



## Specifications of GFM230 Photovoltaic Modules

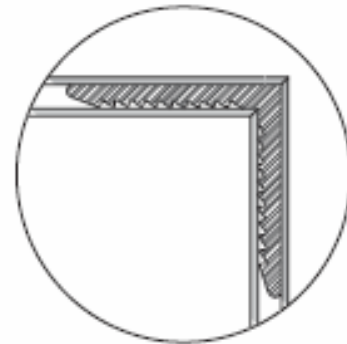
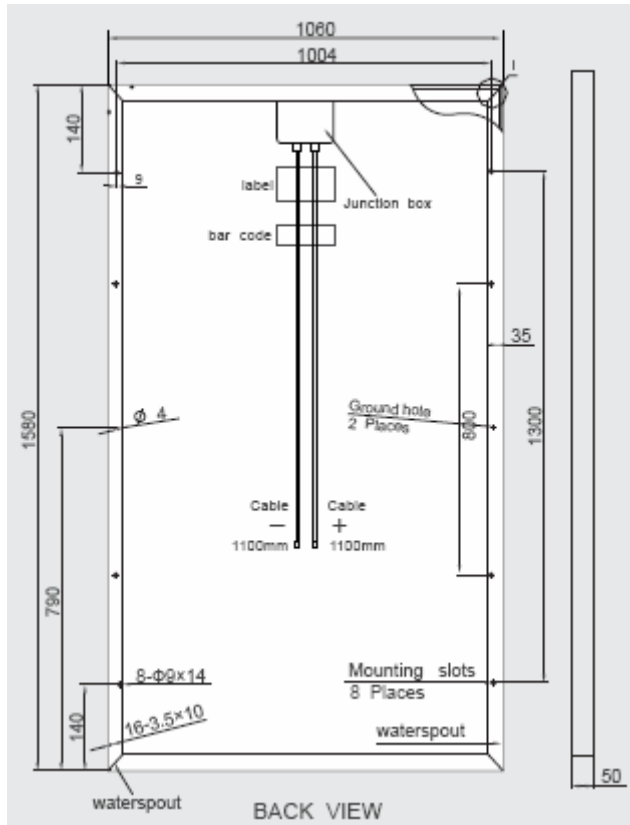
### 1. Electrical characteristics

<b>P<sub>max</sub>, Voc, Isc, Vmp and Imp at STC(1000W/㎡,25±2℃,AM 1.5); Test of the power:+5w/-0w, Tolerance of Other electrical characteristics: +/-10%</b>										
Maximum Power(P <sub>max</sub> )	W	200	205	210	215	220	225	230	235	240
Open Circuit Voltage(Voc)	V	59.0	59.0	59.2	59.2	59.2	59.2	59.5	59.5	59.5
Short Circuit Current(Isc)	A	5.12	5.18	5.20	5.34	5.43	5.44	5.47	5.48	5.50
Maximum Power Voltage(Vmp)	V	43.6	43.9	44.3	44.7	45.2	45.8	46.4	46.6	46.9
Maximum Power Current(Imp)	A	4.58	4.67	4.74	4.81	4.87	4.91	4.96	5.04	5.11
Nominal Operation Cell Temperature (NOCT)		46℃±2℃								
Temperature Coefficients of P <sub>max</sub>		-0.47%/℃								
Temperature Coefficients of Voc		-0.38%/℃								
Temperature Coefficients of Isc		+0.10%/℃								
Temperature Coefficients of Vmp		-0.38%/℃								
Temperature Coefficients of Imp		+0.10%/℃								
Maximum System Voltage(V)		1000V								
Maximum series Fuse Rating		10A								
FF (%)		71~75								
Cell Efficiency (%)		14-18								
<b>2. Mechanical Characteristics</b>										
Cell Technology		125mm×125mm Mono-crystalline Silicon Cells								
Number of Cells(Pcs)		96(12×8)								
Dimensions		1580mm×1060mm×50mm								
Length of Cables(mm)		900								
Weight		21Kg								
Frame		Aluminum -alloy								
Backing		TPT								
<b>3. Qualification test parameters</b>										
Temperature cycling rang		50 and 200 cycles at -40℃~+85℃								
Mechanical load test		2400Pa								
damp heat		1000h at +85℃,85RH%								
Allowable hail impact		25mm diameter ice ball at 23m/s,directed at 11 impact locations								
Humidity freeze		10 cycles at -40℃~+85℃,85RH%								
<b>Warranty: 90% for 10 years, 80% for 25 years ,product guaranty 5 years</b>										

## 4. Quality and Safety

IEC61215	yes
CE	yes
ISO9001	yes

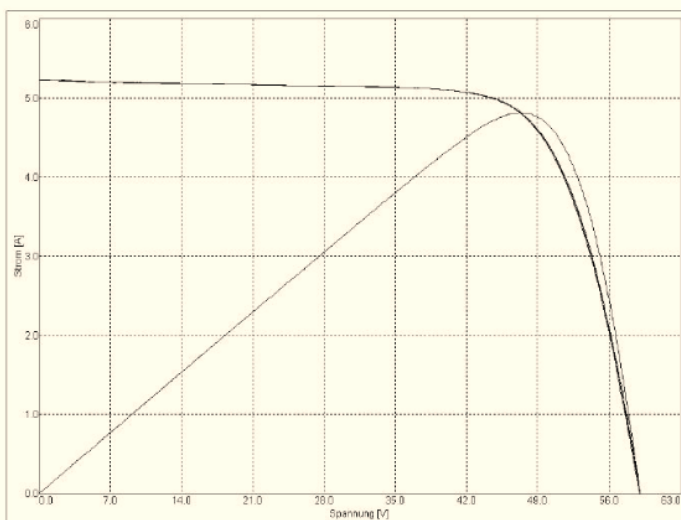
## 5. Basic Dimensions



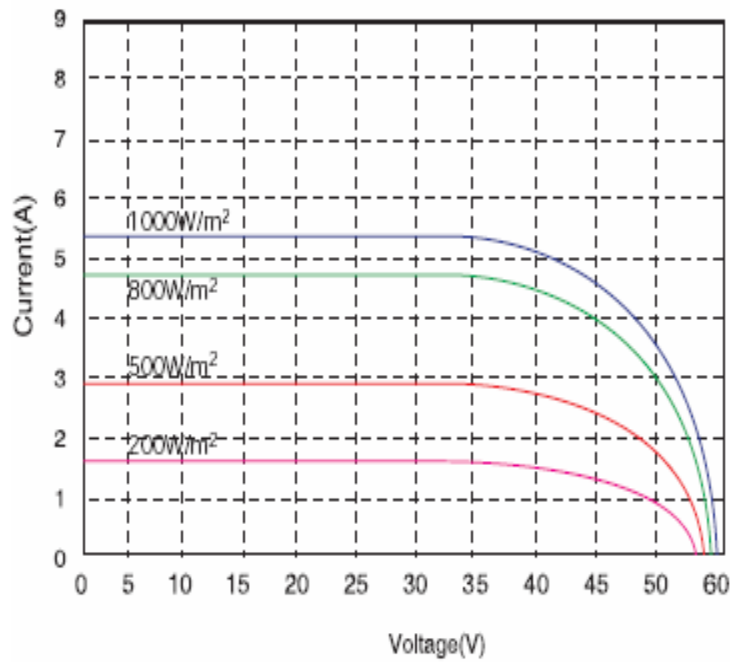
## 6. I-V characteristic curve

### 6. 1 I-V characteristic curve of module at STC

I-V Record



## 6. 2 I-V characteristic curve at various irradiance levels



## 6. 3 I-V characteristic curve at various cell temperatures

