



### **MORE POWER**

26 % more power than conventional modules

Up to 4.5 % lower LCOE Up to 2.7 % lower system cost

Low NMOT: 42 ± 3 °C Low temperature coefficient (Pmax): -0.35 % / °C



Better shading tolerance

### **MORE RELIABLE**



Lower internal current, lower hot spot temperature

Minimizes micro-crack impacts

Heavy snow load up to 5400 Pa, wind load up to 3600 Pa\*





Enhanced Product Warranty on Materials and Workmanship\*



Linear Power Performance Warranty\*

1<sup>st</sup> year power degradation no more than 2% Subsequent annual power degradation no more than 0.55%

\*According to the applicable Canadian Solar Limited Warranty Statement.

### **MANAGEMENT SYSTEM CERTIFICATES\***

ISO 9001:2015 / Quality management system ISO 14001:2015 / Standards for environmental management system ISO 45001: 2018 / International standards for occupational health & safety

### **PRODUCT CERTIFICATES\***

IEC 61215 / IEC 61730 / CE / MCS / INMETRO FSEC (US Florida) / UL 61730 / IEC 61701 / IEC 62716 UNI 9177 Reaction to Fire: Class 1 / Take-e-way

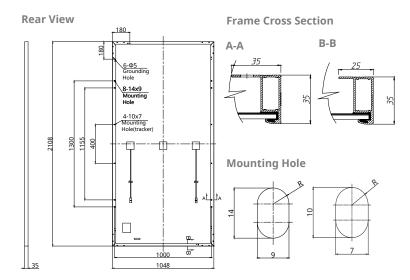


\* The specific certificates applicable to different module types and markets will vary, and therefore not all of the certifications listed herein will simultaneously apply to the products you order or use. Please contact your local Canadian Solar sales representative to confirm the specific certificates available for your product and applicable in the regions in which the products will be used.

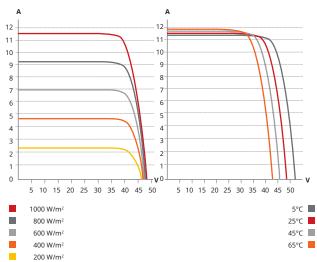
**CSI Solar Co., Ltd.** is committed to providing high quality solar products, solar system solutions and services to customers around the world. Canadian Solar was recognized as the No. 1 module supplier for quality and performance/price ratio in the IHS Module Customer Insight Survey, and is a leading PV project developer and manufacturer of solar modules, with over 50 GW deployed around the world since 2001.

\* For detailed information, please refer to Installation Manual.

#### **ENGINEERING DRAWING (mm)**



#### CS3W-435MS / I-V CURVES



# **ELECTRICAL DATA | STC\***

CS3W	435MS	440MS	445MS	450MS	455MS	460MS
Nominal Max. Power (Pmax)	435 W	440 W	445 W	450 W	455 W	460 W
Opt. Operating Voltage (Vmp)	40.5 V	40.7 V	40.9 V	41.1 V	41.3 V	41.5 V
Opt. Operating Current (Imp)	10.75 A	10.82 A	10.89 A	10.96 A	11.02 A	11.09 A
Open Circuit Voltage (Voc)	48.5 V	48.7 V	48.9 V	49.1 V	49.3 V	49.5 V
Short Circuit Current (Isc)	11.42 A	11.48 A	11.54 A	11.60 A	11.66 A	11.72 A
Module Efficiency	19.7%	19.9%	20.1%	20.4%	20.6%	20.8%
Operating Temperature	-40°C ~	+85°C				
Max. System Voltage	1500V (	IEC/UL)	or 1000	/ (IEC/U	L)	
Module Fire Performance		(UL 6173 or CLAS			PE 2 (UL	61730
Max. Series Fuse Rating	20 A					
Application Classification	Class A					
Power Tolerance	0~+10	W				
* Under Standard Test Conditions (STC) of irradiance of 1000 W/m <sup>2</sup> , spectrum AM 1.5 and cell tempera-						

Test Conditions (STC) of irrad um AM 1.5 and cell tempera ture of 25°C.

### **ELECTRICAL DATA | NMOT\***

CS3W	435MS	440MS	445MS	450MS	455MS	460MS
Nominal Max. Power (Pmax)	325 W	328 W	332 W	336 W	339 W	343 W
Opt. Operating Voltage (Vmp)	37.8 V	37.9 V	38.1 V	38.3 V	38.5 V	38.7 V
Opt. Operating Current (Imp)	8.59 A	8.65 A	8.71 A	8.76 A	8.82 A	8.87 A
Open Circuit Voltage (Voc)	45.6 V	45.8 V	46.0 V	46.2 V	46.4 V	46.6 V
Short Circuit Current (Isc)	9.21 A	9.26 A	9.31 A	9.36 A	9.41 A	9.45 A
* Under Nominal Module Operating Tor	moraturo	(NIMOT) in	radianco of	$F = 800 W/m^2$	sportrum	AM 1 5

 $\star$  Under Nominal Module Operating Temperature (NMOT), irradiance of 800 W/m² spectrum AM 1.5, ambient temperature 20°C, wind speed 1 m/s.

# \* The specifications and key features contained in this datasheet may deviate slightly from our actual products due to the on-going innovation and product enhancement .CSI Solar Co., Ltd. $\,$

reserves the right to make necessary adjustment to the information described herein at any time without further notice. Please be kindly advised that PV modules should be handled and installed by qualified people who

have professional skills and please carefully read the safety and installation instructions before using our PV modules.

#### **MECHANICAL DATA**

Specification	Data
Cell Type	Mono-crystalline
Cell Arrangement	144 [2 X (12 X 6) ]
Dimensions	2108 X 1048 X 35 mm
Dimensions	(83.0 X 41.3 X 1.38 in)
Weight	24.3 kg (53.6 lbs)
Front Cover	3.2 mm tempered glass
Frame	Anodized aluminium alloy
J-Box	IP68, 3 bypass diodes
Cable	4 mm² (IEC), 12 AWG (UL)
Cable Length (Including Connector)	500 mm (19.7 in) (+) / 350 mm (13.8 in) (-) or customized length*
Connector	T4 series or H4 UTX or MC4-EVO2
Per Pallet	30 pieces
Per Container (40' HQ)	660 pieces

\* For detailed information, please contact your local Canadian Solar sales and technical representatives.

## **TEMPERATURE CHARACTERISTICS**

Specification	Data
Temperature Coefficient (Pmax)	-0.35 % / °C
Temperature Coefficient (Voc)	-0.27 % / °C
Temperature Coefficient (Isc)	0.05 % / °C
Nominal Module Operating Temperature	42 ± 3°C

#### **PARTNER SECTION**

