

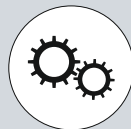
“India’s Strongest Solar Pv Module”



MONOSOLAR
(166 X 83 MM)
(CELL - 9BB) PV MODULES
144 CELLS
430-450Wp POWER OUTPUT RANGE

MODULE TECHNOLOGY

HALF CUT CELL
WITH EXCELLENT QUALITY



High Efficiency



Better Performance



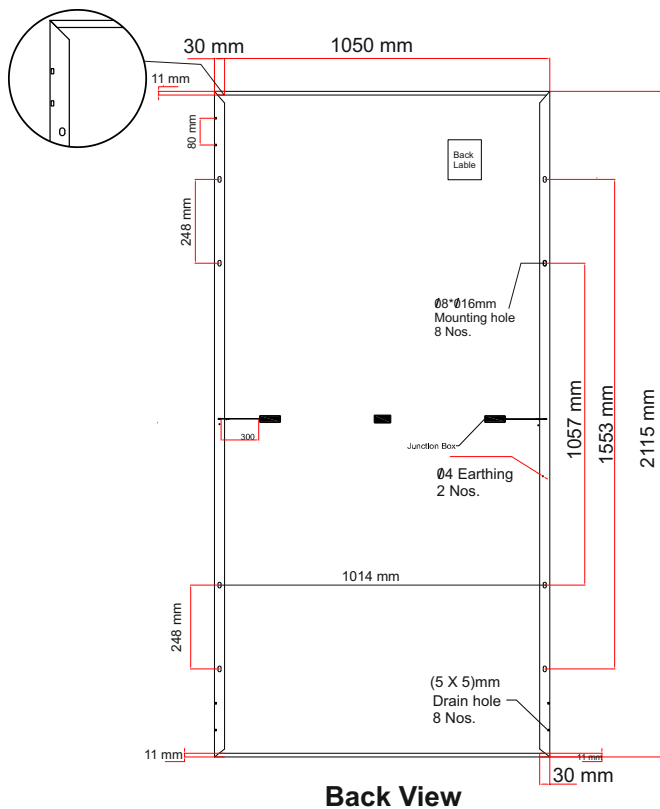
Enhanced Performance



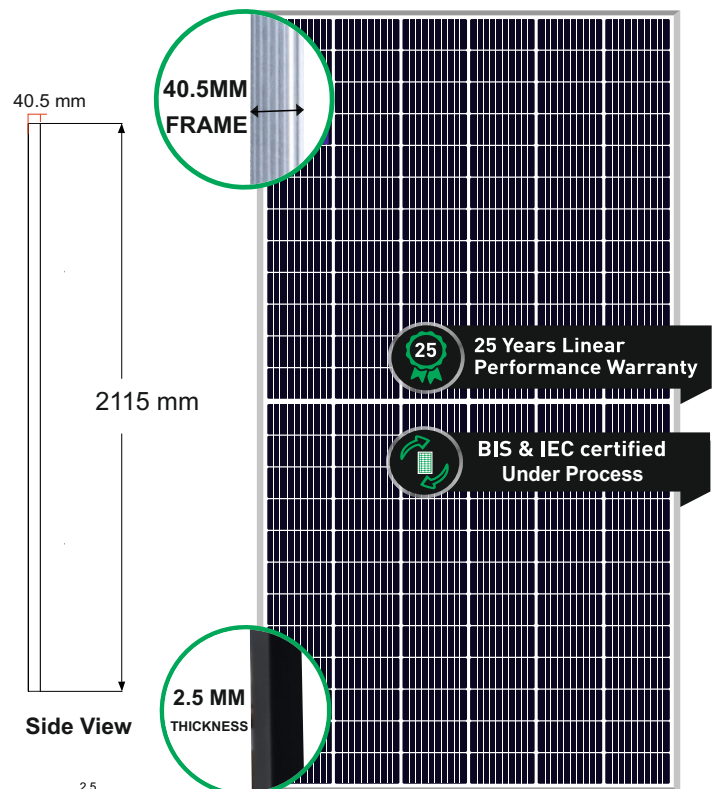
Outstanding Durability



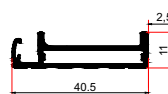
Global Certifications



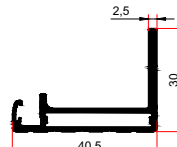
Back View



Side View



SHORT FRAME

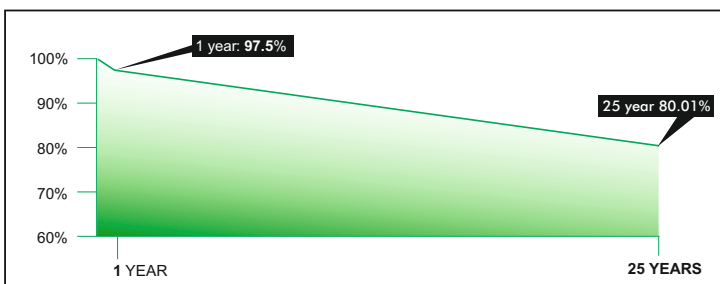


LONG FRAME

Performance Warranty

Degradation rate:

- 10% degradation of power during 10years and 20% degradation of power during 20 years.



Key Features

- ARC Tempered glass
- Anodize Aluminum
- 9 BB Solar Cell
- High Module efficiency
- EL Checked
- Tolerance $\pm 5W$
- IP67 / IP68 JB
- Quality Assurance

Warranty

Performance Warranty	25 years for linear power
Product Warranty	10 Years

Technical Data

Module Type	430W	435W	440W	445W	450W
Capacity Rating - P _m x (Wp)	430	435	440	445	450
Maximum Operating Current(I _{mp})	10.44	10.46	10.46	10.49	10.59
Maximum Operating Voltage(V _{mp})	41.20	41.59	42.07	42.44	42.58
Short Circuit Current (I _{sc})	11.05	11.06	11.07	11.09	11.12
Open Circuit Voltage (V _{oc})	48.83	48.94	48.96	48.98	48.98
Module Size (mm)	2115 x 1050 x 35 / 2115 x 1050 x 40.5				
Weight Approx	24 KG / 25 KG				

Electrical Parameter at NOCT

Module Type	430W	435W	440W	445W	450W
Capacity Rating - P _m x (Wp)	319	325	327	331	333
Rated Current - I _{mp} (A)	8.42	8.43	8.46	8.46	8.49
Rated Voltage - V _{mp} (V)	38	38.61	38.7	39.15	39.28
Short Circuit Current - I _{sc} (A)	9.1	9.11	9.13	9.16	9.19
Open Circuit Voltage - V _{oc}	45.58	45.69	45.71	45.73	45.78

Irradiation 800wsq.mtr. Surface temperature 45°C (+3°C), Wind speed 1m/s, Ambient 20 °C

Mechanical Specification

Model	Helios 144 Half Cut Cell Family
Cell Type	Mono crystalline Cell 9 BB
Junction B x	Split Junction B x
Cable & Connectors	300mm with 4mm ² Mc4 Connector
Frame	Anodized Aluminum Frame (40.5mm Height x 2.5mm Thickness) / (35mm Height x 2mm Thickness)
Glass Dimension (AR Coated Tempered Glass)	2110 x 1045 x 3.2mm
Load Test	Front- 5400 Pa, Back- 2700 Pa
Encapsulate	PID free Ethylene Vinyl Acetate Sheet
Back Sheet	UV protected reflective backsheet
Application class	Class A
Electrical safety class	Class II
Fire Safety	Class C (Type 1)
Mounting Holes Pitch (Y)- mm	[A]1553 [B] 1057

Permissible Operating Conditions

Operating temperature Range	From- 40°C to + 85°C
Maximum System Voltage	1500 VDC
Maximum Series Fuse Rating	20A

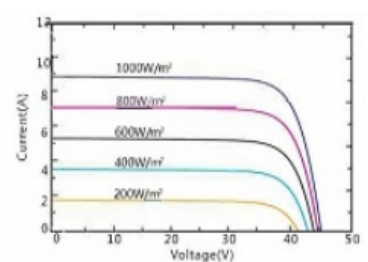
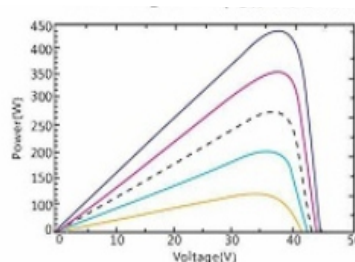
Packaging Information

Container	20'GP	40'HC
Pallets/Container	10	24
Modules/Container	270	648

Temperature Coefficients

Current Temperature Coefficients	0.021 %/°C
Voltage Temperature Coefficients	- 0.291 %/°C
Power Temperature Coefficients	- 0.397 %/°C

IV Curve



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“India’s Strongest Solar Pv Module”



MONOSOLAR
(210 X 105 MM)
(CELL - 10BB) PV MODULES
132 CELLS
625-650Wp POWER OUTPUT RANGE

MODULE TECHNOLOGY
HALF CUT CELL
WITH EXCELLENT QUALITY



High Efficiency



Better Performance



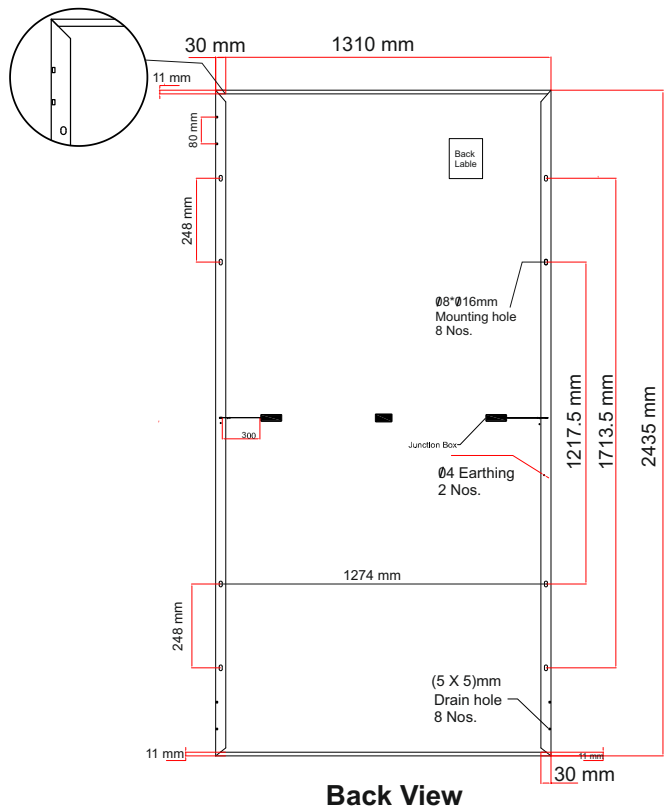
Enhanced Performance



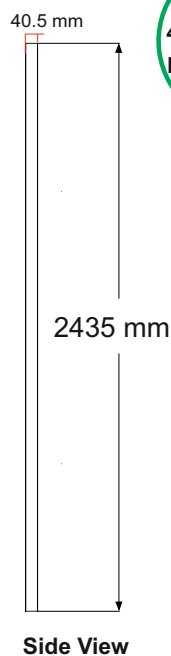
Outstanding Durability



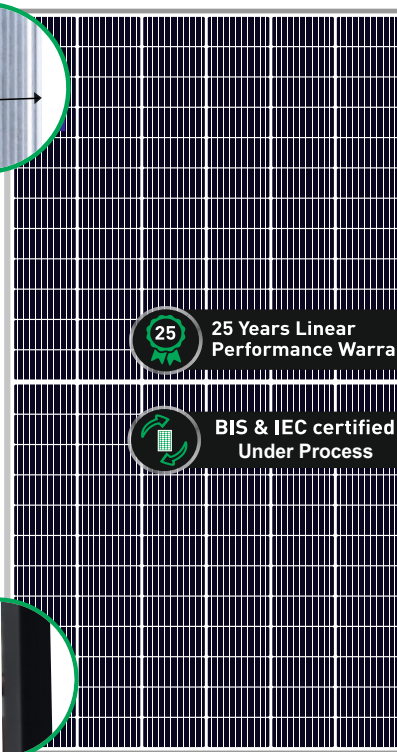
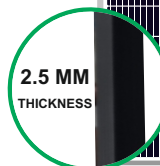
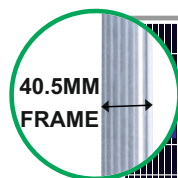
Global Certifications



Back View



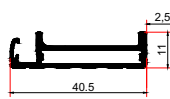
Side View



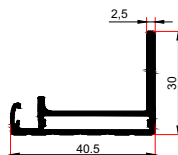
25 Years Linear Performance Warranty



BIS & IEC certified Under Process



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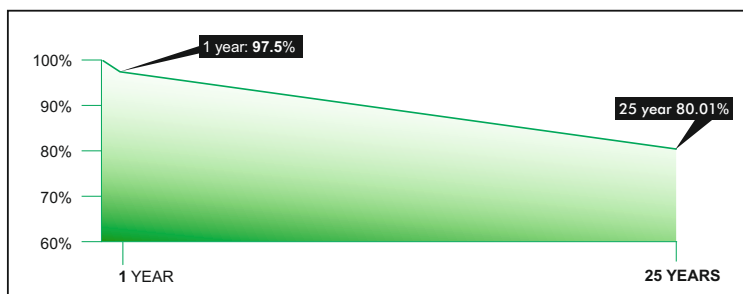


LONG FRAME

Performance Warranty

Degradation rate:

- 10% degradation of power during 10years and 20% degradation of power during 20 years.



Key Features

- ARC Tempered glass
- Anodize Aluminum
- 10 BB Solar Cell
- High Module efficiency
- EL Checked
- Tolerance $\pm$ 5W
- IP67 / IP68 JB
- Quality Assurance

Warranty

Performance Warranty	25 years for linear power
Product Warranty	10 Years

Technical Data

Module Type	625W	630W	635W	640W	645W	650W
Capacity Rating - Pmax (Wp)	625	630	635	640	645	650
Maximum Operating Current(Imp)	17.13	17.19	17.25	17.31	17.37	17.44
Maximum Operating Voltage(Vmp)	36.49	36.66	36.82	37.01	37.15	37.32
Short Circuit Current (Isc)	18.51	18.57	18.63	18.69	18.75	18.85
Open Circuit Voltage (Voc)	42.66	42.87	43.08	43.28	43.47	43.66
Module Size (mm)	2435 X 1310 X 35 / 2435 X 1310 X 40.5					
Weight Approx	27.5 KG / 28.5 KG					

Electrical Parameter at NOCT

Module Type	625W	630W	635W	640W	645W	650W
Capacity Rating - Pmax (Wp)	465	468	472	476	479	483
Rated Current - Imp(A)	13.82	13.86	13.91	13.97	14	14.04
Rated Voltage - Vmp(V)	33.66	33.82	33.97	34.14	34.27	34.43
Short Circuit Current - Isc (A)	16.16	16.22	16.28	16.34	16.04	16.05
Open Circuit Voltage - Voc	39.41	39.62	39.83	40.03	40.22	40.41

Irradiation 800w/sq.mtr. Surface temperature 45°C (±3°C), Wind speed 1m/s, Ambient 20°C

Mechanical Specification

Model	Helios 132 Half Cut Cell Family
Cell Type	Mono crystalline Cell 10 BB
Junction Box	Splited Junction Box
Cable & Connectors	400mm with 4mm ² Mc4 Connector
Frame	Anodized Aluminum Frame (40.5mm Height x 2.5mm Thickness) / (35mm Height x 2mm Thickness)
Glass Dimension (AR Coated Tempered Glass)	2430 x 1305 x 3.2 mm
Load Test	Front- 5400 Pa, Back- 2700 Pa
Encapsulate	PID free Ethylene Vinyl Acetate Sheet
Back Sheet	UV protected reflective backsheet
Application class	Class A
Electrical safety class	Class II
Fire Safety	Class C (Type 1)
Mounting Holes Pitch (Y)- mm	[A]1713.5 [B] 1217.5

Permissible Operating Conditions

Operating Temperature Range	From- 40°C to + 85°C
Maximum System Voltage	1500 VDC
Maximum Series Fuse Rating	20A

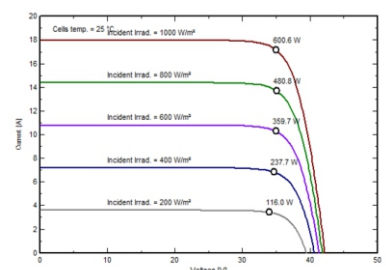
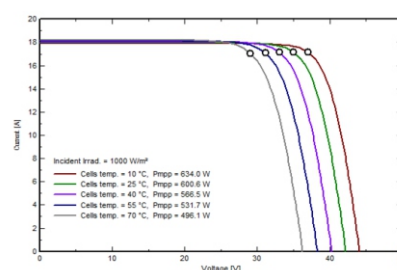
Packaging Information

Container	20'GP	40'HC
Pallets/Container	10	24
Modules/Container	270	648

Temperature Coefficients

Current Temperature Coefficients	0.021 %/C
Voltage Temperature Coefficients	- 0.291 %/C
Power Temperature Coefficients	- 0.397 %/C

IV Curve



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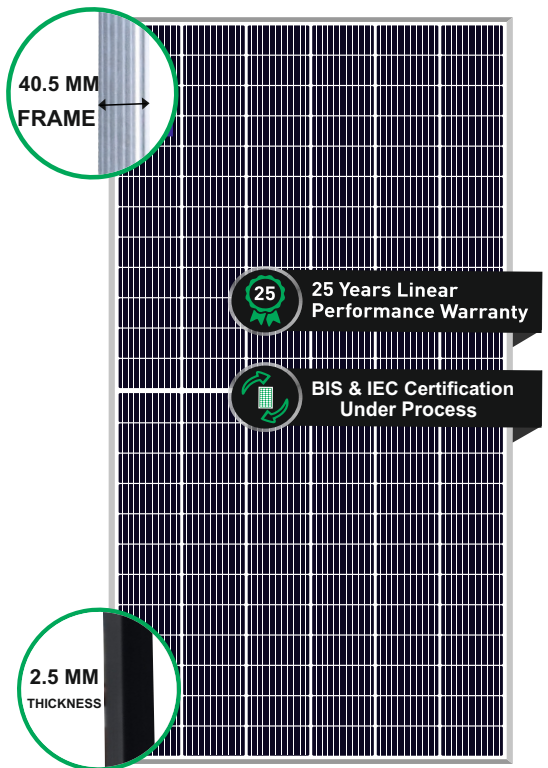
MODULE TECHNOLOGY

HALF CUT CELL

WITH EXCELLENT QUALITY



Global Certifications



WWW.URATOM.COM, CARE@URATOM.COM

Technical Data

Module Type	520W	525W	530W	535W	540W	545W
Capacity Rating - P _m x (Wp)	520	525	530	535	540	545
Maximum Operating Current (I _{mp})	12.53	12.58	12.63	12.68	12.76	12.93
Maximum Operating Voltage (V _{mp})	41.55	41.73	41.96	42.19	42.35	42.16
Short Circuit Current (I _{sc})	13.39	13.40	13.43	13.46	13.63	13.73
Open Circuit Voltage (V _{oc})	48.02	48.12	48.16	48.60	48.74	48.96
Module Size (mm)	★ 2283 x 1134 x 35 / ★★ 2283 x 1134 x 40.5					
Weight Approx	★ 28.1 KG (Without Central Support) / ★★ 28.9 KG (With Central Support)					

Electrical Parameter at NOCT

Module Type	520W	525W	530W	535W	540W	545W
Capacity Rating - P _m x (Wp)	386	390	394	398	401	405
Rated Current - I _{mp} (A)	10.18	10.22	10.30	10.36	10.43	10.48
Rated Voltage - V _{mp} (V)	37.99	38.21	38.27	38.41	38.52	38.69
Short Circuit Current - I _{sc} (A)	11.07	11.19	11.28	11.34	11.41	11.48
Open Circuit Voltage - V _{oc}	44.93	45.11	45.32	45.49	45.67	45.82

Irradiation 800 sq.mtr. Surface temperature 45°C (+3°C), Wind speed 1m/s, Ambient 20°C

Mechanical Specification

Model	Helios 144 Half Cut Cell Family
Cell Type	Mono crystalline bifacial 10 BB
Junction Box	Split Junction Box
Cable & Connectors	400mm with 4mm ² Mc4 Connector
Frame	Anodized Aluminum Frame (40.5mm Height x 2.5mm Thickness) / (35mm Height x 2mm Thickness)
Glass Dimension (AR Coated Tempered Glass)	2278mm x 1128 x 3.2mm
Load Test	Front- 5400 Pa, Back- 2700 Pa
Back Sheet	UV protected Transparent backsheet
Application class	Class A
Electrical safety class	Class II
Fire Safety	Class C (Type 1)
Mounting Holes Pitch (Y)- mm	[A]1405 [B] 909

Permissible Operating Conditions

Operating temperature Range	From- 40°C to + 85°C
Maximum System Voltage	1500 VDC
Maximum Series Fuse Rating	25A

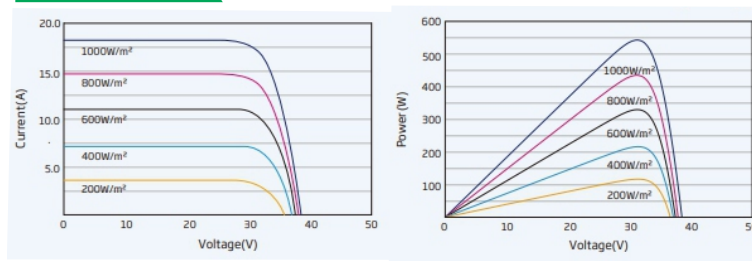
Packaging Information

Container	20'GP	40'HC
Pallets/Container	10	24
Modules/Container	280/300	672/720

Temperature Coefficients

Current Temperature Coefficients	+ 0.044%/K
Voltage Temperature Coefficients	- 0.0273%/K
Power Temperature Coefficients	- 0.335%/K

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