



## All-black CS5A

160/165/170/175/180/185/190M

### All-purpose Module

All-black CS5A is a robust all purpose solar module with 72 solar cells. These modules can be used for on-grid and off-grid solar applications. The all-black modules use high efficiency mono-crystalline silicon cells, laminated with black back sheet and framed with black anodized aluminum. The all-black modules are the perfect choice of customers who not only are keen on using solar energy, but also look for aesthetic value.

### Key Features

- Top ranked PVUSA (PTC) rating in California for higher energy production
- 6 years product warranty (materials and workmanship); 25 years module power output warranty
- Industry leading plus only power tolerance: +5W (+2.6%)
- Strong framed module, passing mechanical load test of 5400Pa to withstand heavier snow load
- The 1st manufacturer in the PV industry certified for ISO:TS16949 (The automotive quality management system) in module production since 2003
- ISO17025 qualified manufacturer owned testing lab, fully complying to IEC, TUV, UL testing standards

### Applications

- On-grid and off-grid residential roof-tops
- On-grid and off-grid commercial/industrial roof-tops
- Rural area applications
- Solar power stations
- Other on-grid and off-grid applications

### Quality Certificates

- IEC 61215, IEC61730, UL 1703, CEC Listed, CE
- ISO9001:2008: Standards for quality management systems
- ISO/TS16949:2009: The automotive quality management system
- QC080000 HSPM: The Certification for Hazardous Substances Regulations



# CS5A-160/165/170/175/180/185/190M

## All-black

### Electrical Data

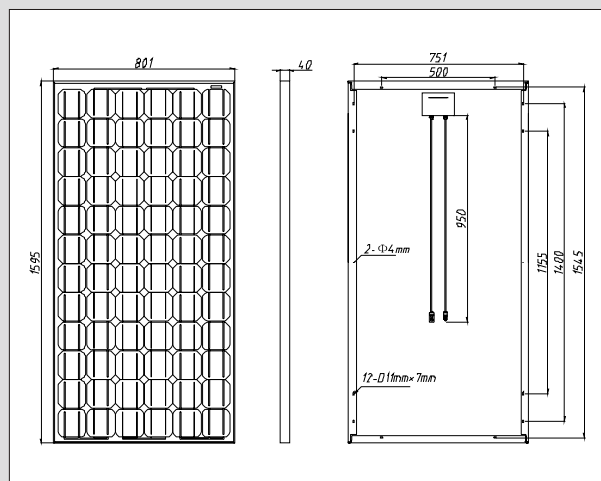
	CS5A-160M	CS5A-165M	CS5A-170M	CS5A-175M	CS5A-180M	CS5A-185M	CS5A-190M
Nominal Maximum Power at STC (Pmax)	160W	165W	170W	175W	180W	185W	190W
Optimum Operating Voltage (Vmp)	35.1V	35.3V	35.6V	35.8V	36.1V	36.4V	36.6V
Optimum Operating Current (Imp)	4.55A	4.68A	4.78A	4.89A	4.99A	5.09A	5.19A
Open Circuit Voltage (Voc)	43.8V	44.1V	44.3V	44.4V	44.6V	44.6V	44.8V
Short Circuit Current (Isc)	4.91A	5.01A	5.12A	5.23A	5.34A	5.46A	5.52A
Operating Temperature	-40°C~+85°C						
Maximum System Voltage	1000V (IEC) /600V (UL)						
Maximum Series Fuse Rating	10A						
Power Tolerance	+5W						
Temperature Coefficient	Pmax	-0.45%/°C					
	Voc	-0.35%/°C					
	Isc	0.060%/°C					
	NOCT	45°C					

\*Under Standard Test Conditions (STC) of irradiance of 1000W/m<sup>2</sup>, spectrum AM 1.5 and cell temperature of 25°C

### Mechanical Data

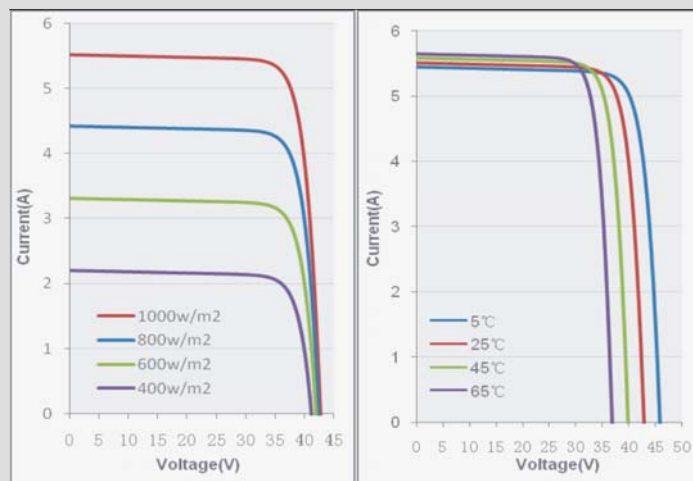
Cell Type	Mono-crystalline
Cell Arrangement	72 (6 x 12)
Dimensions	1595 x 801 x 40 mm (62.8 x 31.5 x 1.57 in)
Weight	15.5kg (34.2 lbs)
Front Cover	Tempered glass
Frame Material	Anodized aluminium alloy
Standard Packaging (Modules per Pallet)	20pcs

### Engineering Drawings



\*Specifications included in this datasheet are subject to change without prior notice.

### I-V Curves (CS5A-190M)



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### About Canadian Solar

Canadian Solar Inc. is one of the world's largest solar companies. As a leading vertically-integrated manufacturer of ingots, wafers, cells, solar modules and solar systems. Canadian Solar delivers solar power products of uncompromising quality to worldwide customers. Canadian Solar's world class team of professionals works closely with our customers to provide them with solutions for all their solar needs.

Canadian Solar was founded in Canada in 2001 and was successfully listed on NASDAQ Exchange (symbol: CSIQ) in November 2006. Canadian Solar is on track to expand cell capacity to 700MW and module capacity to 1.3GW in 2010.

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