

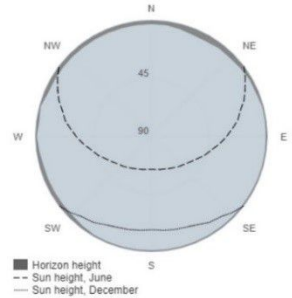
Daily irradiance data

PVGIS-5 geo-temporal irradiation database

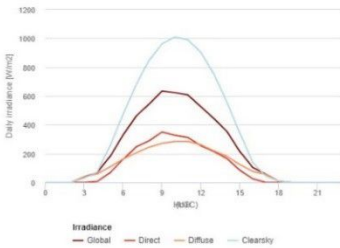
Provided inputs

Latitude/Longitude: 49.868, 14.467
 Horizon: Calculated
 Database used: PVGIS-CMSAF
 Month: July

Outline of horizon at chosen location:



Daily average irradiance on fixed plane with slope 35° and azimuth 0°

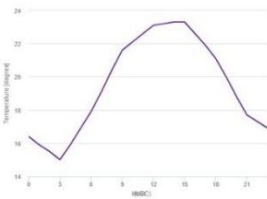


Irradiance on a fixed plane

Time	00:45	01:45	02:45	03:45	04:45	05:45	06:45	07:45	08:45	09:45	10:45	11:45	12:45	13:45	14:45	15:45	16:45	17:45	18:45	19:45	20:45	21:45	22:45	23:45
G	0	0	0	39	69	182	330	460	544	623	607	526	444	355	216	105	58	9	0	0	0	0	0	0
Gb	0	0	0	0	7	69	161	247	289	351	327	312	255	216	166	86	26	0	0	0	0	0	0	0
Gd	0	0	0	38	60	109	163	206	245	272	285	285	262	220	182	125	77	57	9	0	0	0	0	0
Gc	0	0	0	30	73	257	473	679	848	962	1010	990	902	753	559	343	140	44	10	0	0	0	0	0

G: Global irradiance on a fixed plane [W/m2].
 Gb: Direct irradiance on a fixed plane [W/m2].
 Gd: Diffuse irradiance on a fixed plane [W/m2].
 Gc: Global Clear-sky irradiance on a fixed plane [W/m2].

Daily average temperature

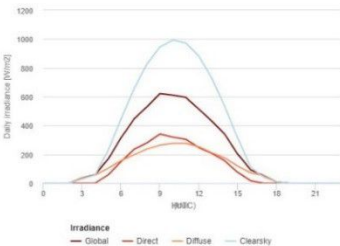


Average daily temperature profile

Time	00:45	01:45	02:45	03:45	04:45	05:45	06:45	07:45	08:45	09:45	10:45	11:45	12:45	13:45	14:45	15:45	16:45	17:45	18:45	19:45	20:45	21:45	22:45	23:45
Td	16.4	15.9	15.5	15	15.9	16.9	17.9	19.1	20.4	21.6	22.1	22.6	23.1	23.2	23.3	22.6	21.9	21.1	20	18.8	17.7	17.3	16.9	

T: Average daily temperature profile [°C].

Daily average irradiance on fixed plane with slope 43° and azimuth 0°



Irradiance on a fixed plane

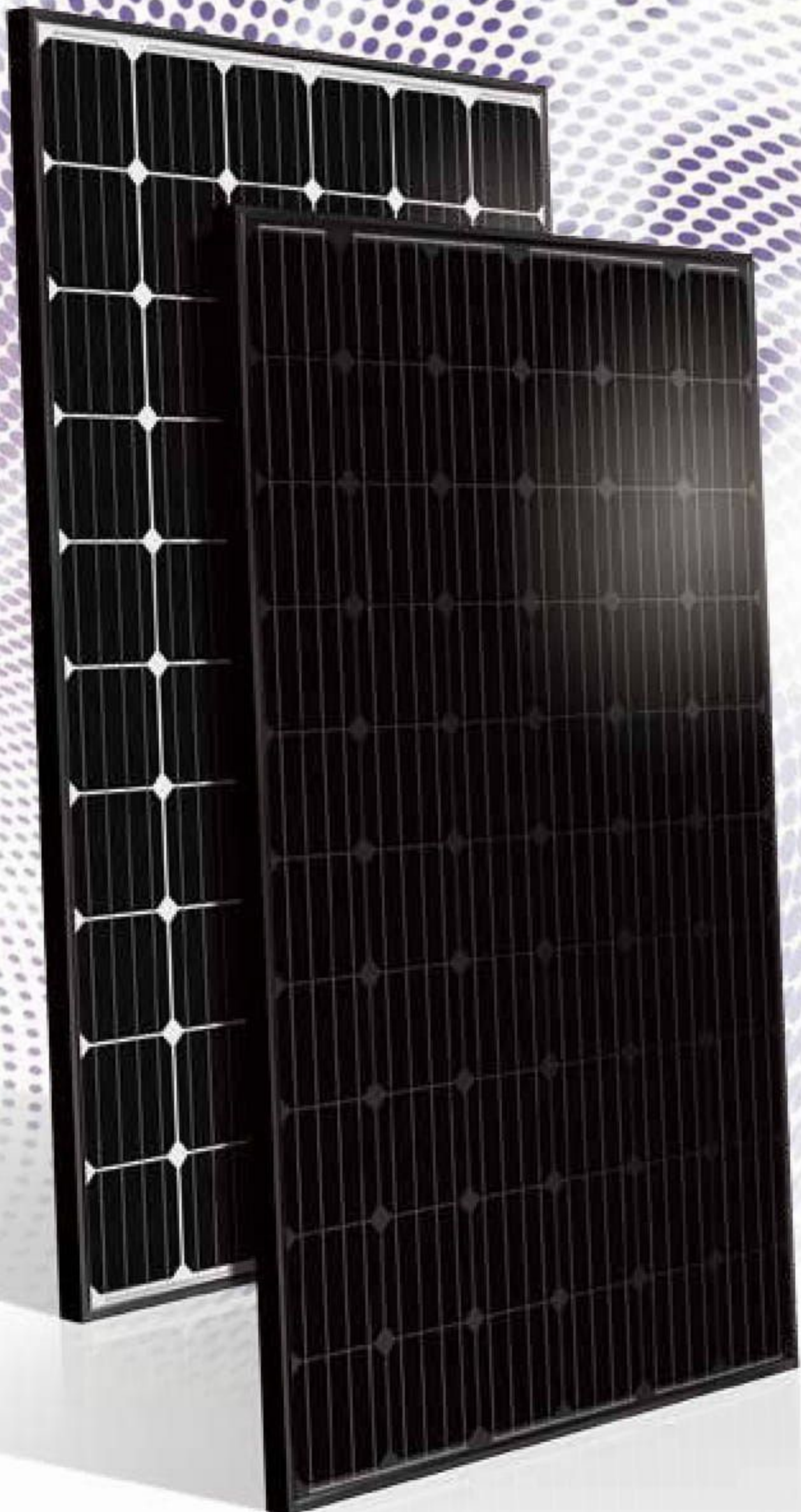
Time	00:45	01:45	02:45	03:45	04:45	05:45	06:45	07:45	08:45	09:45	10:45	11:45	12:45	13:45	14:45	15:45	16:45	17:45	18:45	19:45	20:45	21:45	22:45	23:45
G	0	0	0	37	59	167	314	445	530	621	611	595	514	431	340	202	93	54	9	0	0	0	0	0
Gb	0	0	0	0	0	58	149	235	279	341	319	304	247	207	155	76	17	0	0	0	0	0	0	0
Gd	0	0	0	36	56	103	156	198	237	264	276	276	253	212	175	119	72	53	8	0	0	0	0	0
Gc	0	0	0	28	58	227	445	654	827	944	993	972	882	730	533	314	112	41	9	0	0	0	0	0

G: Global irradiance on a fixed plane [W/m2].
 Gb: Direct irradiance on a fixed plane [W/m2].
 Gd: Diffuse irradiance on a fixed plane [W/m2].
 Gc: Global Clear-sky irradiance on a fixed plane [W/m2].

SunVivo

PM060MW2/PM060MB2

Mono-Crystalline
Photovoltaic Module



290W
310W

Power Range
290 ~ 310 Wp



Highly Strengthened Design

Module complies with advanced loading tests to meet 5400 Pa loading requirements



PID-Resistance (up to Diamond Level)

Certified high PID resistance



Superior Weak Light Performance

Improved absorption of long wavelength light



Flammability Test

Low ignitability ensuring fire safety



Resistance to Salt Corrosion and Humidity

Module complies with IEC 61701: Salt Mist Corrosion Testing



Ammonia Test

Reliable in ammonia rich environment



BenQ
Solar

SunVivo PM060MW2/PM060MB2 (290 ~ 310Wp)

Electrical Data

Typ. Nominal Power P_N	290W	295W	300W	305W	310W
Typ. Module Efficiency	17.8%	18.1%	18.4%	18.7%	19.1%
Typ. Nominal Voltage V_{mp} (V)	32.3	32.6	32.7	32.9	33.1
Typ. Nominal Current I_{mp} (A)	8.99	9.05	9.18	9.28	9.38
Typ. Open Circuit Voltage V_{oc} (V)	39.7	39.8	39.9	40.2	40.5
Typ. Short Circuit Current I_{sc} (A)	9.57	9.63	9.80	9.91	10.02
Maximum Tolerance of P_N	0 / +3%				

- Above data are the effective measurement at Standard Test Conditions (STC)
- STC: irradiance 1000 W/m², spectral distribution AM 1.5, temperature 25 ± 2 °C, in accordance with EN 60904-3
- Black back sheet (PM060MB2) is utilized for 290 & 300W; white back sheet (PM060MW2) is for 295-310W

Temperature Coefficient

NOCT	46 ± 2 °C
Typ. Temperature Coefficient of P_N	-0.42 % / K
Typ. Temperature Coefficient of V_{oc}	-0.30 % / K
Temperature Coefficient of I_{sc}	0.05 % / K

- NOCT: Normal Operation Cell Temperature, measuring conditions: irradiance 800 W/m², AM 1.5, air temperature 20 °C, wind speed 1 m/s

Mechanical Characteristics

Dimensions (L x W x H)	1640 x 992 x 40 mm (64.57 x 39.05 x 1.57 in)
Weight	19 kg (41.89 lbs)
Front Glass	High transparent solar glass (tempered), 3.2 mm (0.13 in)
Cell	60 monocrystalline solar cells
Back Sheet	Composite film
Frame	Anodized aluminum frame
Junction Box	IP-67 rated with 3 bypass diodes
Connector Type & Cables	TE Connectivity PV4: 1 x 4 mm ² (0.04 x 0.16 in ²), Length: each 1.0 m (39.37 in)

Operating Conditions

Operating Temperature	-40 ~ +85 °C
Ambient Temperature Range	-40 ~ +45 °C
Max. System Voltage IEC/UL	1000V / 1000V
Serial Fuse Rating	15 A
Maximum Surface Load Capacity	Tested up to 5400 Pa according to IEC 61215 (advanced test)

Warranties and Certifications

Product Warranty	Maximum 12 years for material and workmanship
Performance Guarantee	Guaranteed linear degradation to 80% for 25 years *1
Certifications	According to IEC/EN 61215, IEC/EN 61730 and UL 1703 guidelines *2

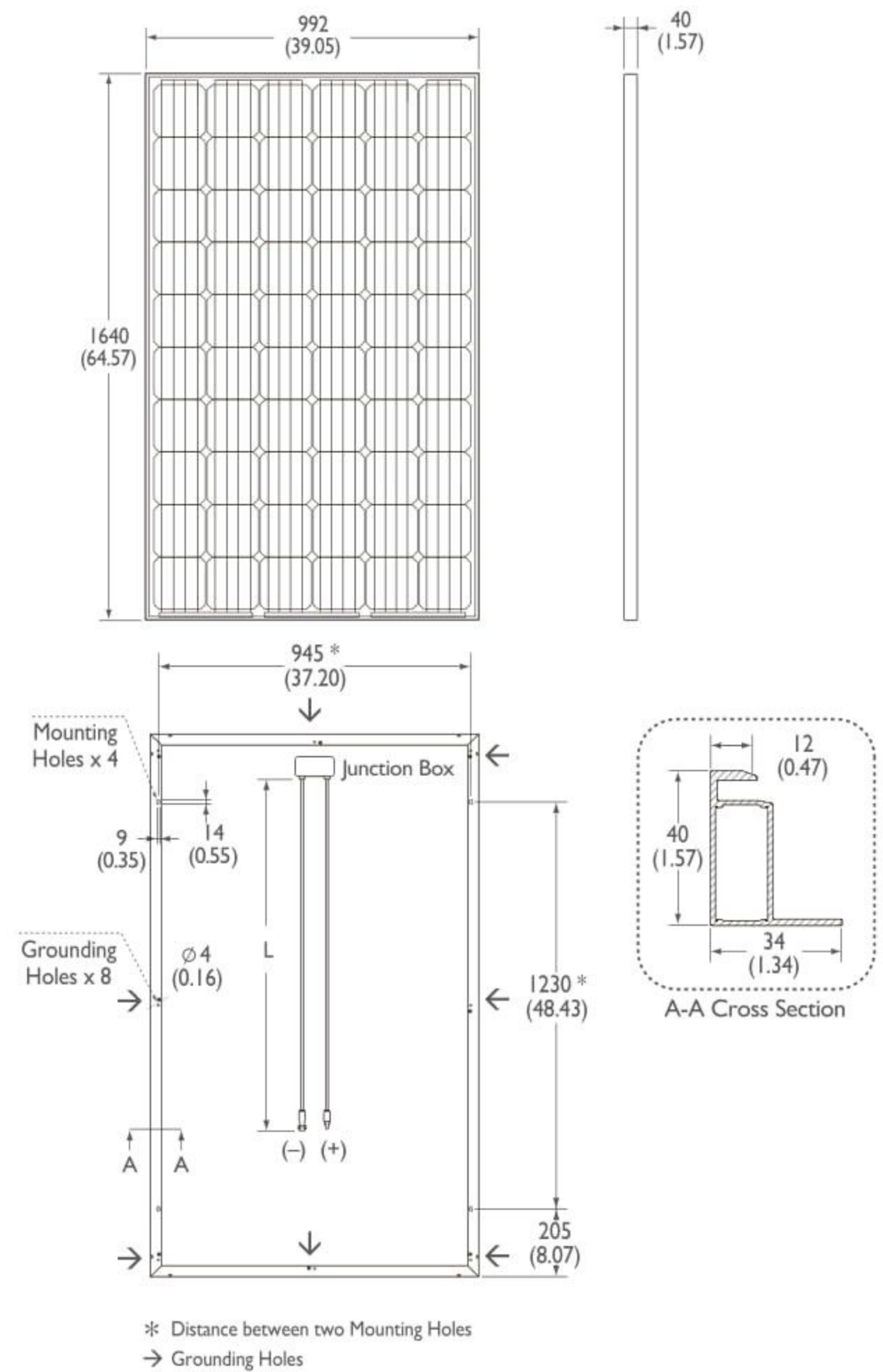
*1: Please refer to warranty letter for detail

*2: Please confirm other certifications with official dealers

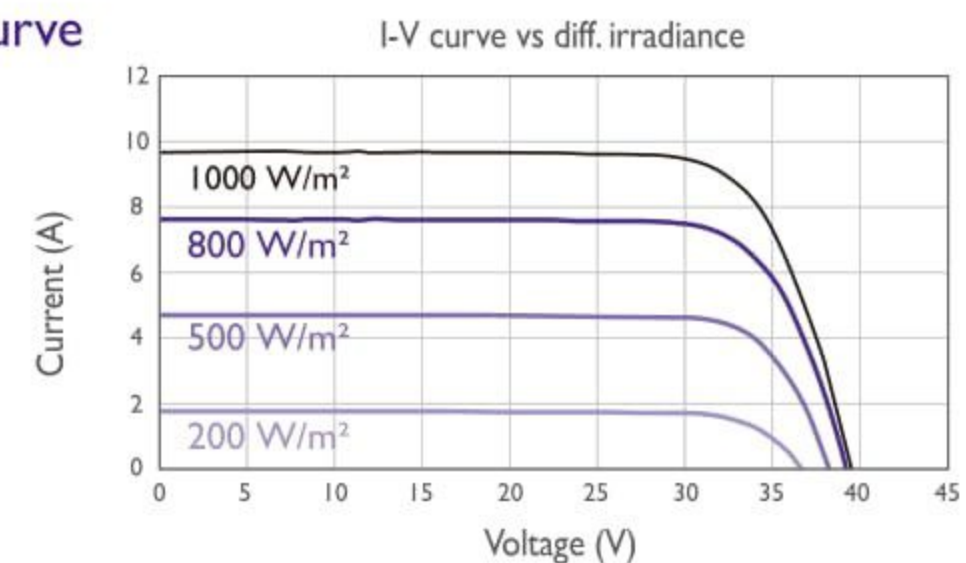
Packing Configuration

Container	20' GP	40' GP	40' HQ
Pieces per Pallet	26	26	26
Pallets per Container	6	14	28
Pieces per Container	156	364	728

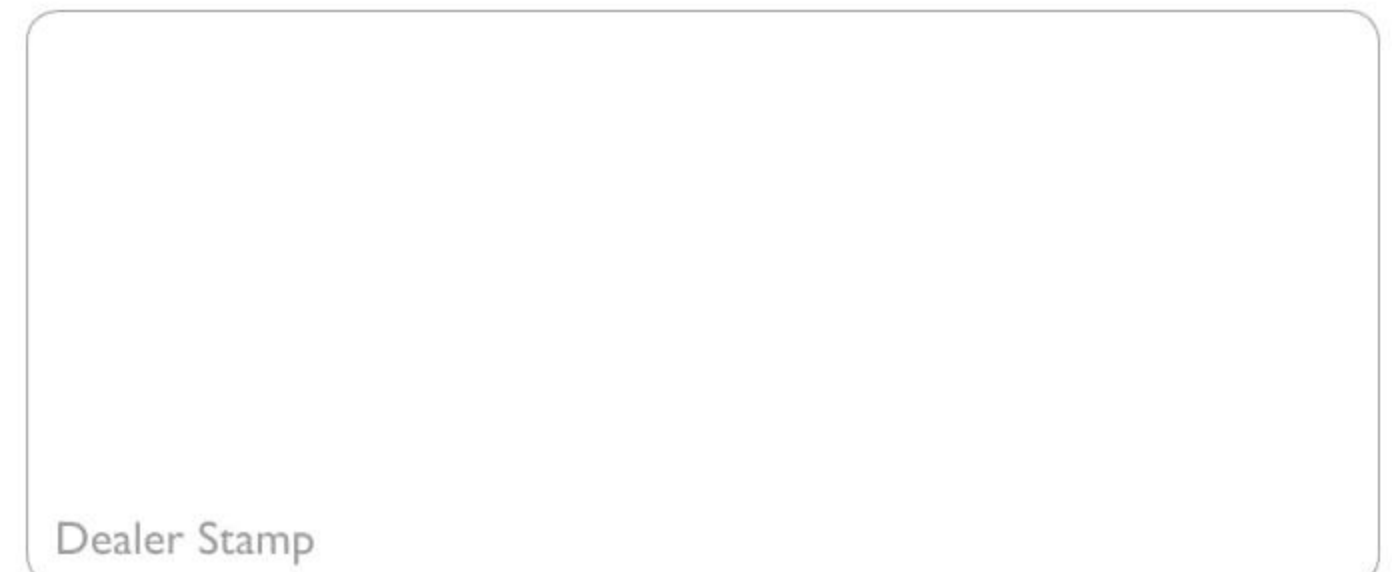
Dimensions mm (inch)



I-V Curve



Current/voltage characteristics with dependence on irradiance and module temperature.



AU Optronics Corporation

No. 1, Li-Hsin Rd. 2, Hsinchu Science Park, Hsinchu 30078, Taiwan
Tel: +886-3-500-8899 www.BenQSolar.com



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