

## THE IDEAL SOLUTION FOR:

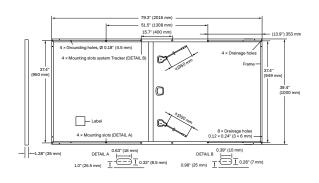


Rooftop arrays on commercial/industrial buildings



Ground-mounted solar power plants



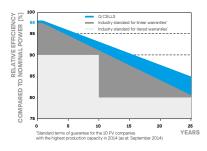


# **ELECTRICAL CHARACTERISTICS**

WER CLASS			385	390	395	400	405
IIMUM PERFORMANCE AT STANDAR	D TEST CONDITIO	NS, STC1 (PO	WER TOLERANCE +	5W/-0W)			
Power at MPP¹	P <sub>MPP</sub>	[W]	385	390	395	400	405
Short Circuit Current <sup>1</sup>	I <sub>sc</sub>	[A]	10.05	10.10	10.14	10.19	10.23
Open Circuit Voltage <sup>1</sup>	V <sub>oc</sub>	[V]	48.17	48.44	48.70	48.96	49.22
Current at MPP	I <sub>MPP</sub>	[A]	9.57	9.61	9.66	9.70	9.75
Voltage at MPP	V <sub>MPP</sub>	[V]	40.24	40.57	40.90	41.23	41.56
Efficiency <sup>1</sup>	η	[%]	≥19.1	≥19.4	≥19.6	≥19.9	≥20.1
IIMUM PERFORMANCE AT NORMAL	OPERATING CONI	DITIONS, NM	OT <sup>2</sup>				
Power at MPP	P <sub>MPP</sub>	[W]	288.3	292.1	295.8	299.6	303.3
Short Circuit Current	I <sub>sc</sub>	[A]	8.10	8.14	8.17	8.21	8.24
Open Circuit Voltage	V <sub>oc</sub>	[V]	45.42	45.67	45.92	46.17	46.41
Current at MPP	I <sub>MPP</sub>	[A]	7.53	7.57	7.60	7.64	7.67
Voltage at MPP	V <sub>MPP</sub>	[V]	38.29	38.60	38.92	39.23	39.54
	Power at MPP¹ Short Circuit Current¹ Open Circuit Voltage¹ Current at MPP Voltage at MPP Efficiency¹ IIMUM PERFORMANCE AT NORMAL Power at MPP Short Circuit Current Open Circuit Voltage Current at MPP	NIMUM PERFORMANCE AT STANDARD TEST CONDITION  Power at MPP¹ P <sub>MPP</sub> Short Circuit Current¹ I <sub>SC</sub> Open Circuit Voltage¹ V <sub>OC</sub> Current at MPP I <sub>MPP</sub> Voltage at MPP V <sub>MPP</sub> Efficiency¹   NIMUM PERFORMANCE AT NORMAL OPERATING CONTINUM POWER at MPP P <sub>MPP</sub> Short Circuit Current I <sub>SC</sub> Open Circuit Voltage V <sub>OC</sub> Current at MPP I <sub>MPP</sub>	Power at MPP    Power at MPP   Power MPP	NIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC¹ (POWER TOLERANCE + Power at MPP¹ Power at MPP Power P	NIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC¹ (POWER TOLERANCE +5 W / -0 W)   Power at MPP¹   P <sub>MPP</sub> [W] 385 390   Short Circuit Current¹   I <sub>SC</sub> [A] 10.05 10.10   Open Circuit Voltage¹   V <sub>OC</sub> [V] 48.17 48.44   Current at MPP   I <sub>MPP</sub> [A] 9.57 9.61   Voltage at MPP   V <sub>MPP</sub> [V] 40.24 40.57   Efficiency¹   $\eta$ [%] ≥19.1 ≥19.4   SIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT²   Power at MPP   P <sub>MPP</sub> [W] 288.3 292.1   Short Circuit Current   I <sub>SC</sub> [A] 8.10 8.14   Open Circuit Voltage   V <sub>OC</sub> [V] 45.42 45.67   Current at MPP   I <sub>MPP</sub> [A] 7.53 7.57   Current at MPP   I <sub>MPP</sub> [A] 7.53 7.57	NIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC¹ (POWER TOLERANCE +5 W / -0 W)   Power at MPP¹   P <sub>MPP</sub> [W] 385 390 395   Short Circuit Current¹   I <sub>SC</sub> [A] 10.05 10.10 10.14   Open Circuit Voltage¹   V <sub>OC</sub> [V] 48.17 48.44 48.70   Current at MPP   I <sub>MPP</sub> [A] 9.57 9.61 9.66   Voltage at MPP   V <sub>MPP</sub> [V] 40.24 40.57 40.90   Efficiency¹   $\eta$ [%] ≥19.1 ≥19.4 ≥19.6   SIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT²   Power at MPP   P <sub>MPP</sub> [W] 288.3 292.1 295.8   Short Circuit Current   I <sub>SC</sub> [A] 8.10 8.14 8.17   Open Circuit Voltage   V <sub>OC</sub> [V] 45.42 45.67 45.92   Current at MPP   I <sub>MPP</sub> [A] 7.53 7.57 7.60	NIMUM PERFORMANCE AT STANDARD TEST CONDITIONS, STC¹ (POWER TOLERANCE +5 W/-0 W)   Power at MPP¹   P <sub>MPP</sub> [W] 385 390 395 400   Short Circuit Current¹   I <sub>SC</sub> [A] 10.05 10.10 10.14 10.19   Open Circuit Voltage¹   V <sub>OC</sub> [V] 48.17 48.44 48.70 48.96   Current at MPP   I <sub>MPP</sub> [A] 9.57 9.61 9.66 9.70   Voltage at MPP   V <sub>MPP</sub> [V] 40.24 40.57 40.90 41.23   Efficiency¹   $\eta$ [%] \$\gmathref{s}\$ 19.1 \$\gmathref{s}\$ 19.4 \$\gmathref{s}\$ 19.6 \$\gmathref{s}\$ 19.9   IIMUM PERFORMANCE AT NORMAL OPERATING CONDITIONS, NMOT²   Power at MPP   P <sub>MPP</sub> [W] 288.3 292.1 295.8 299.6   Short Circuit Current   I <sub>SC</sub> [A] 8.10 8.14 8.17 8.21   Open Circuit Voltage   V <sub>OC</sub> [V] 45.42 45.67 45.92 46.17   Current at MPP   I <sub>MPP</sub> [A] 7.53 7.57 7.60 7.64

¹Measurement tolerances P<sub>MPP</sub> ±3%; I<sub>SC</sub>; V<sub>OC</sub> ±5% at STC: 1000 W/m², 25±2°C, AM 1.5 according to IEC 60904-3 • ²800 W/m², NMOT, spectrum AM 1.5

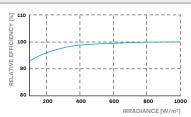
## Q CELLS PERFORMANCE WARRANTY



At least 98% of nominal power during first year. Thereafter max. 0.54% degradation per year. At least 93.1% of nominal power up to 10 years. At least 85% of nominal power up to 25 years.

All data within measurement tolerances. Full warranties in accordance with the warranty terms of the Q CELLS sales organisation of your respective country.

## PERFORMANCE AT LOW IRRADIANCE



Typical module performance under low irradiance conditions in comparison to STC conditions (25 °C, 1000 W/m²)

TEMPERATURE COEFFICIENTS							
Temperature Coefficient of I <sub>SC</sub>	α	[%/K]	+0.04	Temperature Coefficient of Voc	β	[%/K]	-0.27
Temperature Coefficient of P <sub>MPP</sub>	γ	[%/K]	-0.35	Nominal Module Operating Temperature	NMOT	[°F]	109±5.4 (43±3°C)

# PROPERTIES FOR SYSTEM DESIGN

${\bf Maximum\ System\ Voltage\ V_{SYS}}$	[V]	1500 (IEC)/1500 (UL)	PV module classification	Class II	
Maximum Series Fuse Rating	[A DC]	20	Fire Rating based on ANSI / UL 61730	TYPE 1	
Max. Design Load, Push/Pull <sup>3</sup>	[lbs/ft <sup>2</sup> ]	75 (3600 Pa) / 33 (1600 Pa)	Permitted Module Temperature	-40°F up to +185°F	
Max. Test Load, Push / Pull <sup>3</sup>	[lbs/ft <sup>2</sup> ]	113 (5400 Pa)/50 (2400 Pa)	on Continuous Duty	(-40°C up to +85°C)	

# **QUALIFICATIONS AND CERTIFICATES**

UL 61730, CE-compliant IEC 61215:2016, IEC 61730:2016, U.S. Patent No. 9,893,215 (solar cells)

3 See Installation Manual







$\langle \rangle$	

81.1in

84.6 in

2060mm

2090 mm



40.9 in

45.3 in

1040 mm

1150 mm



PACKAGING INFORMATION

47.1 in

46.1 in

1196 mm

1170 mm



721 ka

742 kg

1635lbs



24

27

pallets

pallets



22

22

pallets

pallets



modules

modules

29

29

Note: Installation instructions must be followed. See the installation and operating manual or contact our technical service department for further information on approved installation and use of this product. Q CELLS supplies solar modules in two different stacking methods, depending on the location of manufacture (modules are packed horizontally or vertically). You can find more detailed information in the document "Packaging and Transport Information", available from Q CELLS.

Horizontal

packaging

packaging

Vertical

## Hanwha Q CELLS America Inc.