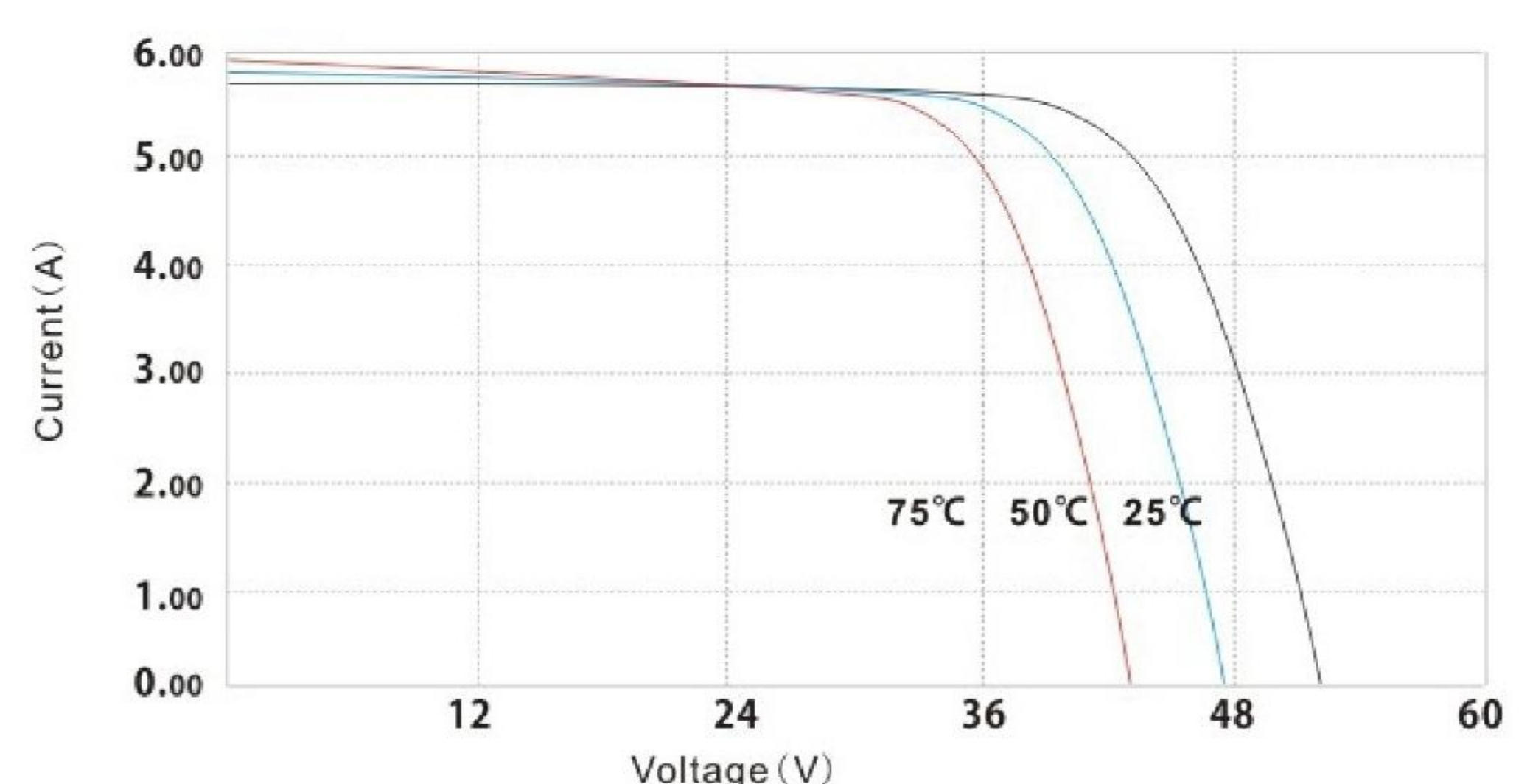
NOTE

- Nominal Operating Cell Temperature above data is only for reference
- Deviation of Vm(V), Im(A), Voc(V) and Isc(A) of ±10%

I-V Curves of UL-220D-84



I-V Curves at different irradiance



I-V Curves at different temperature

Monocrystalline Solar Module 125X125mm 8x12 Cells

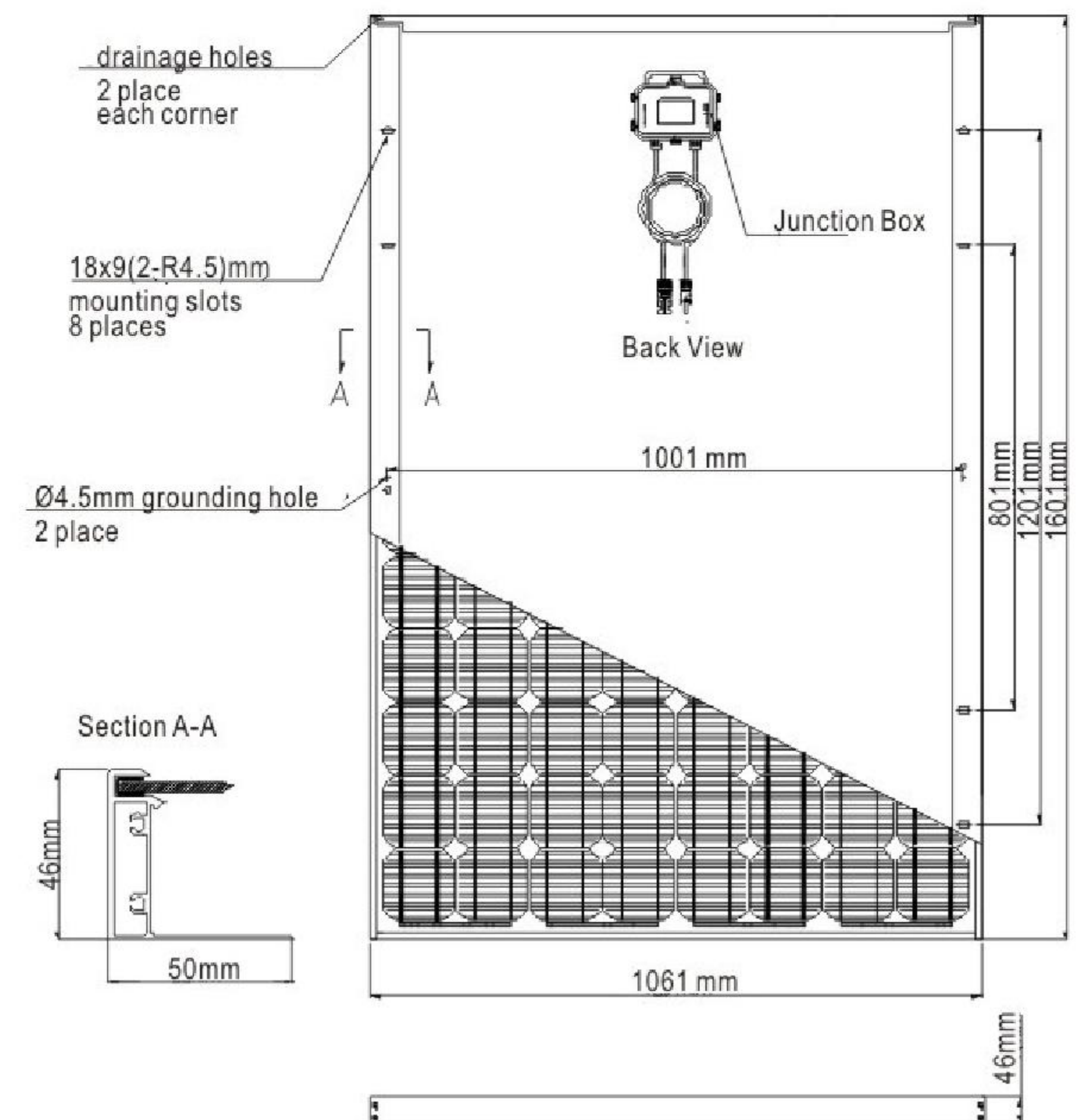
Electrical Characteristics

| TUV-Model | UL-235D-96 | UL-240D-96 | UL-245D-96 | UL-250D-96 | UL-255D-96 | UL-260D-96 |
|---------------------------------|-------------------|------------|------------|------------|------------|------------|
| UL-Model | UL-235D-96 | UL-240D-96 | UL-245D-96 | UL-250D-96 | UL-255D-96 | UL-260D-96 |
| Max Power Pm(W) | 235 | 240 | 245 | 250 | 255 | 260 |
| Max Power Voltage Vm(V) | 47.3 | 47.6 | 47.7 | 47.8 | 47.9 | 48.0 |
| Max Power Current Im(A) | 4.97 | 5.04 | 5.14 | 5.23 | 5.33 | 5.42 |
| Open-Circuit Voltage Voc(V) | 59.1 | 59.3 | 59.6 | 59.9 | 60.0 | 60.1 |
| Short-Circuit Current Isc(A) | 5.42 | 5.52 | 5.62 | 5.73 | 5.82 | 5.89 |
| Cell Efficiency | 16.5% | 16.8% | 17.2% | 16.8% | 17.2% | 17.5% |
| Module Efficiency | 13.8% | 14.1% | 14.4% | 14.7% | 15.0% | 15.3% |
| Power Tolerance | ±3% | | | | | |
| Maximum System Voltage(V) | 1000(TUV)/600(UL) | | | | | |
| Temperature Coefficient of Isc | 0.065%/°C | | | | | |
| Temperature Coefficient of Voc | -0.35%/°C | | | | | |
| Temperature Coefficient of Pmax | -0.40%/°C | | | | | |
| Operating Temperature | -40°C~+85°C | | | | | |
| NOCT | 47±2°C | | | | | |
| Series Fuse Rating(A) | 10 | | | | | |

STC: irradiance: 1000W/mm²; solar spectrum: AM1.5; cell temperature: 25°C

Mechanical Characteristics

| | |
|-----------------------|--------------|
| Module Dimension (mm) | 1601x1061x46 |
| Cell Dimension (mm) | 125x125 |
| Array (PCS) | 8x12 |
| Weight(Kg) | 21 |



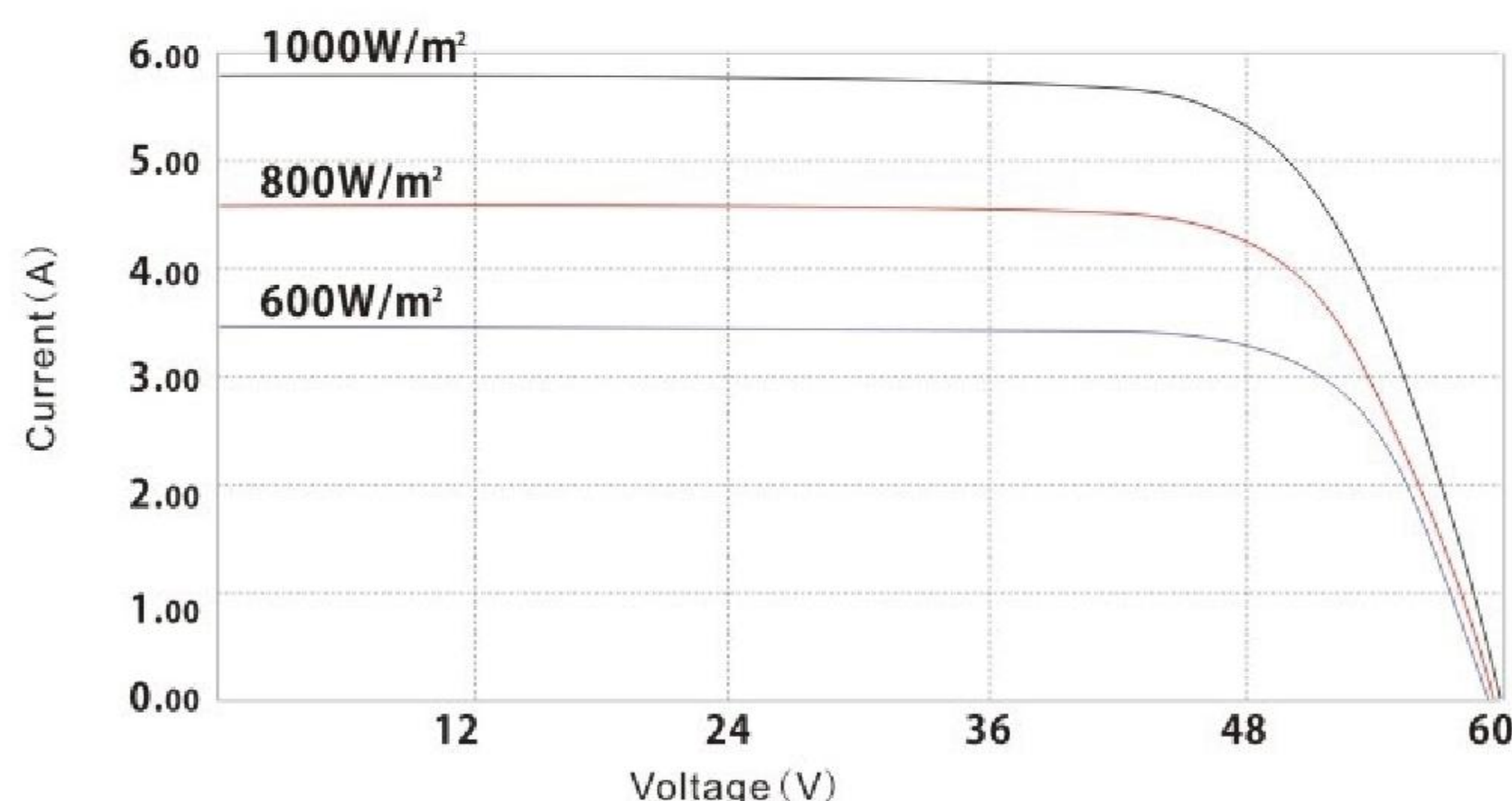
GUARANTEE

- 5-year product guarantee
- 10-year performance guarantee at 90% power output
- 25 year performance guarantee at 80% power output

NOTE

- Nominal Operating Cell Temperature above data is only for reference
- Deviation of Vm(V), Im(A), Voc(V) and Isc(A) of ±10%

I-V Curves of UL-250D-96



I-V Curves at different irradiance



I-V Curves at different temperature

Monocrystalline Solar Module 156X156mm 6x10 Cells

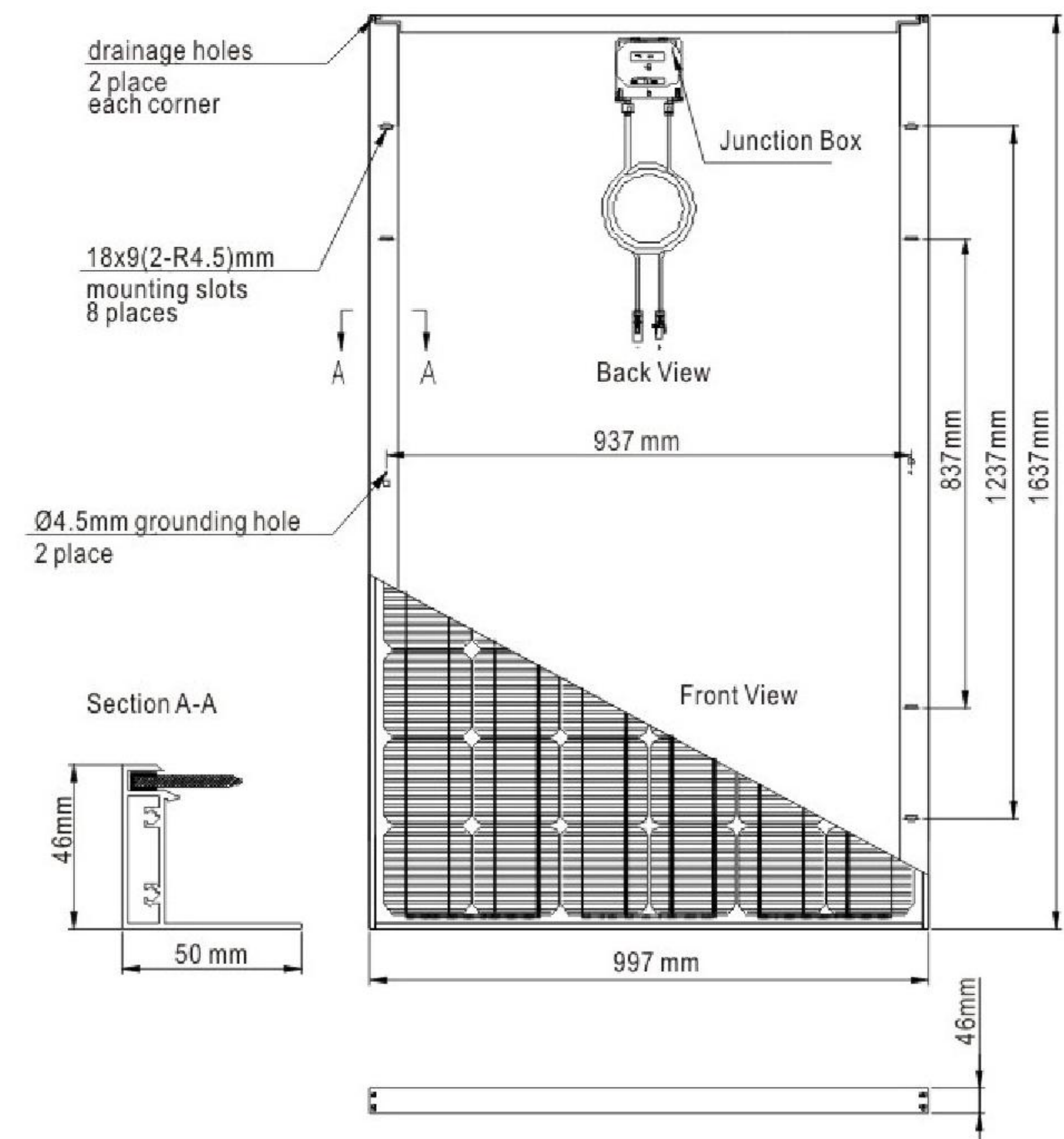
Electrical Characteristics

| TUV-Model | UL-220M-60 | UL-225M-60 | UL-230M-60 | UL-235M-60 | UL-240M-60 | UL-245M-60 |
|---------------------------------|-------------------|------------|------------|------------|------------|------------|
| UL-Model | UL-220D | UL-225D | UL-230D | UL-235D | UL-240D | UL-245D |
| Max Power Pm(W) | 220 | 225 | 230 | 235 | 240 | 245 |
| Max Power Voltage Vm(V) | 30.0 | 30.1 | 30.2 | 30.3 | 30.3 | 30.4 |
| Max Power Current Im(A) | 7.34 | 7.48 | 7.62 | 7.76 | 7.92 | 8.06 |
| Open-Circuit Voltage Voc(V) | 36.6 | 36.8 | 36.9 | 37.0 | 37.1 | 37.2 |
| Short-Circuit Current Isc(A) | 8.10 | 8.16 | 8.31 | 8.42 | 8.52 | 8.60 |
| Cell Efficiency | 15.3% | 15.7% | 16.0% | 16.4% | 16.7% | 17.1% |
| Module Efficiency | 13.5% | 13.8% | 14.1% | 14.4% | 14.7% | 15.0% |
| Power Tolerance | ±3% | | | | | |
| Maximum System Voltage(V) | 1000(TUV)/600(UL) | | | | | |
| Temperature Coefficient of Isc | 0.065%/°C | | | | | |
| Temperature Coefficient of Voc | -0.35%/°C | | | | | |
| Temperature Coefficient of Pmax | -0.40%/°C | | | | | |
| Operating Temperature | -40°C~+85°C | | | | | |
| NOCT | 47±2°C | | | | | |
| Series Fuse Rating(A) | 15 | | | | | |

STC: irradiance: 1000W/mm²; solar spectrum: AM1.5; cell temperature: 25°C

Mechanical Characteristics

| | |
|-----------------------|-------------|
| Module Dimension (mm) | 1637x997x46 |
| Cell Dimension (mm) | 156x156 |
| Array (PCS) | 6x10 |
| Weight(Kg) | 19.5 |



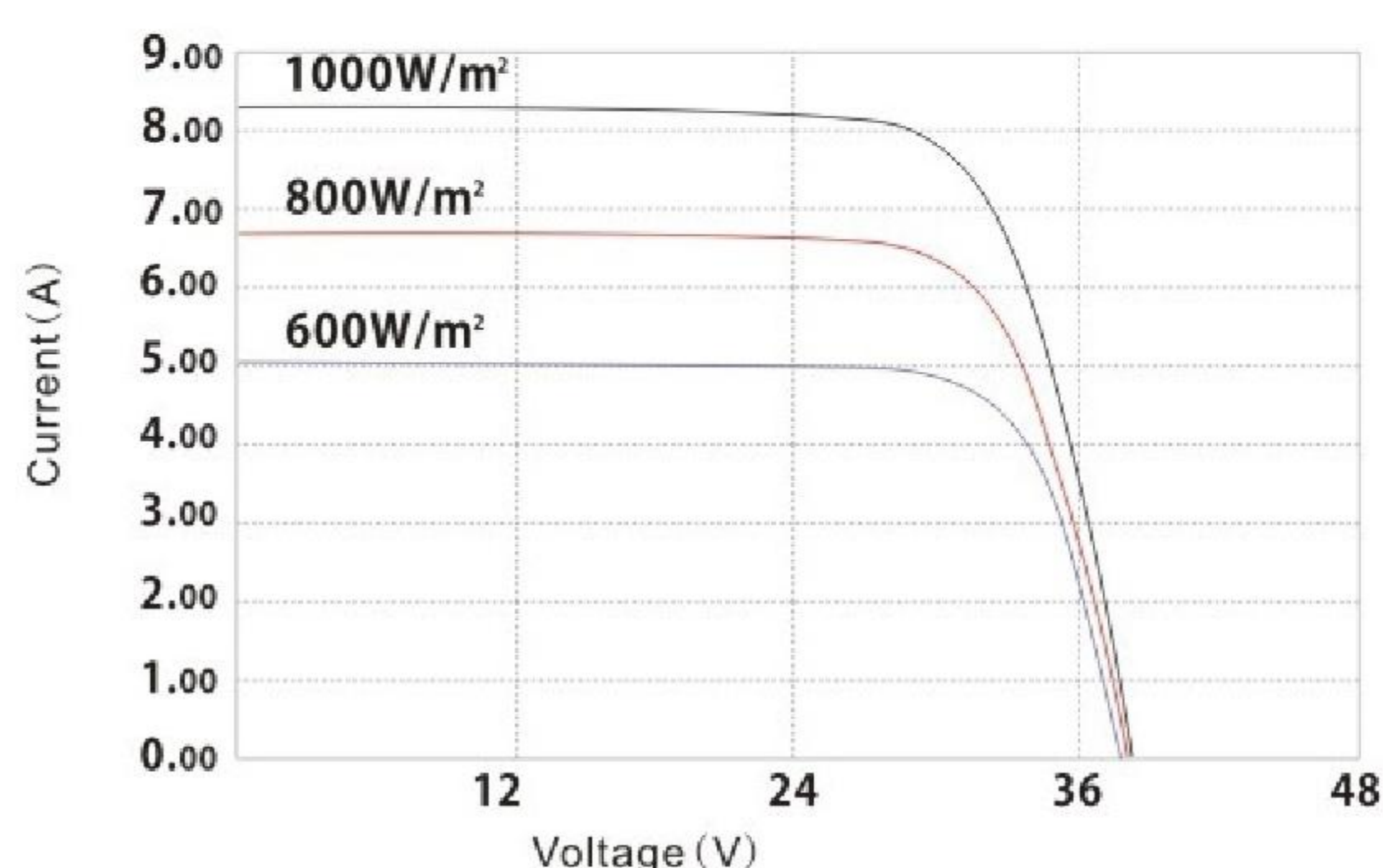
GUARANTEE

- 5-year product guarantee
- 10-year performance guarantee at 90% power output
- 25 year performance guarantee at 80% power output

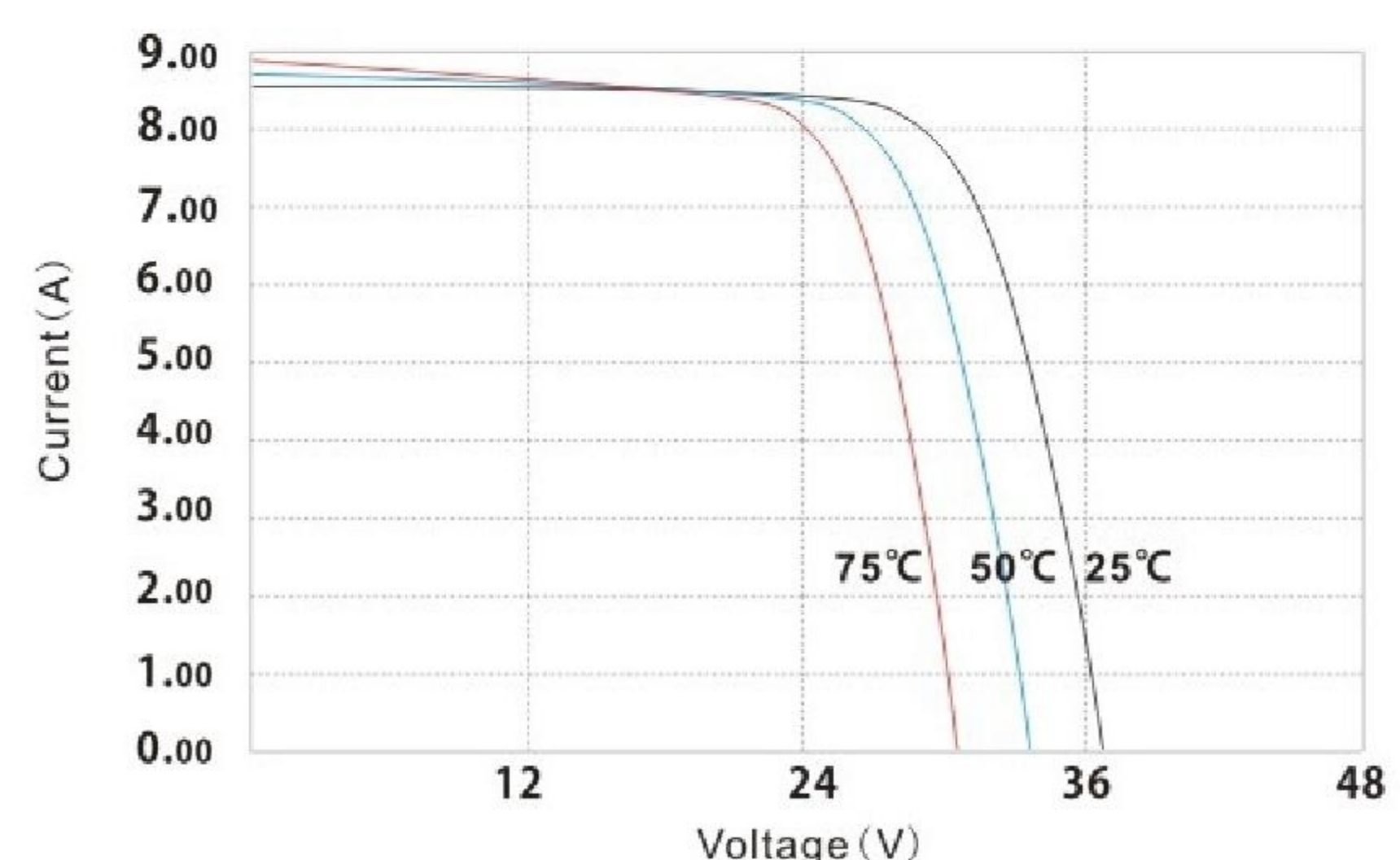
NOTE

- Nominal Operating Cell Temperature above data is only for reference
- Deviation of Vm(V), Im(A), Voc(V) and Isc(A) of ±10%

I-V Curves of UL-230D/UL-230M-60



I-V Curves at different irradiance



I-V Curves at different temperature

Monocrystalline Solar Module 156X156mm 6x12 Cells

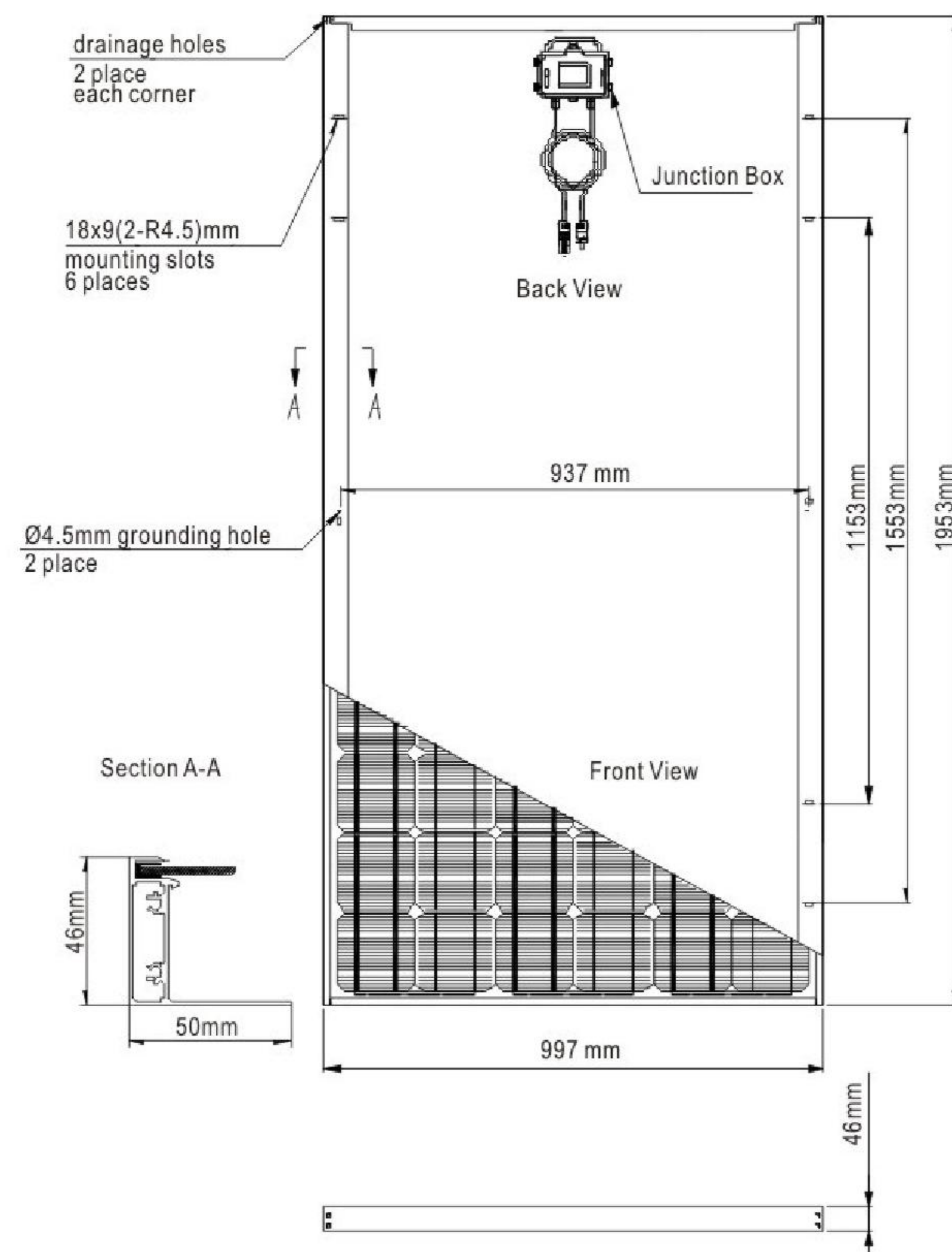
Electrical Characteristics

| TUV-Model | UL-270M-72 | UL-275M-72 | UL-280M-72 | UL-285M-72 | UL-290M-72 | UL-295M-72 |
|---------------------------------|-------------------|------------|------------|------------|------------|------------|
| UL-Model | UL-270D | UL-275D | UL-280D | UL-285D | UL-290D | UL-295D |
| Max Power Pm(W) | 270 | 275 | 280 | 285 | 290 | 295 |
| Max Power Voltage Vm(V) | 36.2 | 36.3 | 36.3 | 36.4 | 36.5 | 36.6 |
| Max Power Current Im(A) | 7.46 | 7.58 | 7.72 | 7.83 | 7.95 | 8.06 |
| Open-Circuit Voltage Voc(V) | 44.4 | 44.5 | 44.5 | 44.6 | 44.7 | 44.8 |
| Short-Circuit Current Isc(A) | 8.16 | 8.28 | 8.35 | 8.40 | 8.44 | 8.50 |
| Cell Efficiency | 15.7% | 16.0% | 16.3% | 16.6% | 16.9% | 17.1% |
| Module Efficiency | 13.9% | 14.1% | 14.4% | 14.6% | 14.9% | 15.2% |
| Power Tolerance | ±3% | | | | | |
| Maximum System Voltage(V) | 1000(TUV)/600(UL) | | | | | |
| Temperature Coefficient of Isc | 0.065%/°C | | | | | |
| Temperature Coefficient of Voc | -0.35%/°C | | | | | |
| Temperature Coefficient of Pmax | -0.40%/°C | | | | | |
| Operating Temperature | -40°C~+85°C | | | | | |
| NOCT | 47±2°C | | | | | |
| Series Fuse Rating(A) | 15 | | | | | |

STC: irradiance: 1000W/mm²; solar spectrum: AM1.5; cell temperature: 25°C

Mechanical Characteristics

| | |
|-----------------------|-------------|
| Module Dimension (mm) | 1953x997x46 |
| Cell Dimension (mm) | 156x156 |
| Array (PCS) | 6x12 |
| Weight(Kg) | 23 |



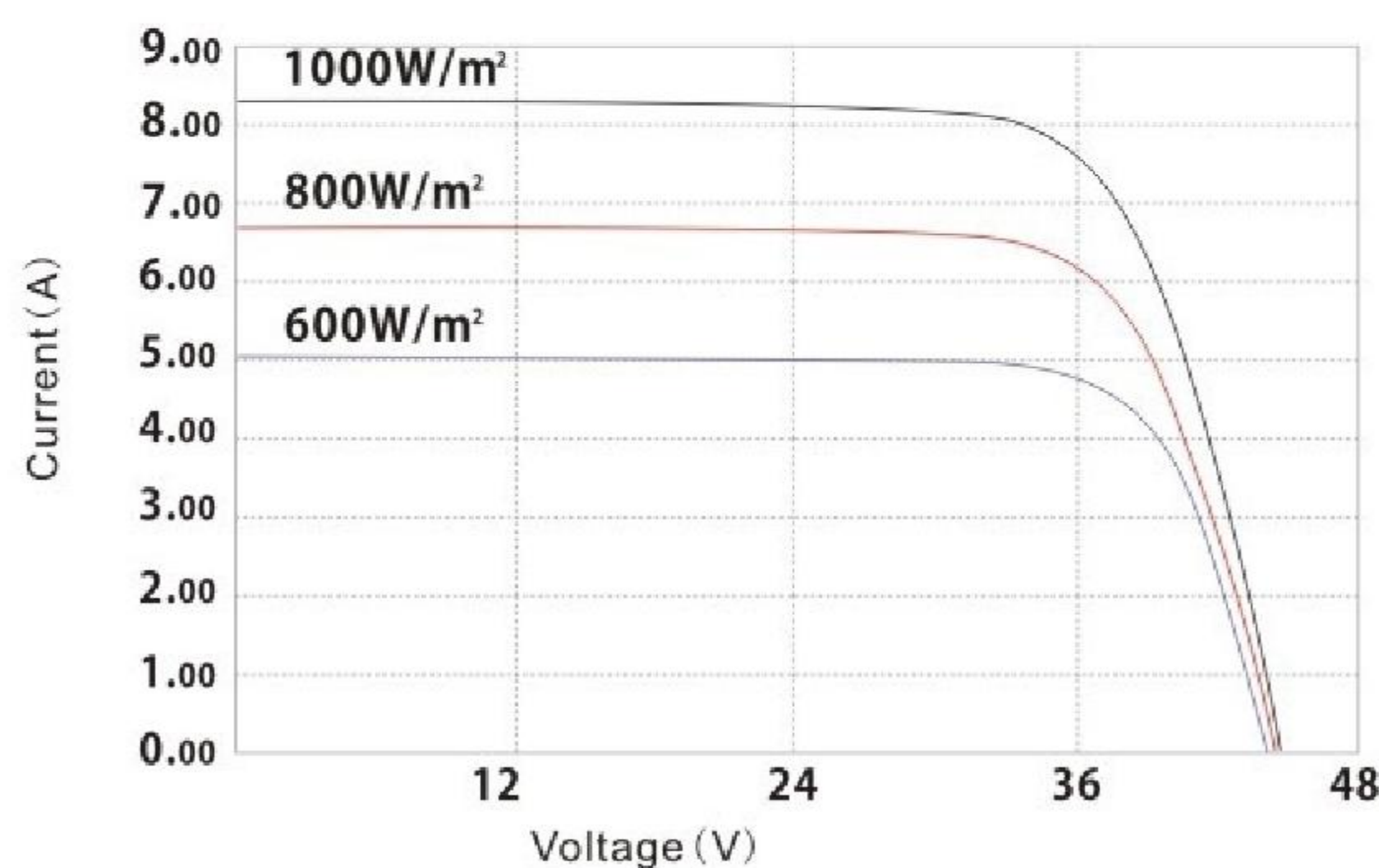
GUARANTEE

- 5-year product guarantee
- 10-year performance guarantee at 90% power output
- 25 year performance guarantee at 80% power output

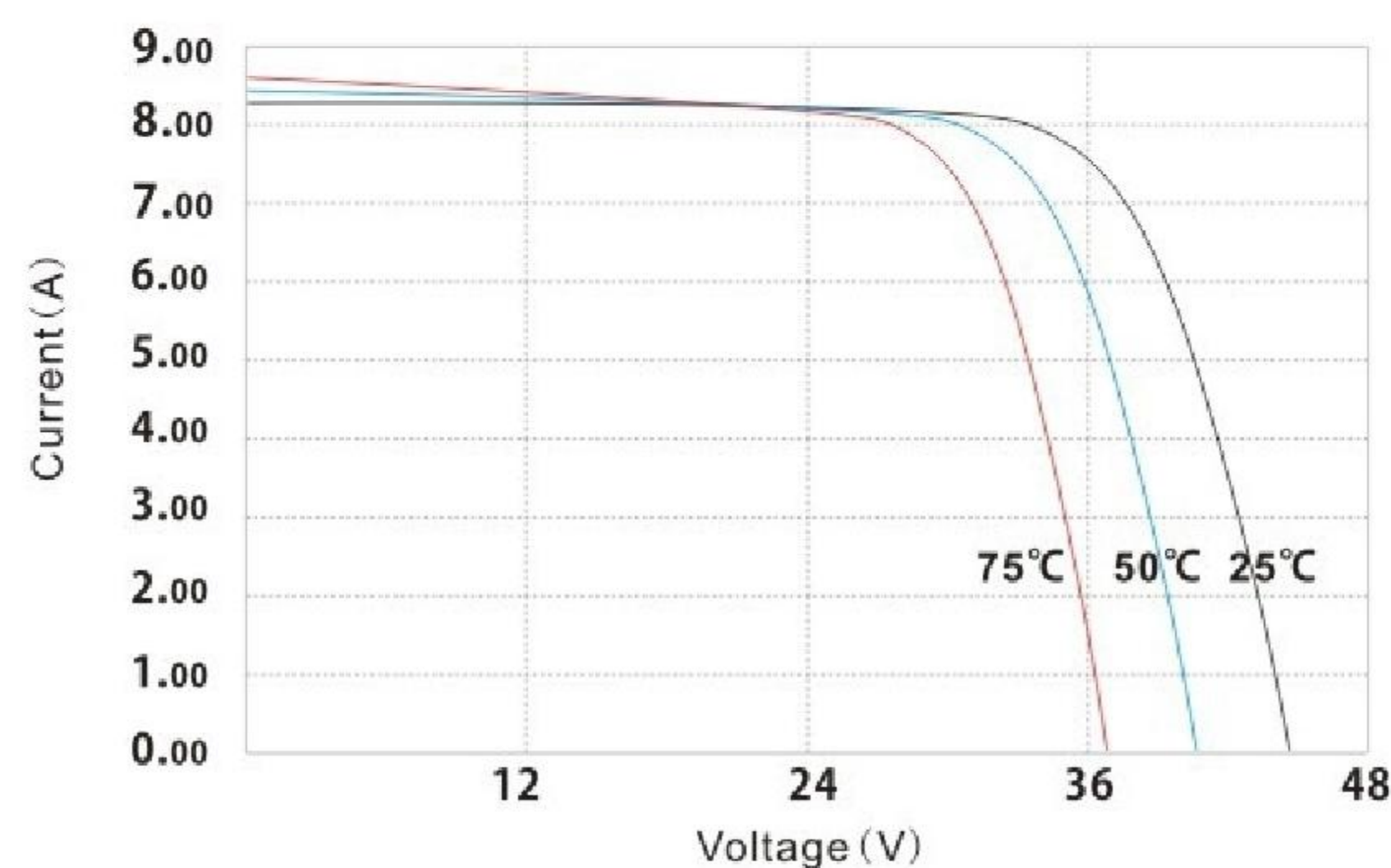
NOTE

- Nominal Operating Cell Temperature above data is only for reference
- Deviation of Vm(V), Im(A), Voc(V) and Isc(A) of ±10%

I-V Curves of UL-280D/UL-280M-72



I-V Curves at different irradiance



I-V Curves at different temperature

Polycrystalline Solar Module 156X156mm 6x9 Cells

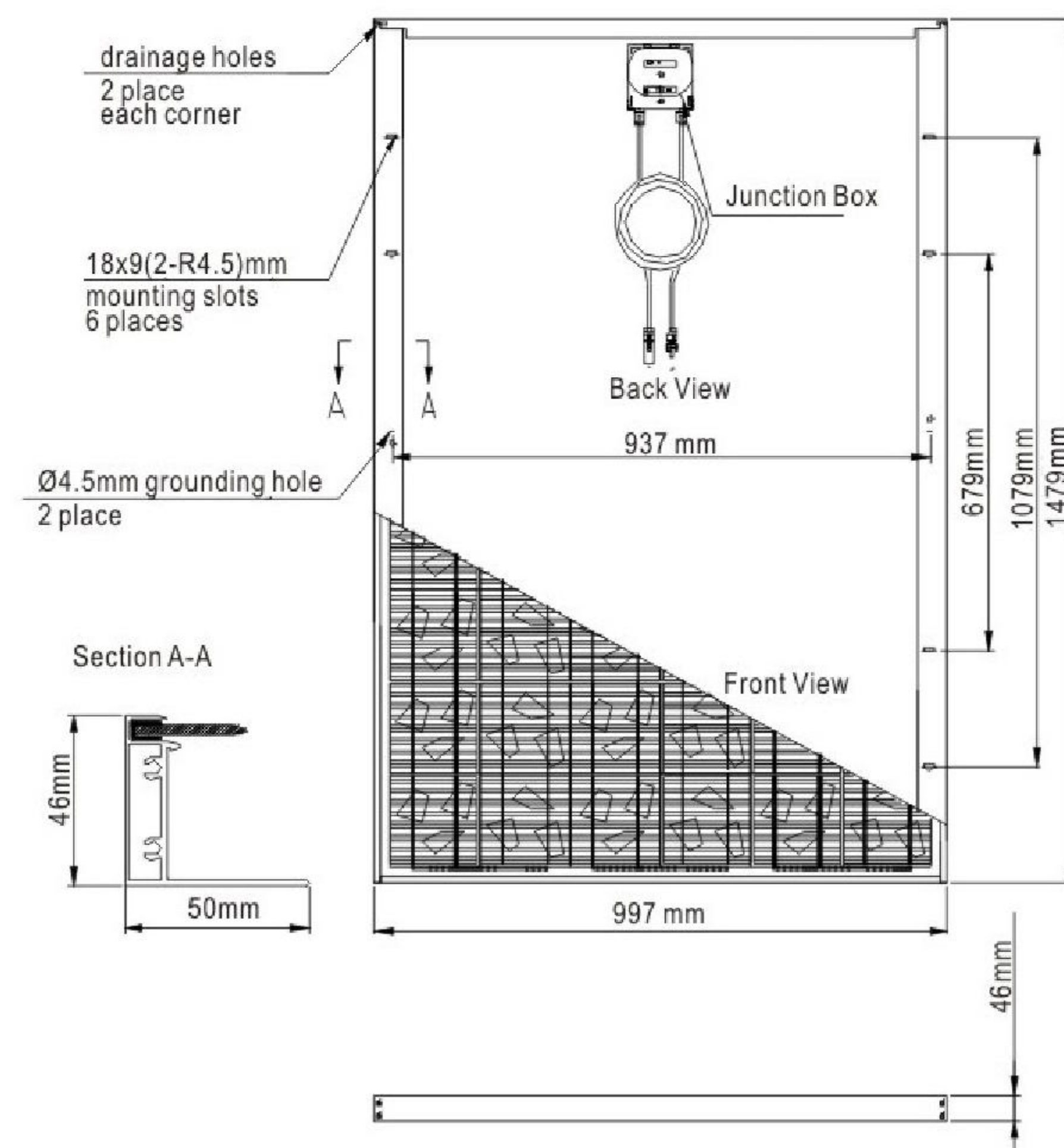
Electrical Characteristics

| TUV-Model | UL-195P-54 | UL-200P-54 | UL-205P-54 | UL-210P-54 | UL-215P-54 | UL-220P-54 |
|---------------------------------|-------------------|------------|------------|------------|------------|------------|
| UL-Model | UL-195P | UL-200P | UL-205P | UL-210P | UL-215P | UL-220P |
| Max Power Pm(W) | 195 | 200 | 205 | 210 | 215 | 220 |
| Max Power Voltage Vm(V) | 26.6 | 26.7 | 26.8 | 26.9 | 27.0 | 27.1 |
| Max Power Current Im(A) | 7.33 | 7.49 | 7.65 | 7.81 | 7.96 | 8.12 |
| Open-Circuit Voltage Voc(V) | 32.9 | 33.0 | 33.1 | 33.2 | 33.3 | 33.4 |
| Short-Circuit Current Isc(A) | 8.12 | 8.19 | 8.26 | 8.32 | 8.38 | 8.49 |
| Cell Efficiency | 14.8% | 15.2% | 15.6% | 16.0% | 16.4% | 16.7% |
| Module Efficiency | 13.2% | 13.6% | 13.9% | 14.2% | 14.6% | 14.9% |
| Power Tolerance | ±3% | | | | | |
| Maximum System Voltage(V) | 1000(TUV)/600(UL) | | | | | |
| Temperature Coefficient of Isc | 0.065%/°C | | | | | |
| Temperature Coefficient of Voc | -0.35%/°C | | | | | |
| Temperature Coefficient of Pmax | -0.40%/°C | | | | | |
| Operating Temperature | -40°C~+85°C | | | | | |
| NOCT | 47±2°C | | | | | |
| Series Fuse Rating(A) | 15 | | | | | |

STC: irradiance: 1000W/mm²; solar spectrum: AM1.5; cell temperature: 25°C

Mechanical Characteristics

| | |
|-----------------------|-------------|
| Module Dimension (mm) | 1479x997x46 |
| Cell Dimension (mm) | 156x156 |
| Array (PCS) | 6x9 |
| Weight(Kg) | 18 |



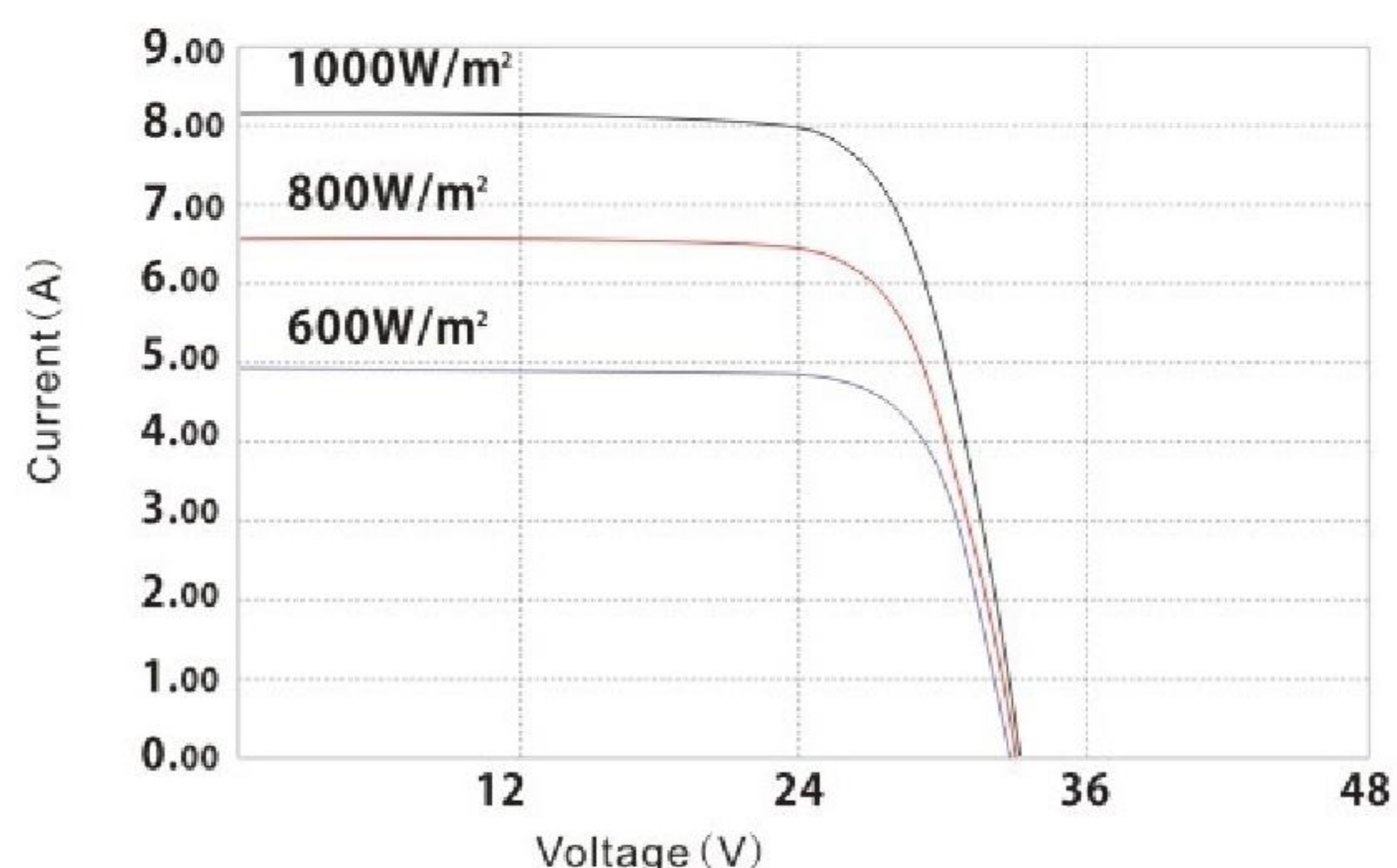
GUARANTEE

- 5-year product guarantee
- 10-year performance guarantee at 90% power output
- 25 year performance guarantee at 80% power output

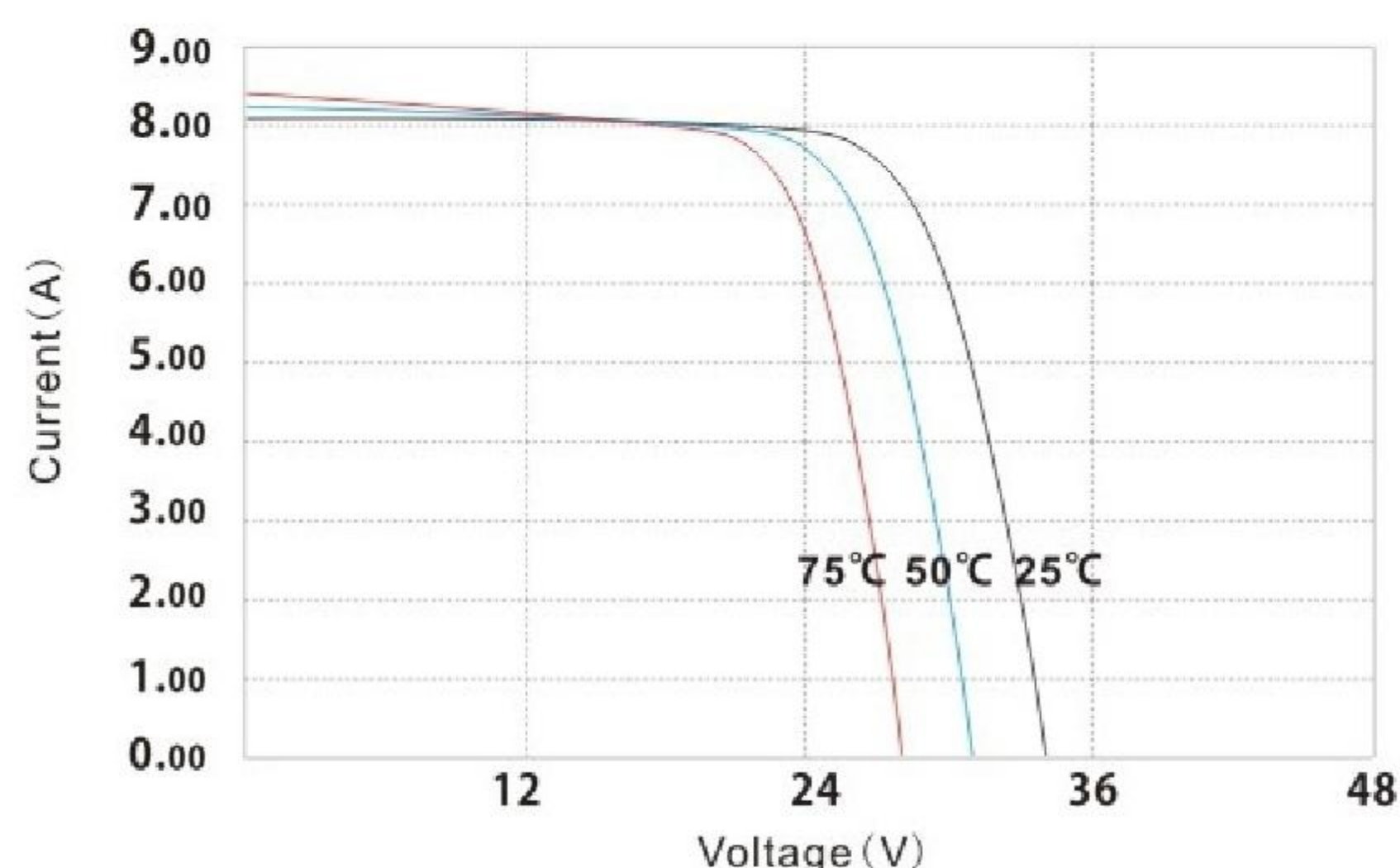
NOTE

- Nominal Operating Cell Temperature above data is only for reference
- Deviation of Vm(V), Im(A), Voc(V) and Isc(A) of ±10%

I-V Curves of UL-200P/UL-200P-54



I-V Curves at different irradiance



I-V Curves at different temperature

Polycrystalline Solar Module 156X156mm 6x10 Cells

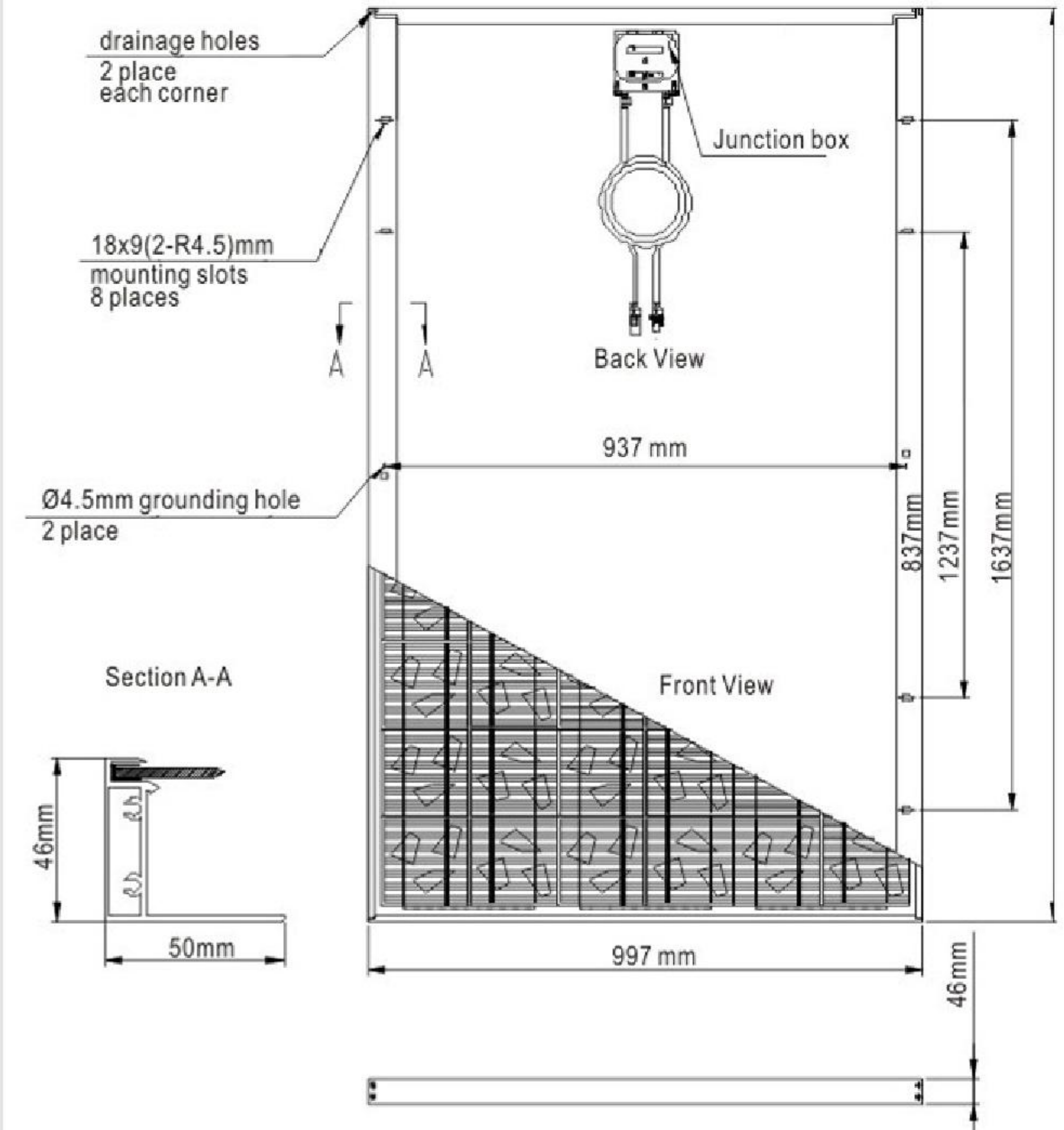
Electrical Characteristics

| TUV-Model | UL-220P-60 | UL-225P-60 | UL-230P-60 | UL-235P-60 | UL-240P-60 | UL-245P-60 |
|---------------------------------|-------------------|------------|------------|------------|------------|------------|
| UL-Model | UL-220P | UL-225P | UL-230P | UL-235P | UL-240P | UL-245P |
| Max Power Pm(W) | 220 | 225 | 230 | 235 | 240 | 245 |
| Max Power Voltage Vm(V) | 29.8 | 29.9 | 30.0 | 30.1 | 30.2 | 30.3 |
| Max Power Current Im(A) | 7.40 | 7.53 | 7.67 | 7.81 | 7.95 | 8.08 |
| Open-Circuit Voltage Voc(V) | 36.5 | 36.7 | 36.8 | 36.8 | 37.0 | 37.1 |
| Short-Circuit Current Isc(A) | 8.12 | 8.18 | 8.34 | 8.44 | 8.54 | 8.64 |
| Cell Efficiency | 15.1% | 15.5% | 15.8% | 16.1% | 16.5% | 16.8% |
| Module Efficiency | 13.5% | 13.8% | 14.1% | 14.4% | 14.7% | 15.0% |
| Power Tolerance | ±3% | | | | | |
| Maximum System Voltage(V) | 1000(TUV)/600(UL) | | | | | |
| Temperature Coefficient of Isc | 0.065%/°C | | | | | |
| Temperature Coefficient of Voc | -0.35%/°C | | | | | |
| Temperature Coefficient of Pmax | -0.40%/°C | | | | | |
| Operating Temperature | -40°C~+85°C | | | | | |
| NOCT | 47±2°C | | | | | |
| Series Fuse Rating(A) | 15 | | | | | |

STC: irradiance: 1000W/mm²; solar spectrum: AM1.5; cell temperature: 25°C

Mechanical Characteristics

| | |
|-----------------------|-------------|
| Module Dimension (mm) | 1637x997x46 |
| Cell Dimension (mm) | 156x156 |
| Array (PCS) | 6x10 |
| Weight(Kg) | 19 |



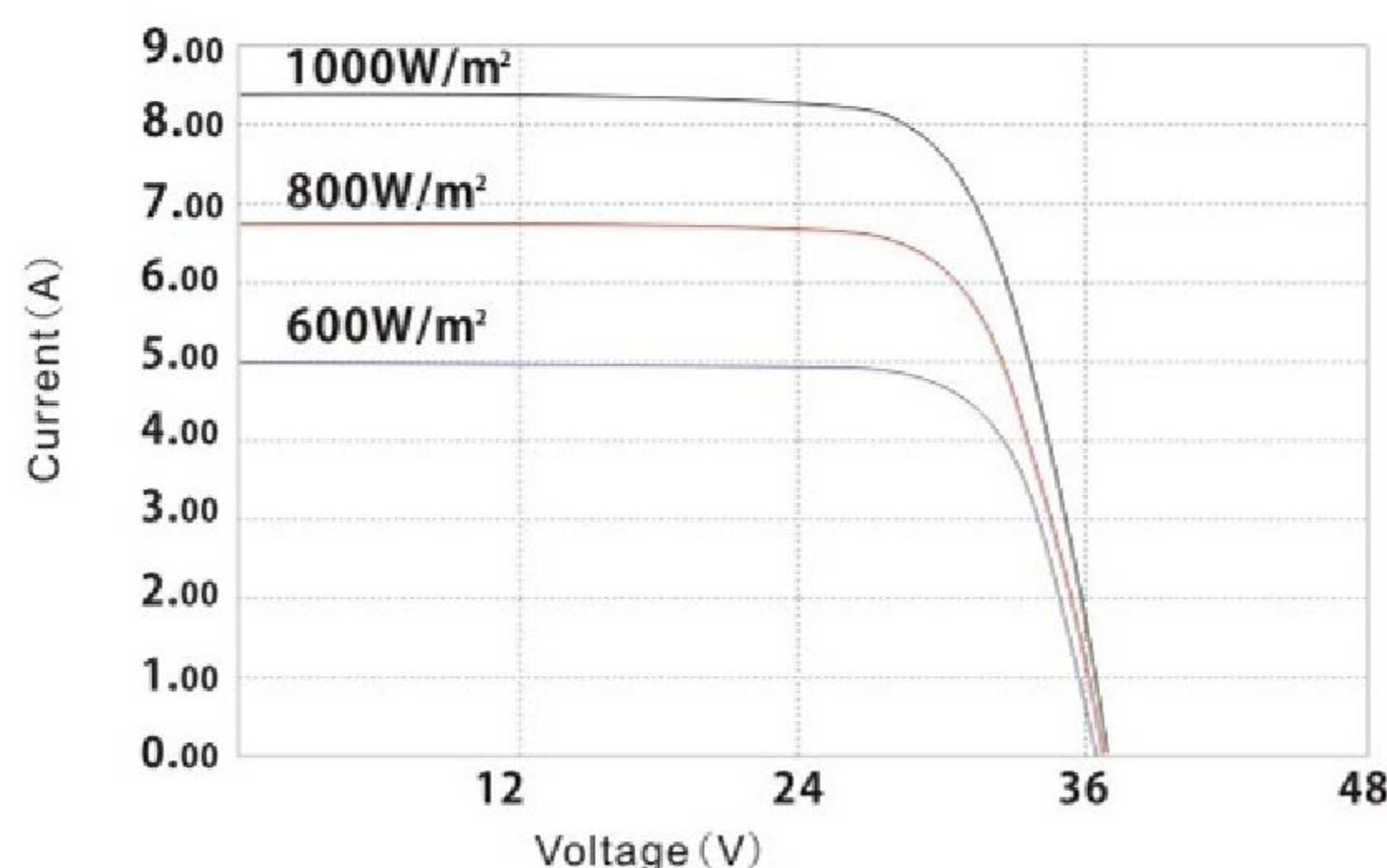
GUARANTEE

- 5-year product guarantee
- 10-year performance guarantee at 90% power output
- 25 year performance guarantee at 80% power output

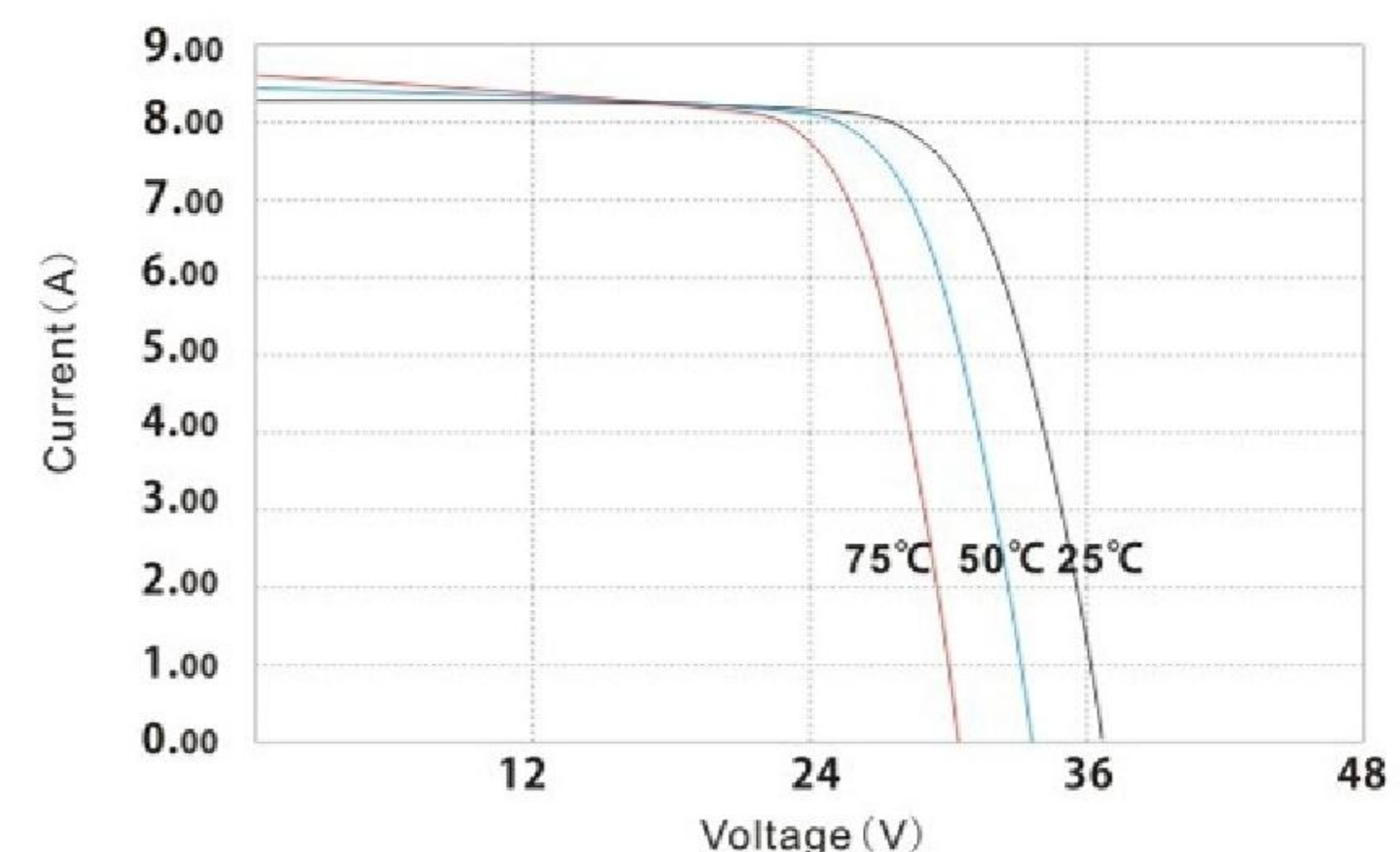
NOTE

- Nominal Operating Cell Temperature above data is only for reference
- Deviation of Vm(V), Im(A), Voc(V) and Isc(A) of ±10%

I-V Curves of UL-230D/UL-230D-60



I-V Curves at different irradiance



I-V Curves at different temperature

Polycrystalline Solar Module 156X156mm 6x12 Cells

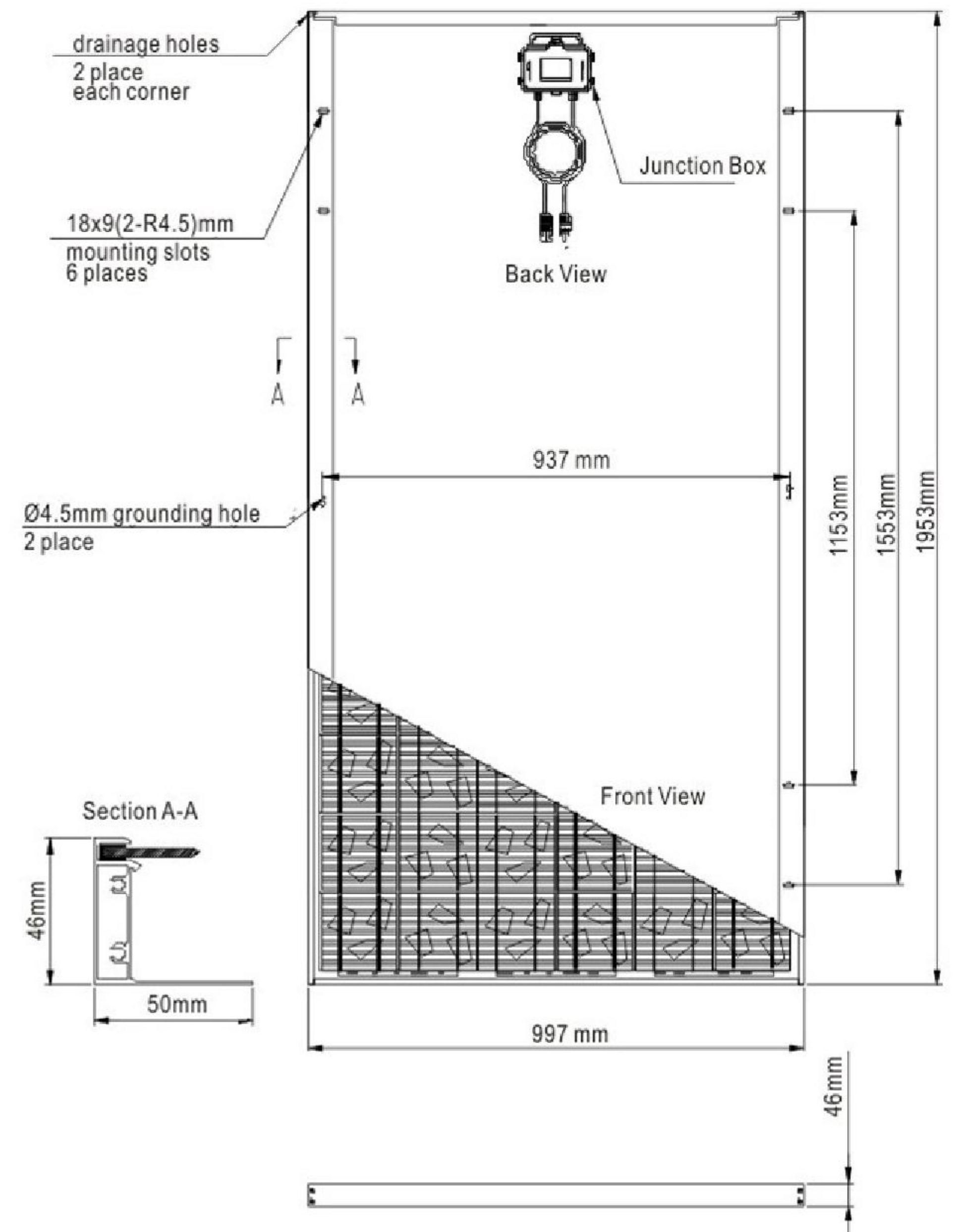
Electrical Characteristics

| TUV-Model | UL-270P-72 | UL-275P-72 | UL-280P-72 | UL-285P-72 | UL-290P-72 | UL-295P-72 |
|---------------------------------|-------------------|------------|------------|------------|------------|------------|
| UL-Model | UL-270P | UL-275P | UL-280P | UL-285P | UL-290P | UL-295P |
| Max Power Pm(W) | 270 | 275 | 280 | 285 | 290 | 295 |
| Max Power Voltage Vm(V) | 36.0 | 36.1 | 36.1 | 36.3 | 36.3 | 36.4 |
| Max Power Current Im(A) | 7.50 | 7.62 | 7.76 | 7.85 | 7.99 | 8.11 |
| Open-Circuit Voltage Voc(V) | 44.0 | 44.1 | 44.3 | 44.5 | 44.7 | 44.9 |
| Short-Circuit Current Isc(A) | 8.20 | 8.35 | 8.40 | 8.45 | 8.50 | 8.55 |
| Cell Efficiency | 15.4% | 15.7% | 16.0% | 16.3% | 16.6% | 16.8% |
| Module Efficiency | 13.9% | 14.1% | 14.4% | 14.6% | 14.9% | 15.2% |
| Power Tolerance | ±3% | | | | | |
| Maximum System Voltage(V) | 1000(TUV)/600(UL) | | | | | |
| Temperature Coefficient of Isc | 0.065%/°C | | | | | |
| Temperature Coefficient of Voc | -0.35%/°C | | | | | |
| Temperature Coefficient of Pmax | -0.40%/°C | | | | | |
| Operating Temperature | -40°C~+85°C | | | | | |
| NOCT | 47±2°C | | | | | |
| Series Fuse Rating(A) | 15 | | | | | |

STC: irradiance: 1000W/mm²; solar spectrum: AM1.5; cell temperature: 25°C

Mechanical Characteristics

| | |
|-----------------------|-------------|
| Module Dimension (mm) | 1953x997x46 |
| Cell Dimension (mm) | 156x156 |
| Array (PCS) | 6x12 |
| Weight(Kg) | 23 |



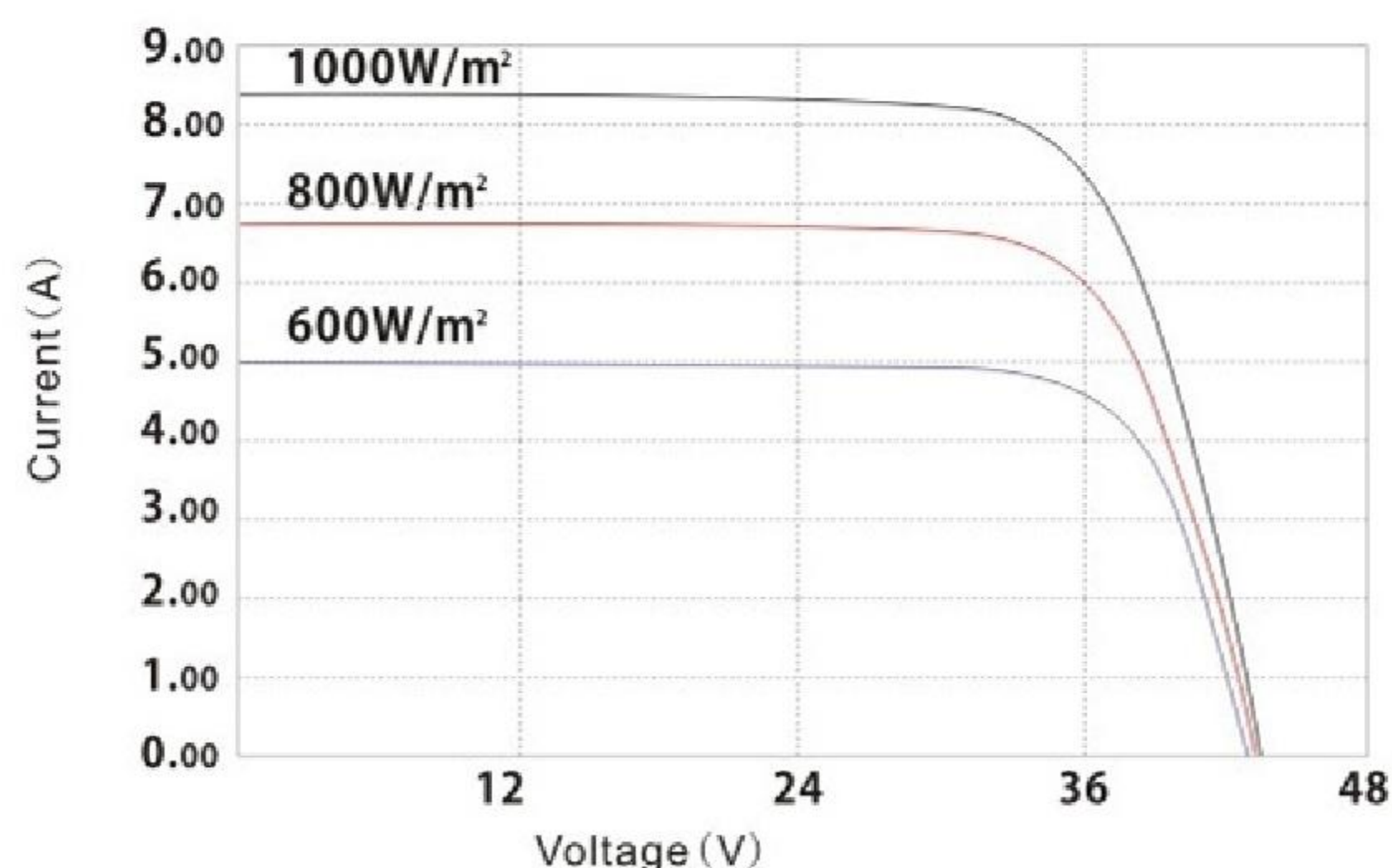
GUARANTEE

- 5-year product guarantee
- 10-year performance guarantee at 90% power output
- 25 year performance guarantee at 80% power output

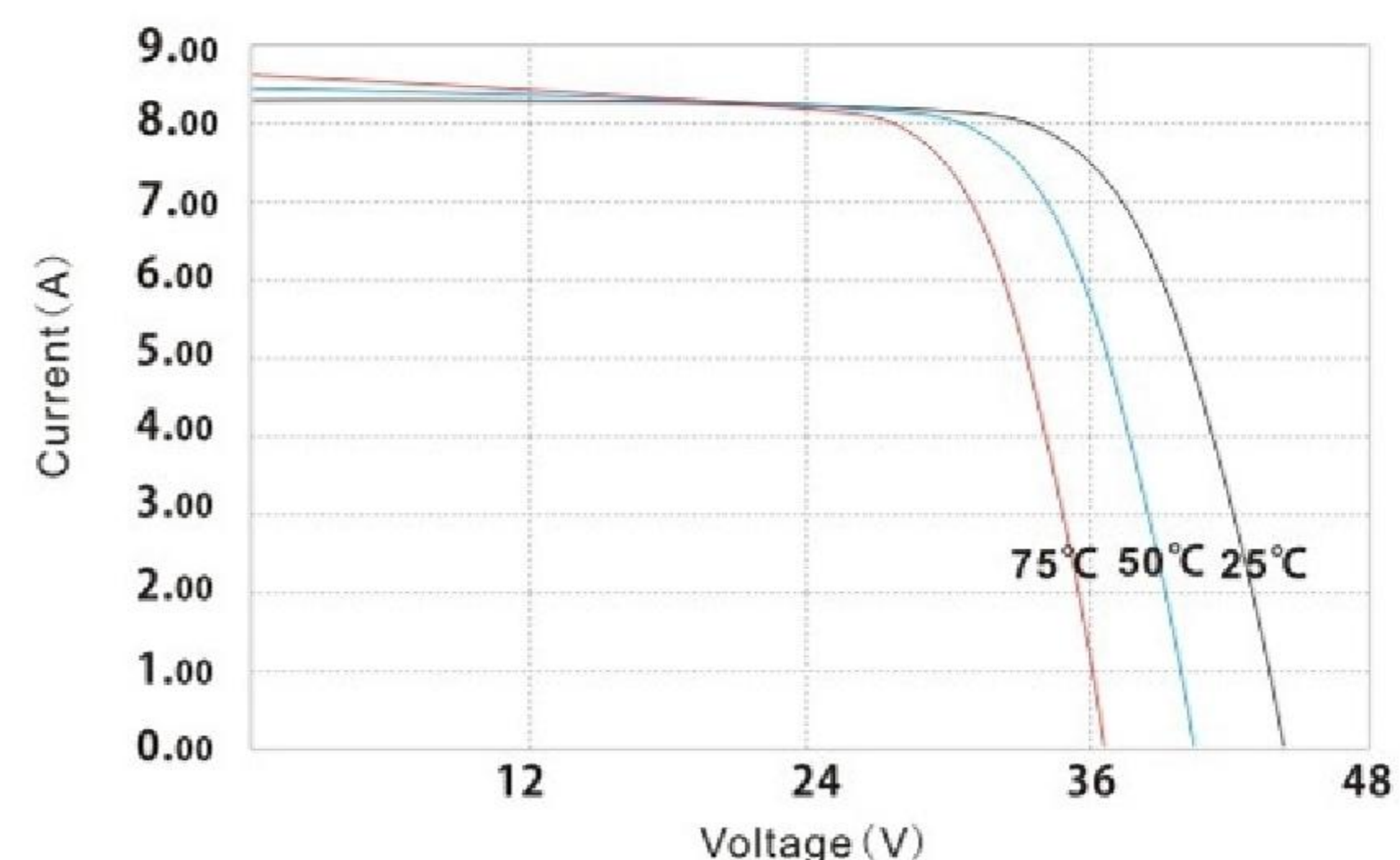
NOTE

- Nominal Operating Cell Temperature above data is only for reference
- Deviation of Vm(V), Im(A), Voc(V) and Isc(A) of ±10%

I-V Curves of UL-280P/UL-280P-72



I-V Curves at different irradiance



I-V Curves at different temperature



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