54-cell polycrystalline module family

PCB series

The photo is showing PCBxxx-A21

Characteristics

Dimensions		
Length	1480mm (tolerance +/-3mm)	
Width	985mm (tolerance +/-3mm)	
Depth	46mm	
Weight	19kg (standard: 2400Pa) 20kg (for heavy snow: 5400Pa)	
Standard operating conditions*		
Standard operating conditions*	Avoid excess exposure to smoke, dust, saltwater	
Maximum system voltage	DC1000V	
Insulation performance		
Insulation resistance	50 MΩ or over (DC500V)	
Ability to withstand voltage	DC3000V for 1 min	
Thermal characteristics		
NOCT	47°C	
Temperature coefficient	PCBxxx-A15/17	PCBxxx-A21
Voc (Open circuit voltage)	- 0.36% / °C	- 0.32% / °C
Isc (Short circuit current)	+0.06% / °C	+0.04% / °C
Pmax (Maximum power output)	- 0.43% / °C	- 0.35% / °C

*maximum performance limits conform to IEC 61215 standards

Design Features:

Maximized Power Output
- Polycrystalline cells with 15 - 16% efficiency give highest power output even in low light conditions
- Individual cell outputs matched for optimal module performance
- Highly transparent glass maximizes energy yield

Robust, Reliable Construction
- Extra thick 46mm anodized aluminium frame
- Strengthened glass and protective back sheet prevent damage and water ingress
- Junction box filled with silicon gel
- Gasket provides extra protection against water ingress

Seamless System Integration
- Fitted with standard MC3 / MC4 connectors and a cable of about 1m
- 3 bypass diodes in junction box to minimize system power loss caused by shading of module

Warranty
In accordance with our limited warranty conditions
- Materials & Workmanship - 5 years
- 90% of the specified min. output power - 10 years
- 80% of the specified min. output power - 25 years

Eco -Friendly
- Using Lead-Free solder

Certification
- Module Certificates IEC61215 ed2, IEC61730, CE
- Factory Certificates ISO9001:2000
- Manufactured in Japan

Model Name Description
PCBxxx-x xx xx

- BW: Black frame** / White backsheet
  - -: Silver frame / White backsheet
- 15: 2 busbar cell, Q-cells
  17: 3 busbar cell, Q-cells
  21: 2 busbar cell, Motech
- A: Standard / D: For heavy snow** (MC3)
  E: Standard / I: For heavy snow** (MC4)
- Maximum output

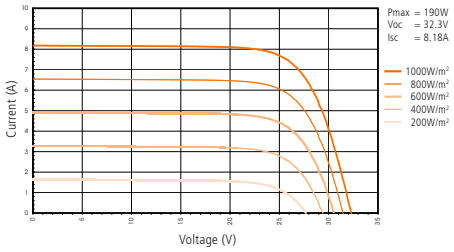
**option

PCB series

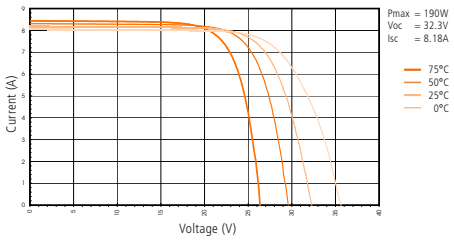
Electrical Characteristics

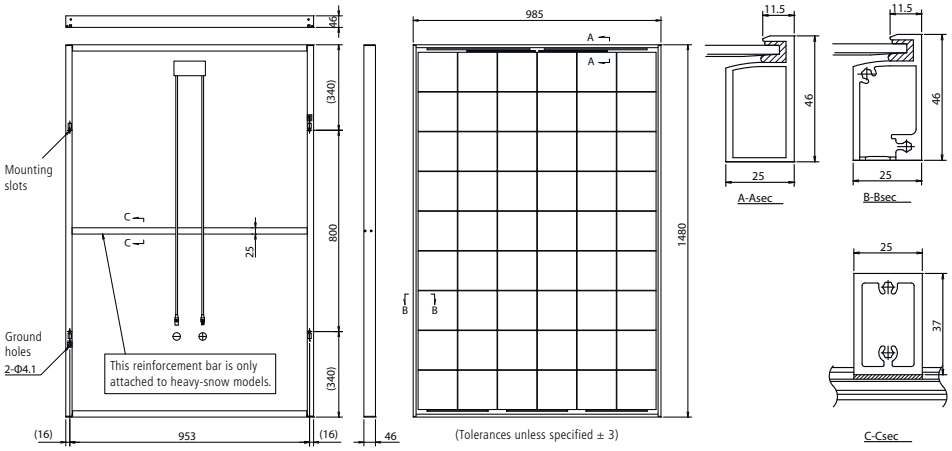
	PCB180	PCB185	PCB190	PCB195	PCB200	PCB205	tolerance
At standard test conditions of 1000W/m² irradiance, AM1.5 spectrum, 25°C cell temperature (STC)							
Maximum output	180W	185W	190W	195W	200W	205W	+5% -3%
Maximum power voltage	25.6V	25.7V	25.8V	26.0V	26.2V	26.4V	–
Maximum power current	7.03A	7.20A	7.36A	7.50A	7.63A	7.77A	–
Open circuit voltage	32.0V	32.1V	32.3V	32.5V	32.7V	32.9V	±10%
Short circuit current	8.04A	8.11A	8.18A	8.27A	8.36A	8.45A	90% or over
Conversion efficiency	12.3%	12.7%	13.0%	13.4%	13.7%	14.1%	–
Maximum reverse current	10A	10A	10A	10A	10A	10A	–
At nominal operating cell temperature of 800W/m² irradiance, AM1.5 spectrum, 20°C ambient temperature, 1m/s wind speed (NOCT)							
Maximum output	127W	130W	134W	137W	141W	144W	–
Maximum power voltage	22.3V	22.4V	22.5V	22.6V	22.8V	23.0V	–
Maximum power current	5.67A	5.81A	5.94A	6.05A	6.15A	6.27A	–
Open circuit voltage	28.3V	28.4V	28.6V	28.7V	28.9V	29.1V	–
Short circuit current	6.43A	6.49A	6.55A	6.62A	6.69A	6.76A	–

Nominal PCB190 Output Curves @25°C



Nominal PCB190 Output Curves @1000W/m²





Construction

item	number	comment
cell	54	156mm x 156mm polycrystalline, Motech, Q-cells
front cover	1	strengthened patterned glass t3.2
back cover	1	white
filler		EVA resin
frame	1	46mm anodized aluminium
edge filler		gasket
+ output wire	1	eco 4sq, MC3 / MC4 connector
- output wire	1	eco 4sq, MC3 / MC4 connector
junction box	1	58 x 125 x 15, IP65
bypass diode	3	45V

Tested Operating Conditions

temperature	-40°C - +85°C*

* This temperature range was applied during the Temperature Cycle Test

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