

Hansol

**Multi
72 cells
(300~330Watt)**

Those who dream of a better future can help lead to a more meaningful and enriched world. As a leading solar module manufacturer in Korea, we never stop to achieve competitiveness through differentiation, implement the maximum value, and commit to sustainable development with customers.

Key Features

25 years **Linear Performance Warranty**
10 Years product warranty
25 Years linear performance warranty

******* **Certified Durability**
5,400Pa snow load
2400 Pa wind load

1000V **1000V**
Designed for UL 1000V and IEC 1000V

Optional Features

PID FREE **PID Free**
Anti-PID Cell
Anti-PID encapsulation technology

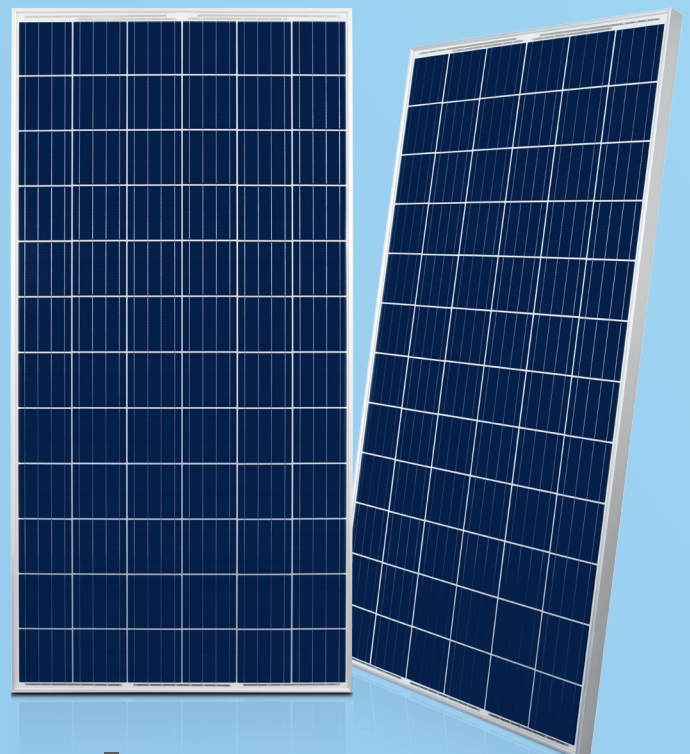
~~~~~ **Floating PV Installation**
Module backside blocks moisture permeability

↑ **Power Optimization**
Increase the energy output of each individual panel in a system to enhance O&M, shade and age tolerance

R-Black **Railless Black Frame**
Easy to install / Time saving

Product Certificates

IEC 61215 / IEC 61730 : TUV / VDE / CE
IEC 61701 Salt Mist Corrosion Level 6
UL 1703 Fire Rating Type 1



Hansol
www.hansoltechnics.com/solar

Everlasting sustainable energy solution provider

Multi - Crystalline Solar Module (ND-AN3)

72 cells (300~330Watt)

Electrical Data / STC (ND-AN3) : Irradiance of 1000W/°C, spectrum AM 1.5 and cell temperature of 25°C

		300	305	310	315	320	325	330
Nominal Max Power	Pmax (Wp)	300	305	310	315	320	325	330
Voltage at Pmax	Vmp (v)	35.5	35.9	36.3	36.7	37.1	37.5	37.9
Current at Pmax	Imp (A)	8.46	8.5	8.55	8.59	8.63	8.67	8.71
Open Circuit Voltage	Voc (v)	44.5	44.9	45.3	45.7	46.1	46.5	46.9
Short Circuit Current	Isc (A)	8.97	9.02	9.07	9.12	9.16	9.20	9.24
Module Efficiency	%	15.05%	15.30%	15.55%	15.80%	16.05%	16.30%	16.55%
Operating Temperature		-40°C ~ +85°C						
Max. System Voltage		1000 Vdc TUV, 1000 Vdc UL						
Max. Service Fuse Rating		15A						
Max. Reverse Current		15A						
Power tolerance		0 ~ +4.99W						

Electrical Data / NOCT (ND-AN3) : Irradiance of 800W/°C, spectrum AM 1.5 and ambient temperature of 20°C, wind speed 1m/s

		219.7	223.1	226.9	230.4	233.9	237.4	241.0
Nominal Max Power	Pmax (Wp)	219.7	223.1	226.9	230.4	233.9	237.4	241.0
Voltage at Pmax	Vmp (v)	32.6	32.9	33.3	33.6	34.0	34.3	34.7
Current at Pmax	Imp (A)	6.74	6.77	6.82	6.85	6.89	6.92	6.95
Open Circuit Voltage	Voc (v)	40.9	41.2	41.6	41.9	42.3	42.7	43.0
Short Circuit Current	Isc (A)	7.25	7.29	7.33	7.37	7.41	7.44	7.5

Mechanical Data

Cell Type	Multi-crystalline, 6 inch
Cell Arrangement	72 (6 x 12)
Dimensions	1994 x 1000 x 40mm
Weight	22.5kg (49.6 lbs)
Frame	Anodized aluminum
Front glass	3.2mm Tempered glass
J-Box	IP68, 3 diodes
Output cable	(+)1200mm, (-)1200mm, 12 AWG
Connectors	MC4 compatible
Module Fire Performance	Type 1
Stand. Packaging	26 pcs (vertical)
Pallets per Container	22
Module Pieces per Container	572

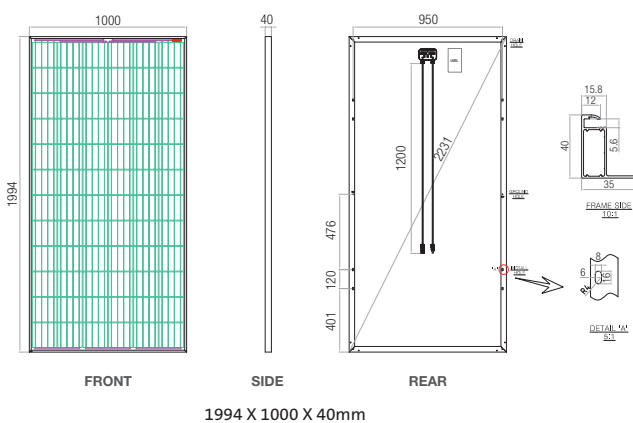
Warranties

Product	10 years
Performance	10 years performance warranty (>90%)
	25 years linear power warranty (>80%)

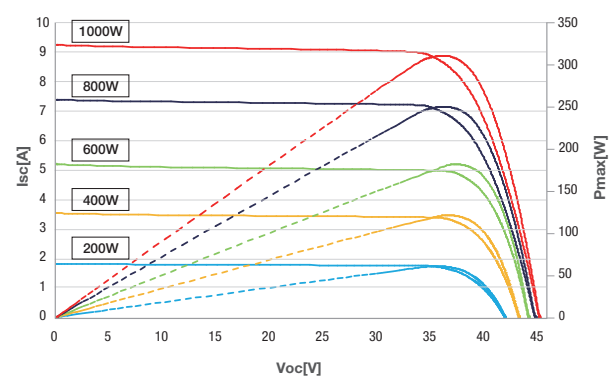
Temperature Characteristics

Specifications	Data
Temperature coefficient (Pmax)	-0.42
Temperature coefficient (Voc)	-0.31
Temperature coefficient (Isc)	0.05
Normal Operating Cell Temperature	46.0 ± 2°C

MODULE DIAGRAM unit : mm (inch)



I-V Curve according to Irradiance



Hansol

**Multi
60 cells
(250~280Watt)**

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Key Features

25 years **Linear Performance Warranty**
10 Years product warranty
25 Years linear performance warranty

******* **Certified Durability**
5,400Pa snow load
2400 Pa wind load

1000V **1000V**
Designed for UL 1000V and IEC 1000V

Optional Features

PID FREE **PID Free**
Anti-PID Cell
Anti-PID encapsulation technology

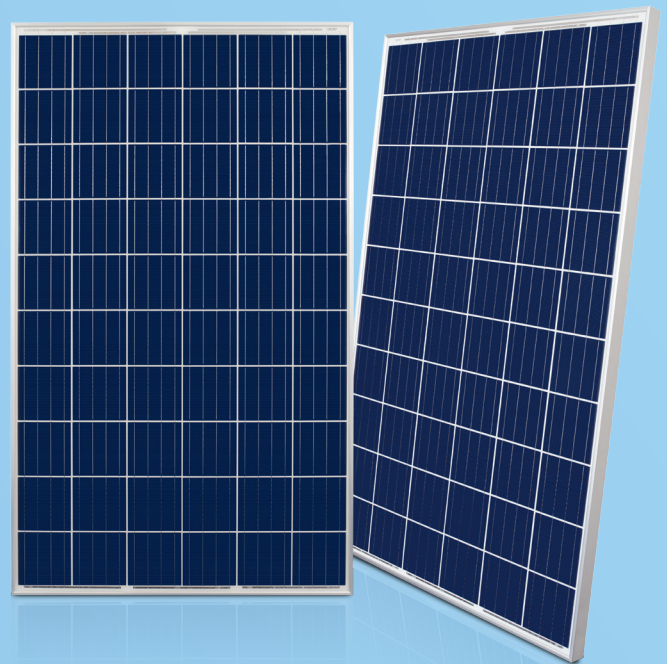
~~~~~ **Floating PV Installation**
Module backside blocks moisture permeability

↑ **Power Optimization**
Increase the energy output of each individual panel in a system to enhance O&M, shade and age tolerance

R-Black **Railless Black Frame**
Easy to install / Time saving

Product Certificates

IEC 61215 / IEC 61730 : TUV / VDE / CE
IEC 61701 Salt Mist Corrosion Level 6
UL 1703 Fire Rating Type 1



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Multi - Crystalline Solar Module (NB-AN3)

60 cells (250~280Watt)

Electrical Data / STC (NB-AN3) : Irradiance of 1000W/°C, spectrum AM 1.5 and cell temperature of 25°C

	Pmax (Wp)	250	255	260	265	270	275	280
Nominal Max Power	Pmax (Wp)	250	255	260	265	270	275	280
Voltage at Pmax	Vmp (v)	29.7	30.1	30.5	30.9	31.3	31.7	32.1
Current at Pmax	Imp (A)	8.43	8.49	8.54	8.59	8.63	8.68	8.73
Open Circuit Voltage	Voc (v)	36.8	37.2	37.6	38.0	38.4	38.8	39.2
Short Circuit Current	Isc (A)	8.96	9.01	9.07	9.12	9.16	9.21	9.25
Module Efficiency	%	14.97%	15.27%	15.57%	15.87%	16.17%	16.47%	16.77%
Operating Temperature	-40°C ~ +85°C							
Max. System Voltage	1000 Vdc TUV, 1000 Vdc UL							
Max. Service Fuse Rating	15A							
Max. Reverse Current	15A							
Power tolerance	0 ~ +4.99W							

Electrical Data / NOCT (NB-AN3) : Irradiance of 800W/°C, spectrum AM 1.5 and ambient temperature of 20°C, wind speed 1m/s

	Pmax (Wp)	183.6	187.4	191.0	194.6	198.0	201.7	205.4
Nominal Max Power	Pmax (Wp)	183.6	187.4	191.0	194.6	198.0	201.7	205.4
Voltage at Pmax	Vmp (v)	27.3	27.7	28.0	28.4	28.7	29.1	29.4
Current at Pmax	Imp (A)	6.73	6.77	6.82	6.86	6.89	6.94	6.98
Open Circuit Voltage	Voc (v)	33.9	34.3	34.6	35.0	35.3	35.7	36.1
Short Circuit Current	Isc (A)	7.29	7.27	7.32	7.36	7.39	7.43	7.46

Mechanical Data

Cell Type	Multi-crystalline, 6 inch
Cell Arrangement	60 (6 x 10)
Dimensions	1670x 1000 x 35 / 32mm
Weight	18.9kg (41.7 lbs) / 19.3kg (42.5 lbs)
Frame	Anodized aluminum
Front glass	3.2mm Tempered glass
J-Box	IP68, 3 diodes
Output cable	(+)1000mm, (-)1000mm, 12AWG
Connectors	MC4 compatible
Module Fire Performance	Type 1
Stand. Packaging	29/32pcs (vertical)
Pallets per Container	26
Module Pieces per Container	754 / 832

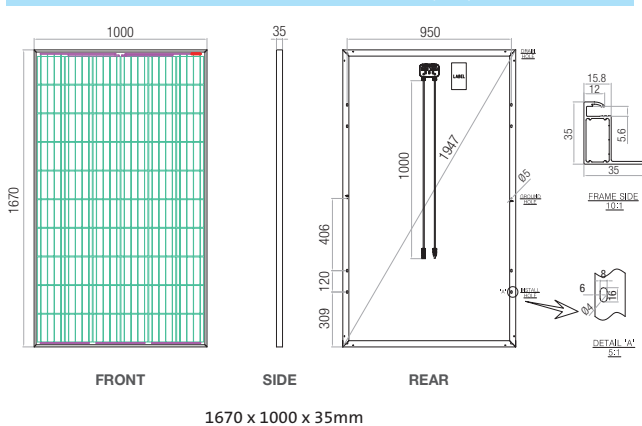
Warranties

Product	10 years
Performance	10 years performance warranty (>90%)
	25 years linear power warranty (>80%)

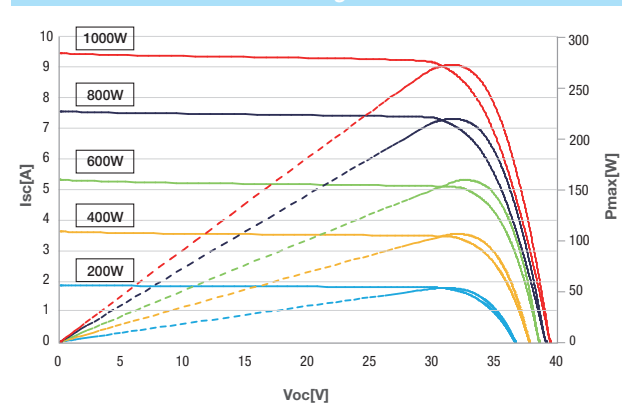
Temperature Characteristics

Specifications	Data
Temperature coefficient (Pmax)	-0.41
Temperature coefficient (Voc)	-0.29
Temperature coefficient (Isc)	0.04
Normal Operating Cell Temperature	46.0 ± 2°C

MODULE DIAGRAM unit : mm (inch)



I-V Curve according to Irradiance



Mono 72 cells (320~360Watt)

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Key Features

25 years **Linear Performance Warranty**
10 Years product warranty
25 Years linear performance warranty

******* **Certified Durability**
5,400Pa snow load
2400 Pa wind load

1500V **1500V**
Designed for UL 1500 and TUV 1500
Saving BoS costs

PID FREE **PID Free**
Anti-PID Cell
Anti-PID encapsulation technology

Optional Features

Wavy **Floating PV Installation**
Module backside blocks moisture permeability

Bar Chart **Power Optimization**
Increase the energy output of each individual panel in a system to enhance O&M, shade and age tolerance

Black **Black Frame**
Sleek and aesthetic appearance

Product Certificates

IEC 61215 / IEC 61730 : TUV / VDE / CE
IEC 61701 Salt Mist Corrosion Level 6
UL 1703 Fire Rating Type 1



Mono - Crystalline Solar Module (TD-AN3)

72 cells (320~360Watt)



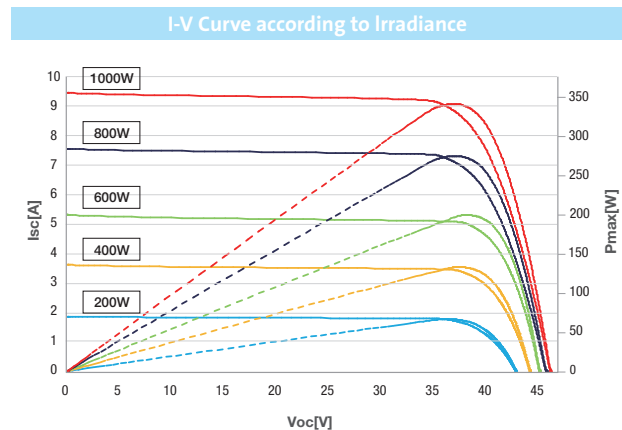
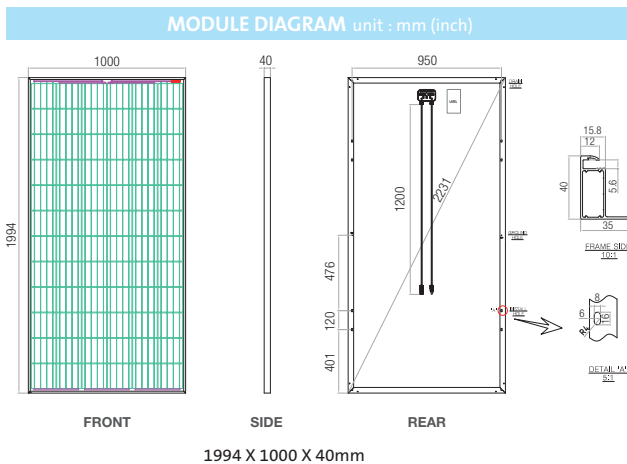
Electrical Data / STC (TD-AN3) : Irradiance of 1000W/°C, spectrum AM 1.5 and cell temperature of 25°C										
Nominal Max Power	Pmax (Wp)	320	325	330	335	340	345	350	355	360
Voltage at Pmax	Vmp (v)	36.4	36.8	37.2	37.6	38.0	38.4	38.8	39.2	39.6
Current at Pmax	Imp (A)	8.80	8.84	8.88	8.92	8.95	8.99	9.03	9.06	9.10
Open Circuit Voltage	Voc (v)	45.0	45.4	45.8	46.2	46.6	47.0	47.4	47.8	48.2
Short Circuit Current	Isc (A)	9.38	9.42	9.46	9.50	9.54	9.58	9.62	9.65	9.69
Module Efficiency	%	16.05%	16.30%	16.55%	16.80%	17.05%	17.30%	17.55%	17.80%	18.05%
Operating Temperature	-40°C ~ +85°C									
Max. System Voltage	1000 Vdc TUV, 1000 Vdc UL									
Max. Service Fuse Rating	15A									
Max. Reverse Current	15A									
Power tolerance	0 ~ +4.99W									

Electrical Data / NOCT (TD-AN3) : Irradiance of 800W/°C, spectrum AM 1.5 and ambient temperature of 20°C, wind speed 1m/s										
Nominal Max Power	Pmax (Wp)	232.9	236.5	240.1	243.8	247.2	250.9	254.6	258	261.8
Voltage at Pmax	Vmp (v)	33.0	33.4	33.7	34.1	34.4	34.7	35.1	35.4	35.7
Current at Pmax	Imp (A)	7.05	7.09	7.12	7.16	7.19	7.23	7.26	7.29	7.32
Open Circuit Voltage	Voc (v)	41.0	41.4	41.8	42.1	42.5	42.8	43.2	43.5	43.9
Short Circuit Current	Isc (A)	7.58	7.62	7.65	7.68	7.71	7.74	7.8	7.8	7.83

Mechanical Data	
Cell Type	Mono-crystalline, 6 inch
Cell Arrangement	72 (6 x 12)
Dimensions	1994 x 1000 x 40mm
Weight	22.5kg (49.6 lbs)
Frame	Anodized aluminum
Front glass	3.2mm Tempered glass
J-Box	IP68, 3 diodes
Output cable	(+)1200mm, (-)1200mm, 12 AWG
Connectors	MC4 compatible
Module Fire Performance	Type 1
Stand. Packaging	26 pcs (vertical)
Pallets per Container	22
Module Pieces per Container	572

Warranties	
Product	10 years
Performance	10 years performance warranty (>90%)
	25 years linear power warranty (>80%)

Temperature Characteristics	
Specifications	Data
Temperature coefficient (Pmax)	-0.45
Temperature coefficient (Voc)	-0.33
Temperature coefficient (Isc)	0.05
Normal Operating Cell Temperature	46.0 ± 2°C



Mono 60 cells (270~300Watt)

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Key Features

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10 Years product warranty
25 Years linear performance warranty

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5,400Pa snow load
2400 Pa wind load

1500V **1500V**
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Saving BoS costs

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Anti-PID Cell
Anti-PID encapsulation technology

Optional Features

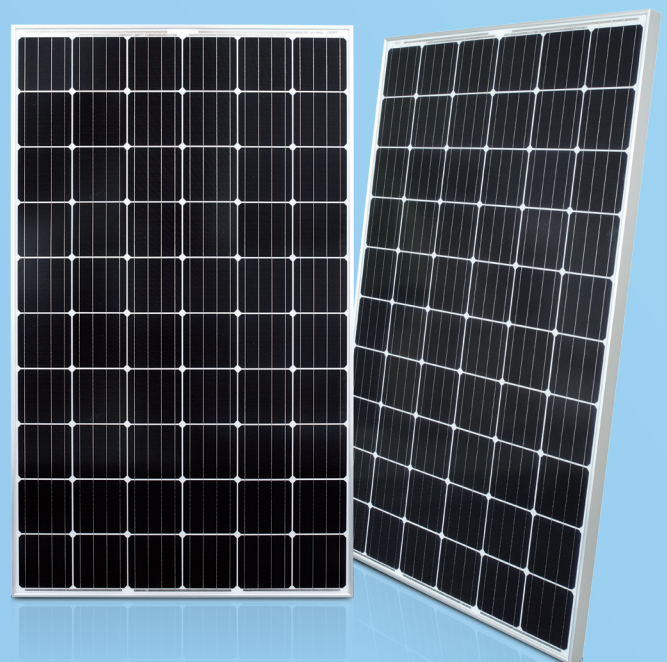
Wavy **Floating PV Installation**
Module backside blocks moisture permeability

Bar Chart **Power Optimization**
Increase the energy output of each individual panel in a system to enhance O&M, shade and age tolerance

Black **Black Frame**
Sleek and aesthetic appearance

Product Certificates

IEC 61215 / IEC 61730 : TUV / VDE / CE
IEC 61701 Salt Mist Corrosion Level 6
UL 1703 Fire Rating Type 1



Mono - Crystalline Solar Module (TB-AN3)

60 cells (270~300Watt)



Electrical Data / STC (TB-AN3) : Irradiance of 1000W/°C, spectrum AM 1.5 and cell temperature of 25°C								
Nominal Max Power	Pmax (Wp)	270	275	280	285	290	295	300
Voltage at Pmax	Vmp (v)	30.6	31.0	31.4	31.8	32.2	32.6	33.0
Current at Pmax	Imp (A)	8.83	8.88	8.92	8.97	9.01	9.05	9.10
Open Circuit Voltage	Voc (v)	37.9	38.3	38.7	39.1	39.5	39.9	40.3
Short Circuit Current	Isc (A)	9.36	9.41	9.45	9.50	9.54	9.59	9.64
Module Efficiency	%	16.17%	16.47%	16.77%	17.07%	17.37%	17.66%	17.96%
Operating Temperature	-40°C ~ +85°C							
Max. System Voltage	1000 Vdc TUV, 1000 Vdc UL							
Max. Service Fuse Rating	15A							
Max. Reverse Current	15A							
Power tolerance	0 ~ +4.99W							

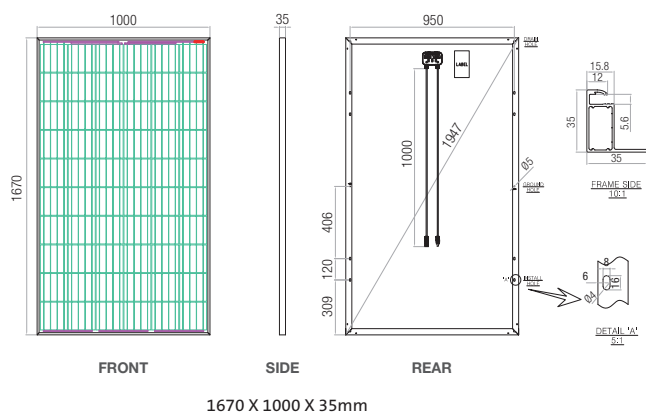
Electrical Data / NOCT (TB-AN3) : Irradiance of 800W/°C, spectrum AM 1.5 and ambient temperature of 20°C, wind speed 1m/s								
Nominal Max Power	Pmax (Wp)	196.4	200.1	203.6	207.3	210.8	214.4	218.2
Voltage at Pmax	Vmp (v)	27.9	28.2	28.6	28.9	29.3	29.6	29.9
Current at Pmax	Imp (A)	7.05	7.09	7.13	7.17	7.20	7.25	7.29
Open Circuit Voltage	Voc (v)	34.6	34.9	35.3	35.6	36.0	36.3	36.7
Short Circuit Current	Isc (A)	7.57	7.61	7.64	7.68	7.71	7.75	7.79

Mechanical Data	
Cell Type	Mono-crystalline, 6 inch
Cell Arrangement	60 (6 x 12)
Dimensions	1670 x 1000 x 35/32mm
Weight	18.9kg (41.7 lbs)/19.3kg (42.5 lbs)
Frame	Anodized aluminum
Front glass	3.2mm Tempered glass
J-Box	IP68, 3 diodes
Output cable	(+)1000mm, (-)1000mm, 12 AWG
Connectors	MC4 compatible
Module Fire Performance	Type 1
Stand. Packaging	29/32pcs (vertical)
Pallets per Container	26
Module Pieces per Container	754/832

Warranties	
Product	10 years
Performance	10 years performance warranty (>90%)
	25 years linear power warranty (>80%)

Temperature Characteristics	
Specifications	Data
Temperature coefficient (Pmax)	-0.45
Temperature coefficient (Voc)	-0.33
Temperature coefficient (Isc)	0.05
Normal Operating Cell Temperature	46.0 ± 2°C

MODULE DIAGRAM unit : mm (inch)



I-V Curve according to Irradiance

